Native Vegetation Clearance

Hillside Copper Mine Retention Basin and Road Upgrade

Data Report

Clearance under the *Native Vegetation Regulations 2017*

27/11/2024

Prepared by Ecosphere Ecological Solutions

Contents

List of Figures

List of Tables

1 Application Information

Table 1. Application Details

Applicant:	Rex Minerals Ltd		
Key contact:			
Landowner:	Rex Minerals		
Site Address:	Yorke Highway, Yorke Peninsula, South Australia		
Local Government Area:	Yorke Peninsula Council	**Hundred:**	Muloowurtie
Title ID:	Adjacent to Yorke Highway West - CT 5814/958 East - CT 5480/689	**Parcel ID:**	Adjacent to Yorke Highway West – H131200 S50 East – H131200 S49

Table 2. Summary of Proposed Clearance

Purpose of clearance	Establishment of retention basin to restrict sedimentation from run off into Gulf St. Vincent. Widening and upgrade of Sandy Church Road to accommodate heavy vehicles and maintain line of sight at entrance / exits.
Native Vegetation Regulation	Retention basin: Regulation 12(28) – Operations; To allow the clearance of native vegetation for operations authorised under a Mining Act or the Petroleum and Geothermal Energy Act 2000. Sandy Church Road upgrade: Regulation 12(34) – Infrastructure, to allow clearance of vegetation incidental to the construction or expansion of a building or infrastructure (and associated services) where the Minister has declared that the clearance is in the public interest.
Description of the vegetation under application	5.6 hectares total of *Eucalyptus oleosa* (Red Mallee) *E. brachycalyx* (Gilja) Mixed Mallee and *Melaleuca pauperiflora* (Boree) Shrubland in mixed condition from very good to very poor for retention basin. 3.45 ha of mixed mallee associated with the Sandy Church Road upgrade.
Total proposed clearance - area (ha) and number of trees	5.6 ha and 3.45 ha respectively.
Level of clearance	Level 4
Overlay (Planning and Design Code)	Native Vegetation Overlay.

Mitigation hierarchy	Widening of the road corridor to the south only to retain the northern road reserve. Maintenance of a buffer ring of vegetation around retention basin to act as roosting and protection for avian species
SEB Offset proposal	Payment of $197,025.50

2 Purpose of Clearance

2.1 Description

Rex Minerals owns the Hillside Copper Project located on the Yorke Peninsula approximately 10 km south of the Ardrossan township (Figure 1) and is one of the largest undeveloped copper projects in Australia. It currently contains a Mineral Resource of 1.9Mt of copper (Cu) and 1.5Moz of gold (Au). In July 2020, Hillside's Program for Environment Protection and Rehabilitation (PEPR) for stage one of the project was approved by the South Australian Government.

Rex Minerals requires removal of vegetation at two locations (Figure 2) to accommodate the construction of a retention dam west of the Yorke Highway (Block 1) for the purpose of sediment retention in order to contain run off into Gulf St. Vincent. The mine has a waste rock facility planned adjacent to this location. A section of Sandy Church Road (Block 2) requires upgrading to accommodate heavy vehicles associated with construction and operation of the mine. This will include resurfacing and widening of the road corridor.

2.2 Background

2.2.1 Interim Biogeographic Regionalisation of Australia

The Interim Biogeographic Regionalisation of Australia (IBRA) identifies geographically distinct bioregions based on common climate, geology, landform, native vegetation and species information. The bioregions are further refined into subregions and environmental associations.

The Project area is located within the Eyre York Block bioregion, and the Southern York subregion, that has 18% native vegetation cover, of which 35% is formally protected in reserves or heritage agreements. It is within the Urania environmental association, that has 6% native vegetation cover, of which 6% is formally protected in reserves or heritage agreements.

2.2.2 Native Vegetation Information System

The Native Vegetation Information System (NVIS) is a comprehensive data system that provides information of the extent and distribution of vegetation types in Australian landscapes. The NVIS mapped the Project area as *Eucalyptus gracilis+/-Eucalyptus leptophylla+/-Eucalyptus phenax* ssp.+/-*Eucalyptus oleosa* ssp.+/-*Eucalyptus brachycalyx+/-Eucalyptus porosa+/-Eucalyptus dumosa+/-Eucalyptus socialis* ssp. mid mallee woodland.

2.2.3 Roadside Significant Site Database (RSSD)

The western side of the Yorke Highway has RSSD site 243 adjacent to the retention basin area starting at Maintenance Marker (MM) 53.42 to 55. The site is described as sparse-mid dense *Eucalyptus gracilis* Mallee over sparse *Melaleuca, Acacia Pittosporum* tall shrubs over mid dense *Enchylaena, Rhagodia* over mid dense grass sedge *Austrostipa, Danthonia, Dianella*. Disturbances include farm access track, borrow pits, weed invasion.

2.3 General Location

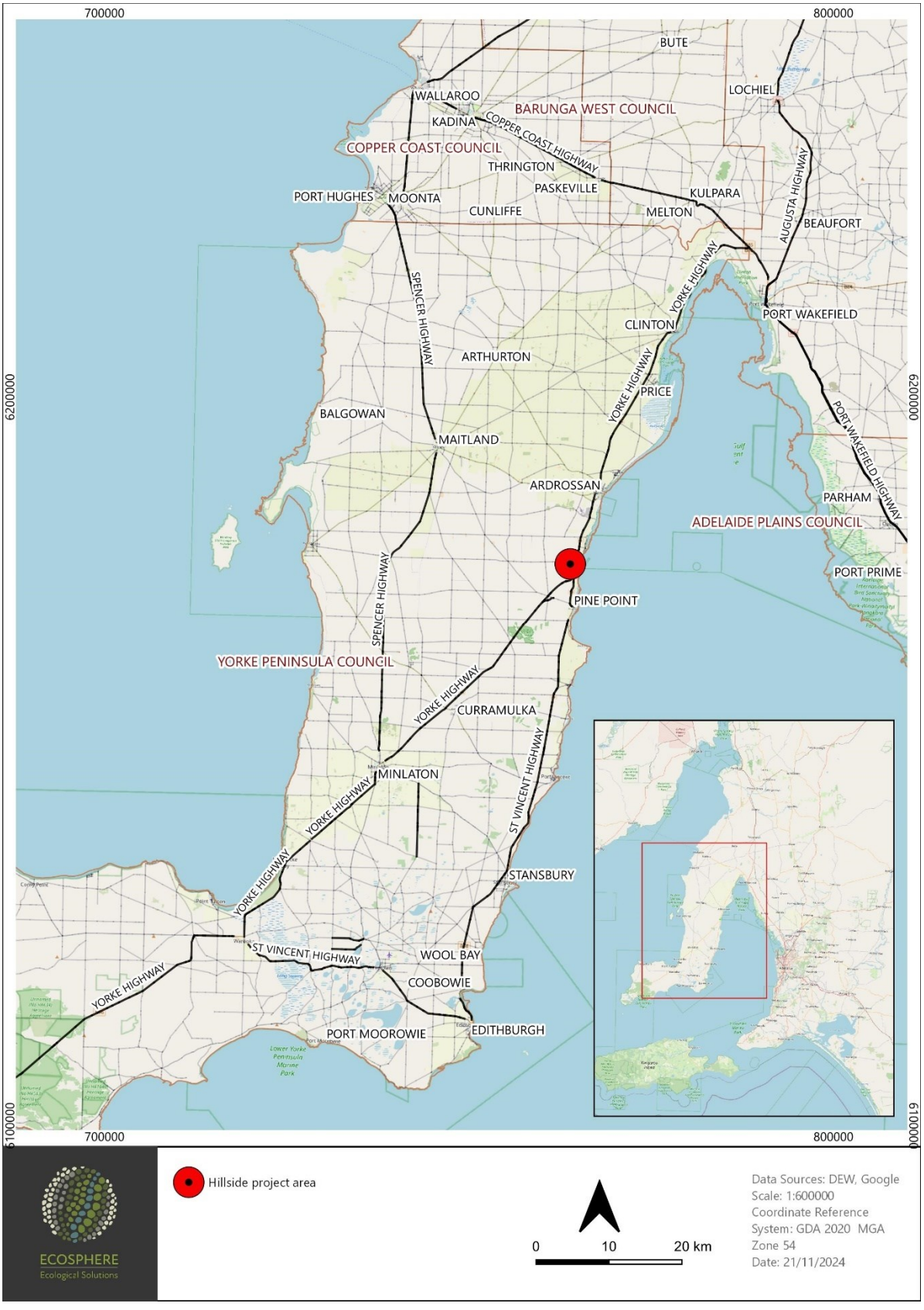

Figure 1. Hillside Project general location

Figure 2. Locations of retention basin (Block 1) and Sandy Church Road upgrade areas (Block 2)

2.4 Details of the Proposal

The Hillside Project (Figure 3) involves the development of an open pit mine (Mine) and associated processing plant and other infrastructure (Plant) to mine and process ore, then ship the marketable concentrates. The capital expenditure for the development of the Project is estimated to be A$854M.

Temporary workers' accommodation facilities will be provided for construction at a camp in the vicinity of the Hillside mine. A section of the Yorke Highway will be realigned, and modifications and upgrades to sections of the surrounding roads to improve site access and bypass. The site has access to mains power through the network grid. Sea water will be used for processing and mining operations as per the license conditions. The transport of final product will be via trucks to Port Adelaide.

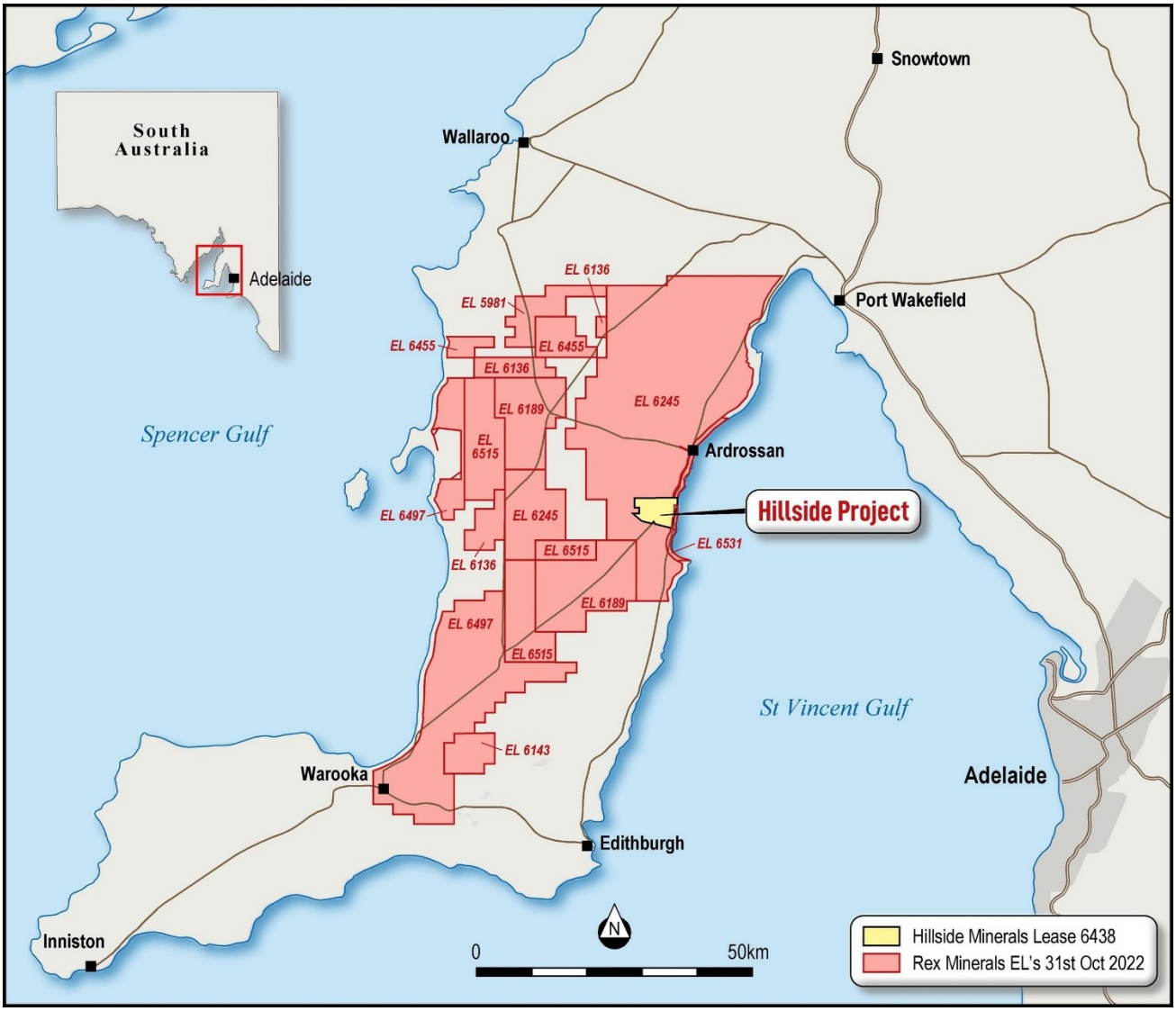

Figure 3. Hillside mine location and associated Exploration Leases (EL's)

2.5 Approvals Required or Obtained

Provide details of the following approvals or applications under the follow legislation, where relevant:

- *Native Vegetation Act 1991* (Clearance associated with this application and previous approvals under Mining Act)
- *Mining Act 1971* (Vegetation clearance under approval through the Hillside Copper Mine PEPR, September 2019)
- *Environment Protection and Biodiversity Conservation Act 1999* (Desktop assessment and field survey undertaken to determine if MNES occur within the Project areas, detailed below)
- *National Parks and Wildlife Act 1972* (Desktop assessment and field survey undertaken to determine if state level threatened flora and fauna occur within the Project areas, detailed below)

2.6 Native Vegetation Regulation

The clearances may need to be submitted under separate regulations. The retention basin may fit within existing approvals for operations associated with the mine and be relevant to Regulation 12(28) – Operations

- To allow the clearance of native vegetation for operations authorised under a Mining Act or the *Petroleum and Geothermal Energy Act 2000*.

The Sandy Church Road upgrade is likely to fit within the infrastructure regulation, Regulation 12(34) – Infrastructure:

- To allow clearance of vegetation incidental to the construction or expansion of a building or infrastructure (and associated services) where the Minister has declared that the clearance is in the public interest.

2.7 Development Application Information

The site is zoned rural and covered by the Native Vegetation overlay.

3 Methods

3.1 Desktop assessment

3.1.1 Protected Matters Search Tool (PMST)

A PMST report was generated on the 13th of November 2024 to identify MNES under the EPBC Act, relevant to the Project area (DCCEEW, 2024) (See Section 4.4 for results summary and Appendix 1 for full PMST results). The PMST is maintained by the Department of Climate Change, Energy the Environment and Water (DCCEEW) and was used to identify flora and fauna species, ecological communities and wetlands of national environmental significance that may occur or are likely to have suitable habitat within 5 km of the Project area.

3.1.2 Biological Database of South Australia (BDBSA)

Records for threatened species listed under the EPBC Act and NPW Act were assessed using the Naturemaps Supertable, obtained through the general query tool on Naturemaps. The dataset was obtained on the 13th of November 2024 and was used to identify threatened species that have been recorded within 5 km of the Project area (DEW, 2023) This data was filtered to records of species listed protected by the EPBC act to inform this report.

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

3.2 Assessment of the Likelihood of Occurrence

A likelihood of occurrence assessment for each threatened flora and fauna species highlighted by the PMST and BDBSA as potentially occurring in the Study Area was conducted. This assessment was used to filter the outputs of the PMST and BDBSA results to derive a subset of species with potential to occur in the Project area for consideration during the field survey. The assessment was subsequently updated with habitat suitability information obtained during the field survey.

A likelihood of occurrence rating (Highly Likely / Known, Likely, Possible and Unlikely) was assigned to each threatened species identified in the desktop PMST and BDBSA search (Table 3).

Table 3. Criteria for the likelihood of occurrence of species within the Project area

Likelihood	Criteria
Highly Likely/Known	Recorded in the last 10 years, the species does not have highly specific niche requirements, the habitat is largely intact and falls within the known species distribution or. The species was recorded as part of field surveys.
Likely	Recorded within the previous 20 years, the area falls within the known distribution of the species and the area provides species habitat which is largely intact.
Possible	Recorded within the previous 20 years, the area falls inside the known distribution of the species, but the area does not provide species habitat which is largely intact. Recorded within 20 -40 years, survey effort is considered adequate, habitat is present and intact, and species of similar habitat needs have been recorded in the area.

Likelihood	Criteria
Unlikely	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 within the previous 40 years despite suitable habitat being known to occur in the area. No records despite adequate survey effort.

3.3 Field Survey

Field survey was undertaken Ecosphere Ecological Solutions on 14th November 2024.

A reconnaissance search around the general footprint was undertaken to become familiarised with the area, noting the general topography, vegetation structures and stratums present and any other features likely to present as being of higher habitat vale or importance. The vegetation survey was performed in accordance with the BAM (NVC 2020). The NVC BAM was designed for assessing vegetation that is located within the agricultural region of South Australia. The BAM uses biodiversity 'surrogates' or 'indicators' to measure biodiversity value against benchmark communities. Each area to be assessed is termed an application area ('Block'), within which different vegetation associations ('Sites') are identified.

For the NVC BAM, three components of the biodiversity value of the site are measured and scored (Table 4).

- Vegetation condition;
- Conservation value; and
- Landscape context.

These three component scores are combined to provide a 'Unit Biodiversity Score' (UBS) for a hectare and then multiplied by the size (hectares) of the site to provide a 'Total Biodiversity Score' for the site.

Table 4 Parameters considered as part of the BAM and the calculation of the Total Biodiversity Score of a site

Parameter	Factors
Vegetation condition	• Plant diversity. • Vegetation utilisation (i.e. level of grazing). • Biotic (i.e. presence of litter mats and palatable shrubs under canopies) and physical disturbance (i.e. bare scalds, tracks and other soil disturbance). • Vegetation stratum. • Introduced plant species cover (i.e. weed cover).
Conservation value	• The presence of federal or state listed threatened ecological communities, and their conservation rating. • Number of threatened plant species recorded at the site, and their conservation rating. • Number of threatened fauna species for which potential habitat occurs within the site, and their conservation rating.
Landscape context	• Number of landform features in the Block. • Size of the Block. • Percentage (%) of vegetation protected within the IBRA sub-region and association. • Presence of a wetland, watercourse or lake.
Mean annual rainfall	• The mean annual rainfall for the assessment area.
Area of clearance	• The area of native vegetation (ha) to be cleared for the project.

3.4 Desktop Study Limitations

The content of the desktop study was derived from existing datasets and references from a range of sources. Flora and fauna records were sourced from the Protected Matters Database via the PMST and the BDBSA via Naturemaps. The BDBSA only includes verified flora and fauna records submitted to Department for Environment and Wildlife (DEW) or partner organisations. It is recognised that drawing conclusions can be unreliable within areas that have been underrepresented in terms of biological studies. It is possible, therefore, that significant species occur within the Project area that were not reflected by database records.

4 Assessment Outcomes

4.1 Vegetation Associations

Vegetation associations (sites) were recorded within the Block 1 Retention basin and Block 2 Sandy Church Road reserve areas of the project. Table 5 shows the retention basin layout and Table 6 summarises the vegetation within the combined road reserve on Sandy Church Road.

None of the vegetation sites recorded were associated with a Threatened Ecological Community under the EPBC Act.

Table 5. Block 1 Retention basin vegetation associations (sites) summary.

Site#	Description	Area (ha)
1	*Melaleuca pauperiflora* (Boree) Shrubland +/- emergent *Eucalyptus oleosa* (Red Mallee)	0.277
2	Exotic Grassland +/- emergent *Eucalyptus oleosa* (Red Mallee), *Acacia hakeoides* (Hakea Wattle) *Enchylaena tomentosa* (Ruby Saltbush)	1.37
3	*Eucalyptus socialis* (Red Mallee) +/- *Melaleuca lanceolata* (Moonah), *Pittosporum angustifolium* (Native Apricot) Mixed Mallee over sclerophyllous shrubs	1.94
4	*Eucalyptus oleosa* (Red Mallee) / *Acacia hakeoides* (Hakea Wattle) Open Mixed Mallee over *Nitraria billardierei* (Nitre Bush), *Maireana brevifolia* (Lobe Fruit Bluebush) and emergent chenopod shrubs	1.975
	Total	5.562

Table 6. Block 2 Sandy Church Road vegetation associations (sites) summary

Sites #	Description	Area (ha)
1	*Melaleuca pauperiflora* (Boree) Shrubland +/- emergent *Eucalyptus oleosa* (Red Mallee)	0.298
2	Exotic Grassland +/- emergent *Eucalyptus oleosa* (Red Mallee), *Acacia hakeoides* (Hakea Wattle) *Enchylaena tomentosa* (Ruby Saltbush)	0.975
4	*Eucalyptus oleosa* (Red Mallee) / *Acacia hakeoides* (Hakea Wattle) Open Mixed Mallee over *Nitraria billardierei* (Nitre Bush), *Maireana brevifolia* (Lobe Fruit Bluebush) and emergent chenopod shrubs	0.826
5	*Acacia hakeoides* (Hakea Wattle) Very Open Mixed Shrubland over exotic grass and herbaceous species	0.679
6	*Eucalyptus incrassata* (Ridge Fruited Mallee) Mixed Mallee	0.513
7	*Eucalyptus socialis* (Red Mallee) +/- *Melaleuca lanceolata* (Moonah), *Pittosporum angustifolium* (Native Apricot) Mixed Mallee over sclerophyllous shrubs and exotic grasses	0.159
	Total	3.45

Figure 4. Block 1 Retention basin vegetation associations (sites)

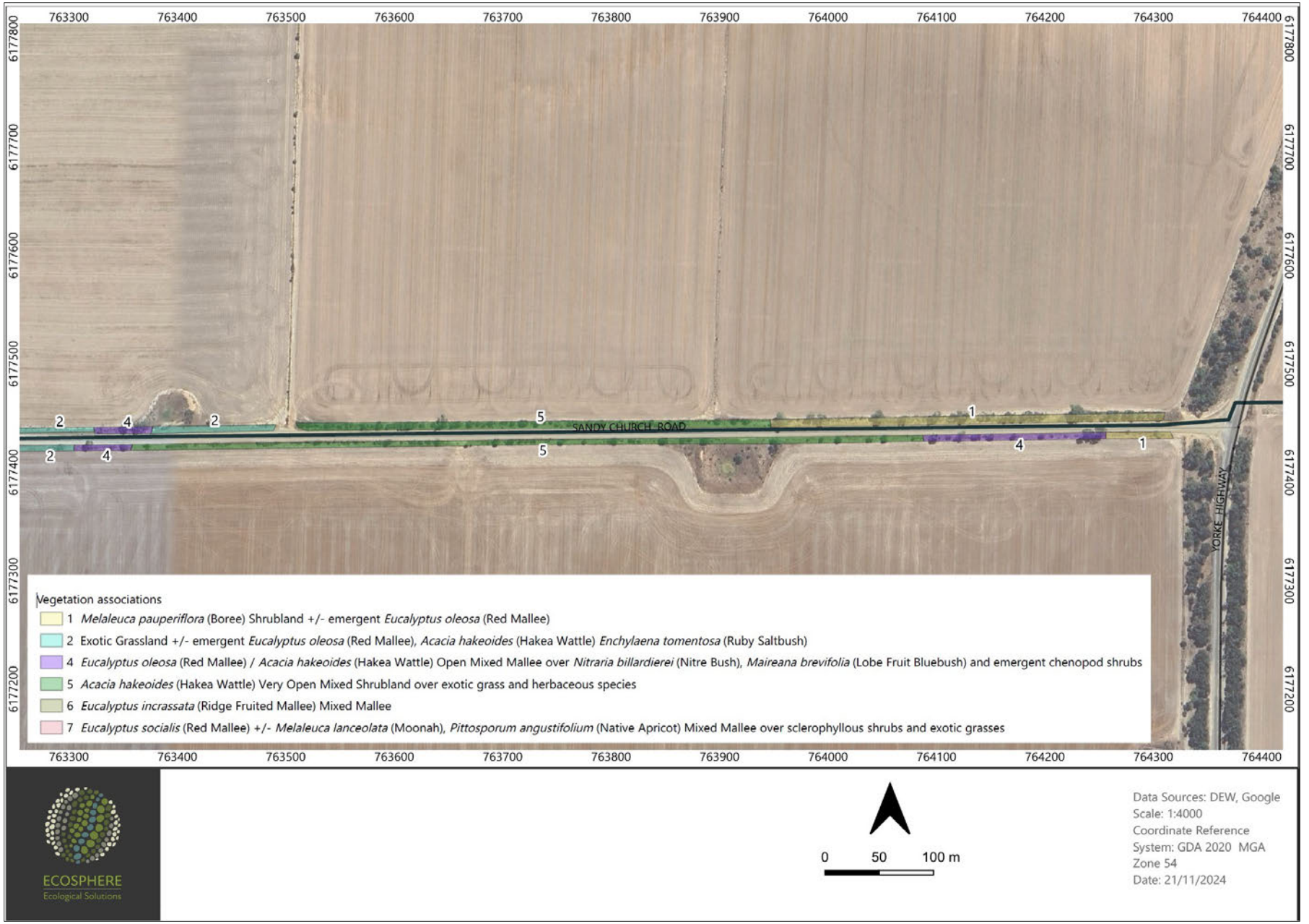

Figure 5. Block 2 Sandy Church Road vegetation association (site) map 1 of 3

Figure 6. Block 2 Sandy Church Road vegetation association (site) map 2 of 3

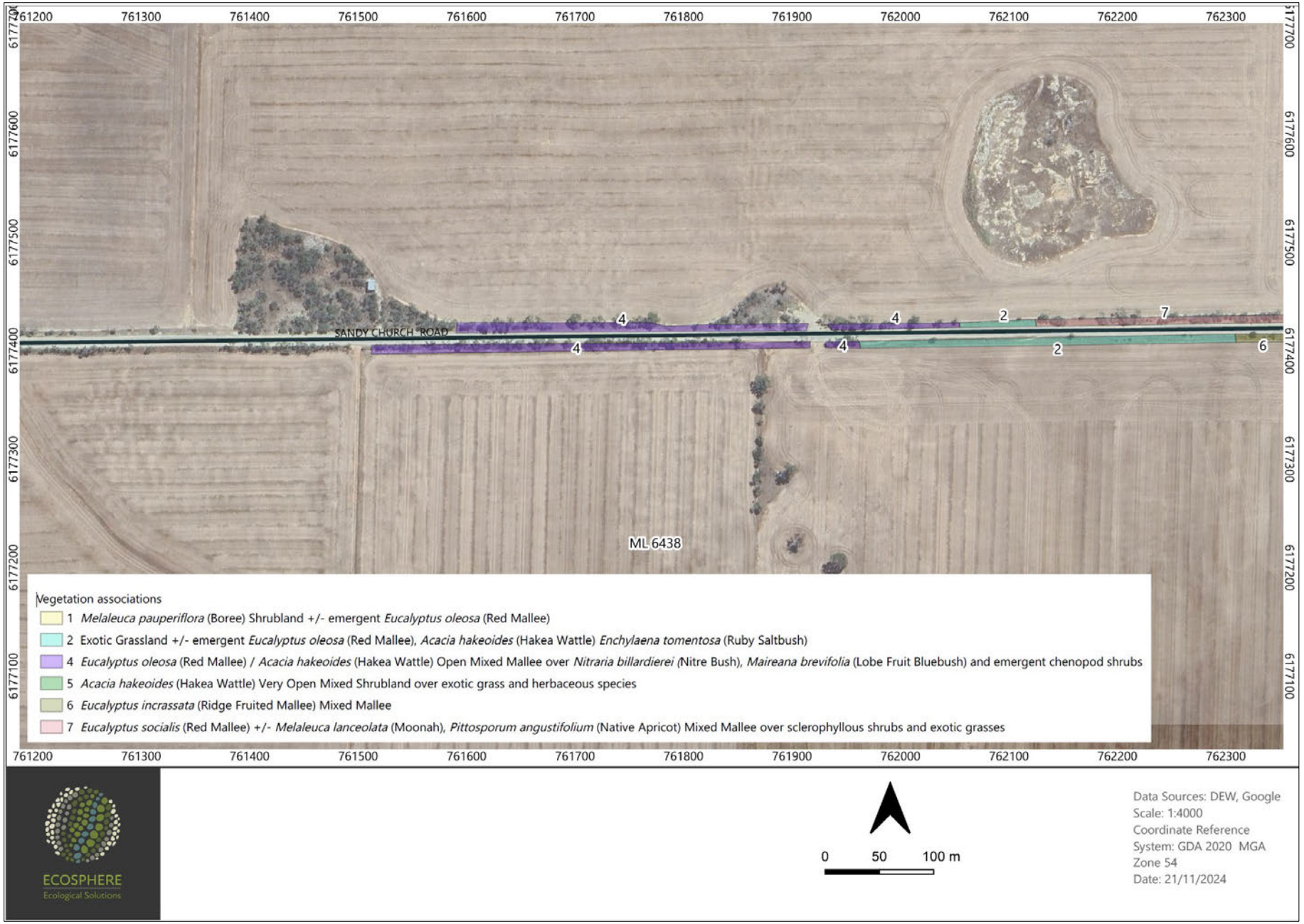

Figure 7. Block 2 Sandy Church Road vegetation association (site) map 3 of 3

Vegetation Association 1	***Melaleuca pauperiflora* (Boree) Shrubland +/- emergent *Eucalyptus oleosa* (Red Mallee)**

General description	Small patch at northern end of intact patch as relatively dense shrubland with emergent mallees transitioning between areas as changes in elevation and soil occur. Forms standalone community as tea tree with *Melaleuca lanceolata* not intermingling.				
Threatened species or community	The vegetation association is considered as unlikely to provide significant habitat for threatened fauna and flora. Elegant Parrots were observed moving through intact mallee communities in immediate area but not using the shrubland areas.				
Landscape context score	1.14	Vegetation Condition Score	16.25	Conservation significance score	1.08
Unit biodiversity Score	5.80	Area (ha)	0.29	Total biodiversity Score	5.80

Vegetation Association 2	Exotic Grassland +/- emergent *Eucalyptus oleosa* (Red Mallee), *Acacia hakeoides* (Hakea Wattle) *Enchylaena tomentosa* (Ruby Saltbush)

General description	Exotic grassland dominated sections where soil profiles were deepest or nutrient load and runoff collected giving adventitious conditions for annual exotic species. Some emergence of indigenous trees and shrubs has occurred likely since the potential removal of grazing from this allotment. Very poor condition generally, this site would be likely to slowly recover over time as shading and litter fall increase while at the same time reductions in phosphoric fertilising and chemical spray drift occur.				
Threatened species or community	The vegetation association is considered as unlikely to provide habitat for threatened fauna and flora.				
Landscape context score	1.14	Vegetation Condition Score	16.25	Conservation significance score	1.08
Unit biodiversity Score	5.80	Area (ha)	0.29	Total biodiversity Score	5.80

Vegetation Association 3	***Eucalyptus socialis* (Red Mallee) +/- *Melaleuca lanceolata* (Moonah), *Pittosporum angustifolium* (Native Apricot) Mixed Mallee over sclerophyllous shrubs.**

General description	Very good condition patch remaining where historical disturbance in the form of a gravel pit or similar has occurred with a subsequent shallow soil profile not suited to exotic forbs and grasses. As a result, numerous indigenous species were thriving in this area and lifeforms and species richness were higher than average for the general area.				
Threatened species or community	The vegetation association is considered to provide high ecological value as the multitude of strata and lifeforms mean that resources are available across varied time scales throughout the year. Nine indigenous bird species were observed during the survey indicating that this site is important for local wildlife. *Neophema elegans* (Elegant Parrot Rare: SA) was observed actively using this habitat.				
Landscape context score	1.14	Vegetation Condition Score	16.25	Conservation significance score	1.08
Unit biodiversity Score	5.80	Area (ha)	0.29	Total biodiversity Score	5.80

Vegetation Association 4	***Eucalyptus oleosa* (Red Mallee) / *Acacia hakeoides* (Hakea Wattle) Open Mixed Mallee over *Nitraria billardierei* (Nitre Bush), *Maireana brevifolia* (Lobe Fruit Bluebush) and emergent chenopod shrubs**

General description	Semi degraded community growing on areas of moderate depth loams where exotic grass and herbaceous species have managed to invade some area however the shallower stone outcropping zones remain as largely indigenous. Mostly disturbance resistant species remaining in understorey only, grazing is likely to have reduced any forb cover historically and then the subsequent annual exotic cover has outcompeted and natural regeneration potential.				
Threatened species or community	The vegetation community was being utilised by Elegant Parrots at the time of the survey and as a fragment in an otherwise heavily degraded and cleared environment gives any patches of semi degraded value a high ecological value for foraging, refuge and roosting. All other large fragments in the area were largely on transport routes and disturbed by traffic or raised dust.				
Landscape context score	1.14	Vegetation Condition Score	16.25	Conservation significance score	1.08
Unit biodiversity Score	5.80	Area (ha)	0.29	Total biodiversity Score	5.80

Vegetation Association 5	***Acacia hakeoides* (Hakea Wattle) Very Open Mixed Shrubland over exotic grass and herbaceous species**

General description	Poor condition and degraded community most likely as an emergent and recovering vegetation community post clearance. Very narrow road reserve doesn't help with high impacts from road dust and spray drift / herbicide and fertiliser overspray. The level of clearance surrounding this road reserve area means that ecological function has all but collapsed and provides low ecological value.				
Threatened species or community	The vegetation association is considered as unlikely to provide habitat for threatened fauna and flora.				
Landscape context score	1.14	Vegetation Condition Score	16.25	Conservation significance score	1.08
Unit biodiversity Score	5.80	Area (ha)	0.29	Total biodiversity Score	5.80

Vegetation Association 6	***Eucalyptus incrassata* (Ridge Fruited Mallee) Mixed Mallee**

General description	Eucalyptus incrassata was only recorded on the rise of sandy church road indicating deeper grey sand profiles in this area. Grades back out as road continues into lower elevation area. Forms a fairly distinct community however was in generally poor condition with moderate cover of exotic grasses. Disturbance resistant species such as *Enchylaena tomentosa* and *Maireana brevifolia* providing most indigenous understorey. Species is generally below 9m in height and does not provide significant habitat value particularly with narrow fragment remaining.				
Threatened species or community	The vegetation association is considered as unlikely to provide habitat for threatened fauna and flora. Well represented community often occurring on poorest quality soils for agriculture and therefore commonly occurring.				
Landscape context score	1.14	Vegetation Condition Score	16.25	Conservation significance score	1.08
Unit biodiversity Score	5.80	Area (ha)	0.29	Total biodiversity Score	5.80

Vegetation Association 7	***Eucalyptus socialis* (Red Mallee) +/- *Melaleuca lanceolata* (Moonah), *Pittosporum angustifolium* (Native Apricot) Mixed Mallee over sclerophyllous shrubs and exotic grasses**

General description	*Eucalyptus socialis* (Red Mallee) +/- *Melaleuca lanceolata* (Moonah), *Pittosporum angustifolium* (Native Apricot) Mixed Mallee over sclerophyllous shrubs and exotic grasses provided a dense screen on the northern side of Sandy Church Road. Recorded in relatively good condition, the vegetation here suffers from dust deposition being on the downwind side of the prevailing summer winds when driest conditions occur.				
Threatened species or community	The vegetation association is considered as unlikely to provide habitat for threatened fauna and flora.				
Landscape context score	1.14	Vegetation Condition Score	16.25	Conservation significance score	1.08
Unit biodiversity Score	5.80	Area (ha)	0.29	Total biodiversity Score	5.80

4.2 Exotic flora

A number of introduced flora species were observed across both Project areas. This included Declared weeds under the *Landscape South Australia Act 2019*, of which two are weeds of national significance (WoNS):

- *Asparagus asparagoides* (Bridal creeper, WoNS) – Observed at both sites.
- *Lycium ferocissimum* (African boxthorn, WoNS) – Observed at both sites.

Under the *Landscape South Australia Act 2019* landowners in the Yorke Peninsula region must take reasonable steps to kill both *Asparagus asparagoides* and *Lycium ferocissimum* and prevent their spread. The weed species must also not be transported on a public road, including as a contaminant (e.g. in the form of a cutting, seed or potted specimen). Care must be taken that the weeds are destroyed prior to any cleared vegetation being transported from the Project areas.

4.3 Fauna species observations

Indigenous fauna species opportunistically recorded within and surrounding the Project areas are presented in Table 7. One threatened fauna species were observed during the field survey.

Table 7. Fauna species observations.

Species Name	Common Name	Conservation rating		Assoc.
		AUS	SA	
Acanthagenys rufogularis	Spiny-cheeked Honeyeater			3,4
Cracticus torquatus leucopterus	Grey Butcherbird			3,4
Eolophus roseicapilla	Galah			1,3,4,5,6,7
Gymnorhina tibicen	Australian Magpie			2
Neophema elegans elegans	Elegant Parrot		R	3,4
Northiella haematogaster	Eastern Bluebonnet			3
Ocyphaps lophotes lophotes	Crested Pigeon			1,3,4,5,6,7
Pardalotus striatus	Striated Pardalote			3,4
Smicrornis brevirostris	Weebill			3,4,6

4.4 Threatened Species Assessment

4.4.1 EPBC PMST Search Summary

A total of 52 listed threatened species and 42 migratory species were identified by the EPBC Act PMST report as potentially occurring or having suitable habitat potentially occurring within 5 km of the Project area (DCCEEW 2024). The ecological MNES protected under the EPBC Act relevant to this report are discussed in detail below.

Table 8. PMST ecological MNES results summary

Search Area (5km Buffer)	Matters of National Environmental Significance	Identified within search area
	World Heritage Properties	0
	National Heritage Places	0
	Wetlands of International Importance (RAMSAR)	0
	Great Barrier Reef Marine Park	0
	Commonwealth Marine Area	0
	Listed Threatened Ecological Communities	1
	Listed Threatened Species	52
	Listed Migratory Species	42
	Other Matters Protected by the EPBC	
	Commonwealth Lands	0
	Commonwealth Heritage Places	0
	Listed Marine Species	76
	Whales and Other Cetaceans	8
	Critical Habitats	0
	Commonwealth Reserves Terrestrial	0
	Australian Marine Parks	0
	Habitat Critical to the Survival of Marine Turtles	0
	Extra Information	
	State and Territory Reserves	1
	Regional Forest Agreements	0
	Nationally Important Wetlands	0
	EPBC Act Referrals	5
	Key Ecological Features	0
	Biologically Important Areas	3
	Bioregional Assessments	0
	Geological and Bioregional Assessments	0

4.4.2 Threatened Ecological Communities

One Threatened Ecological Community (TEC), the Dropping Sheoak grassy woodland on calcrete of the Eyre York Block Bioregions, was identified in the PMST as potentially occurring within 5 km of the Project area. This TEC was not detected during the field survey.

4.4.3 Nationally Threatened Flora

Twelve flora species listed as threatened under the EPBC Act were identified in the PMST report as potentially occurring or having suitable habitat within 5 km of the Project area (Table 9). No records for these species were identified within 5 km of the Project area, and none were considered to occur within the Project area.

4.4.4 State Threatened Flora

No flora species listed as threatened under the NP&W had historical records from within 5 km of the Project area since 1995 and with a spatial reliability of <1km.

Table 9. EPBC listed threatened flora species potentially occurring in the Project area identified in the PMST database search

Scientific Name	Common Name	EPBC Act	NP&W Act	Date of last record	Species known habitat preferences	Likelihood of occurrence
Acacia enterocarpa	Jumping-jack Wattle	EN	E	None	Mallee and grassy woodland with heavy clay soils with good rainfall.	Unlikely
Acacia rhetinocarpa	Neat Wattle	VU	V	None	Intact mallee on friable loams and often associated with areas where areas have been heavily cleared for cropping.	Unlikely
Caladenia brumalis	Winter Spider-orchid	VU	V	None	Grows among grass and shrubs in light woodland or sedgeland usually over limestone and within a few kilometres of the sea.	Unlikely
Caladenia conferta	Coast Spider-orchid	EN	E	None	Mallee woodlands or Broombush scrubs, eucalypt woodlands and *Allocasuarina verticillata* open woodlands.	Unlikely
Caladenia macroclavia	Large-club Spider-orchid	EN	E	None	Only known from 4 populations in the York Peninsula region, the largest near Port Vincent. Grows in shallow fertile loams in eucalypt mallee.	Unlikely
Caladenia tensa	Greencomb Spider-orchid	EN	-	None	Intact open woodlands on red-brown sandy loams and rises dominated by *Eucalyptus leucoxylon* and *Callitris preissii.*	Unlikely
Dodonaea subglandulifera	Peep Hill Hop-bush	EN	E	None	Inhabits open woodland, open shrubland and mallee woodland growing on low hills with loamy soils and rocky outcrops.	Unlikely
Euphrasia collina ssp. *osbornii*	Osborn's Eyebright	EN	E	None	Mallee scrubland, woodlands and coastal heath.	Unlikely
Olearia pannosa ssp. *pannosa*	Silver Daisy-bush	VU	V	None	Open Mallee and grassy woodlands, often occurs in roadside reserves as disturbance tolerant.	Unlikely
Pterostylis xerophila	Desert Greenhood	VU	V	None	Dry woodland on fertile red loamy soils, on or around granite or quartzite outcrops.	Unlikely
Senecio macrocarpus	Large-fruit Fireweed	VU	V	None	Grasslands, sedgelands, shrublands and woodlands in sparsely vegetated sites, often in depressions that are waterlogged in winter.	Unlikely
Swainsona pyrophila	Yellow Swainson-pea	VU	R	None	Short-lived, fire-adapted species that occurs in mallee woodland on sandy and loamy soils.	Unlikely

EPBC Act: EN = Endangered, VU = Vulnerable. NP&W Act: E = Endangered, V = Vulnerable, R = Rare

4.4.5 Nationally Threatened Fauna

Forty fauna species listed as threatened under the EPBC Act were identified by the PMST as having suitable habitat potentially occurring within 5 km of the Project area (Table 10). This included 32 avian species, two mammalian, four reptilian, one fish and one shark species. One species had historical records within 5 km of the Project area since 1995, the Fairy Tern (*Sternula nereis nereis*), however this species was considered as unlikely to utilise habitat within the Project area.

4.4.6 State Threatened Fauna

Excluding the Fairy Tern mentioned above, no fauna species listed as threatened under the NPW Act had historical records within 5 km of the Project area since 1995 and with a spatial reliability of <1km..

4.4.7 Migratory Species

Forty-two listed migratory species were identified by the PMST as having suitable habitat potentially occurring within 5 km of the Project area. Most of these species are unlikely to utilise the Project area other than as a brief flyover considering the lack of suitable habitat and existing land use. Migratory species are largely associated with waterbodies utilised for feeding and/or refuge areas which are not present within the Project area.

4.4.8 Marine Species

Seventy-six marine species listed under the EPBC Act were identified in the PMST as potentially occurring or having suitable habitat potentially occurring within 5 km of the Project area. These were not considered as part of the desktop assessment with the project area being entirely terrestrial in nature.

Table 10. EPBC and NP&W listed threatened fauna and migratory species identified in the PMST (Source 1) and BDBSA (Source 2) database searches

Scientific Name	Common Name	EPBC Act	NP&W Act	Data Source	Date of last record	Species known habitat preferences	Likelihood of occurrence
AVES							
Actitis hypoleucos	Common Sandpiper	Mi	R	1	None	Migratory shorebird. Occurs in a variety of coastal and inland wetland habitats with varying levels of salinity.	Unlikely
Aphelocephala leucopsis	Southern Whiteface	VU	-	1	None	Open woodlands and shrublands with an understorey of grasses or shrubs, or both. Prefers habitat with low tree densities and herbaceous understory litter cover which provides essential foraging habitat.	Unlikely
Apus pacificus	Fork-tailed Swift	Mi	-	1	None	Aerial migratory species. Rarely recorded on the ground.	Unlikely
Ardenna carneipes	Flesh-footed Shearwater	Mi	R	1	None	Pelagic marine species.	Unlikely
Ardenna grisea	Sooty Shearwater	VU, Mi	-	1	None	Pelagic marine species.	Unlikely
Botaurus poiciloptilus	Australasian Bittern	EN	E	1	None	Permanent and seasonal freshwater habitats dominated by sedges, rushes and reeds.	Unlikely
Calidris acuminata	Sharp-tailed Sandpiper	VU, Mi	-	1	None	Migratory wetland species. Does not breed in Australia. Inhabits Intertidal mudflats, freshwater swamps, and saltwater lakes.	Unlikely
Calidris canutus	Red Knot	VU, Mi	-	1	None	Intertidal mudflats, sandflats and sandy beaches of sheltered coasts. Occasionally saline wetlands near the coast.	Unlikely
Calidris ferruginea	Curlew Sandpiper	CR, Mi	E	1	None	Migratory wetland species. Does not breed in Australia. Prefers coastal or inland mudflats but will also visit artificial dams and inland water habitats, freshwater and brackish wetlands.	Unlikely
Calidris melanotos	Pectoral Sandpiper	Mi	R	1	None	Migratory wetland species. Inhabits freshwater or brackish wetlands, grassy or lightly vegetated coastal and inland swamps.	Unlikely
Calidris ruficollis	Red-necked Stint	Mi	-	1	None	Coastal areas including sheltered inlets, bays and estuaries with intertidal mudflats.	Unlikely
Charadrius leschenaultii	Greater Sand Plover	VU, Mi	R	1	None	Coastal, inhabiting littoral and estuarine habitats.	Unlikely

Scientific Name	Common Name	EPBC Act	NP&W Act	Data Source	Date of last record	Species known habitat preferences	Likelihood of occurrence
Diomedea antipodensis	Antipodean Albatross	VU, Mi	-	1	None	Pelagic marine species.	Unlikely
Diomedea epomophora	Southern Royal Albatross	VU, Mi	V	1	None	Pelagic marine species.	Unlikely
Diomedea exulans	Wandering Albatross	VU, Mi	V	1	None	Pelagic marine species.	Unlikely
Falco hypoleucos	Grey Falcon	VU	V	1	None	Inhabits shrubland, grassland and wooded watercourses in arid/semi-arid regions of inland areas. Widespread, but sparse distribution across Australia.	Unlikely
Gallinago hardwickii	Latham's Snipe	VU, Mi	R	1	None	Migratory wetland species. Inhabits tussock grass and low dense sedges surrounding freshwater, permanent and ephemeral wetlands. Can also occur in habitats with saline or brackish water.	Unlikely
Gallinago megala	Swinhoe's Snipe	Mi	-	1	None	Migratory wetland species. Wetlands, wet meadows and both flooded and dry agricultural fields.	Unlikely
Gallinago stenura	Pin-tailed Snipe	Mi	-	1	None	Shallow freshwater swamps, ponds and lakes with emergent, sparse to dense cover of grass/sedge or other vegetation.	Unlikely
Grantiella picta	Painted Honeyeater	VU	R	1	None	Associated with mistletoe in woodlands which contain a high number of mature trees.	Unlikely
Limosa lapponica baueri	Nunivak Bar-tailed Godwit	EN	R	1	None	Does not breed in Australia. Exposed sandy or soft mud intertidal flats and beaches, tidal estuaries and harbours.	Unlikely
Macronectes giganteus	Southern Giant-Petrel	EN, Mi	V	1	None	Pelagic marine species.	Unlikely
Macronectes halli	Northern Giant Petrel	VU, Mi	-	1	None	Pelagic marine species.	Unlikely
Melanodryas cucullata cucullata	South-eastern Hooded Robin	EN	R	1	None	Lightly timbered woodland, dominated by acacia and or eucalypts.	Unlikely
Motacilla cinerea	Grey Wagtail	Mi	-	1	None	Uncommon terrestrial migratory species. Prefers fast-flowing streams and rivers often in forested areas, in addition to lowland watercourses.	Unlikely
Motacilla flava	Yellow Wagtail	Mi	-	1	None	Uncommon terrestrial migratory species. Inhabits a variety of damp or wet habitats including marshes and bogs.	Unlikely

Scientific Name	Common Name	EPBC Act	NP&W Act	Data Source	Date of last record	Species known habitat preferences	Likelihood of occurrence
						Forages in damp grassland or on bare ground at the edge of rivers, lakes and other wetlands.	
Neophema chrysostoma	Blue-winged Parrot	VU	V	1	None	Coastal, sub-coastal and inland areas, through to semi-arid zones. Favours grasslands and grassy woodlands, often found near wetlands both near the coast and in semi-arid zones. Also occurs in altered environments such as airfields, golf-courses and paddocks. Will forage on saltmarsh.	Unlikely
Numenius madagascariensis	Eastern Curlew	CR, Mi	E	1	None	Intertidal mudflats and sandflats, often with beds of seagrass, on sheltered coasts especially estuaries, mangrove swamps bays and lagoons.	Unlikely
Numenius minutus	Little Curlew	Mi	-	1	None	Does not breed in Australia. Coastal and inland grasslands, most often near freshwater swamps or flooded ground.	Unlikely
Pachyptila turtur subantarctica	Fairy Prion (southern)	VU	-	1	None	Pelagic marine species.	Unlikely
Pedionomus torquatus	Plains-wanderer	CR	E	1	None	Inhabits semi-arid, native grasslands with a diversity of plant species, which usually occur on red-brown soils.	Unlikely
Phoebetria fusca	Sooty Albatross	VU, Mi	E	1	None	Pelagic marine species.	Unlikely
Rostratula australis	Australian Painted Snipe	EN	E	1	None	Shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and clay pans.	Unlikely
Stagonopleura guttata	Diamond Firetail	VU	V	1	None	Eucalypt, acacia or casuarina woodlands, open forests and other lightly timbered habitats including farmland and grassland. Prefer areas with relatively low tree density, little litter cover but high grass cover.	Unlikely
Sternula albifrons	Little Tern	Mi	E	1	None	Sheltered coastal environments, including lagoons, estuaries and harbours, especially those with exposed sandbanks or sand-spits, also on exposed beaches.	Unlikely
Sternula nereis nereis	Fairy Tern	VU	E	1,2	20/11/2011	Offshore, estuarine or lake islands, wetlands, beaches and spits.	Unlikely
Thalassarche carteri	Indian Yellow-nosed Albatross	VU, Mi	E	1	None	Pelagic marine species.	Unlikely

Scientific Name	Common Name	EPBC Act	NP&W Act	Data Source	Date of last record	Species known habitat preferences	Likelihood of occurrence
Thalassarche cauta	Shy Albatross	EN, Mi	V	1	None	Pelagic marine species.	Unlikely
Thalassarche impavida	Campbell Albatross	VU, Mi	V	1	None	Pelagic marine species.	Unlikely
Thalassarche melanophris	Black-browed Albatross	VU, Mi	-	1	None	Pelagic marine species.	Unlikely
Thalassarche steadi	White-capped Albatross	VU, Mi	-	1	None	Pelagic marine species.	Unlikely
Thinornis cucullatus cucullatus	Eastern Hooded Plover	VU	V	1	None	Wide beaches backed by dunes with large amounts of seaweed. Creek mouths and inlet entrances.	Unlikely
Tringa nebularia	Common Greenshank	EN, Mi	-	1	None	Permanent and ephemeral wetlands, including swamps, lakes, rivers, creeks, inundated floodplains, claypans and salt flats.	Unlikely
MAMMALIA							
Balaenoptera edeni	Bryde's Whale	Mi	R	1	None	Marine species only.	Unlikely
Caperea marginata	Pygmy Right Whale	Mi	R	1	None	Marine species only.	Unlikely
Eubalaena australis	Southern Right Whale	EN, Mi	V	1	None	Marine species only.	Unlikely
Lagenorhynchus obscurus	Dusky Dolphin	Mi	-	1	None	Marine species only.	Unlikely
Megaptera novaeangliae	Humpback Whale	Mi	V	1	None	Marine species only.	Unlikely
Neophoca cinerea	Australian Sea-lion	EN, Mi	V	1	None	Marine species only.	Unlikely
REPTILIA							
Aprasia pseudopulchella	Flinders Ranges Worm-lizard	VU, Mi		1	None	Stony or clay soils with a stony surface in open woodland or tussock grassland.	Unlikely
Caretta caretta	Loggerhead Turtle	EN, Mi	E	1	None	Marine species only.	Unlikely
Chelonia mydas	Green Turtle	VU, Mi	V	1	None	Marine species only.	Unlikely

Scientific Name	Common Name	EPBC Act	NP&W Act	Data Source	Date of last record	Species known habitat preferences	Likelihood of occurrence
Dermochelys coriacea	Leatherback Turtle	EN, Mi	V	1	None	Marine species only.	Unlikely
FISH							
Carcharias taurus	Grey Nurse Shark	Mi	-	1	None	Marine species only.	Unlikely
Carcharodon carcharias	White Shark	VU, Mi	-	1	None	Marine species only.	Unlikely
Lamna nasus	Porbeagle	Mi	-	1	None	Marine species only.	Unlikely
Seriolella brama	Blue Warehou	CD	-	1	None	Marine species only.	Unlikely

EPBC Act: CR = Critically endangered, EN = Endangered; VU = Vulnerable; CD = Conservation Dependent, Mi = Migratory. NP&W Act; E= Endangered, V = Vulnerable, R= Rare.

4.5 Cumulative Impact

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

The purpose of the clearance for the retention basin is in the interest of not causing cumulative impacts. The existing approved plan has no other option for the location and will act in preventing sedimentation through a settling process. Use of vegetative material such as reeds and rushes will aid in increasing water quality. The road upgrade will reduce the accumulation of dust on adjoining road reserve vegetation which currently receives very high loads.

4.6 Adress the Mitigation Hierarchy

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

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

The widening of the road corridor to one side only will allow for retention of the northern road reserve.

The retention basin to be constructed to allow for a bounding fringe of vegetation to remain and act as a screen, shelter for birds, roosting and nesting sites.

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).

It is recommended that the retention basin design will have areas for vegetation to grow on level benches on the fringes of the basin which will aid in the uptake of nutrient loads and trap sediments. This will result in increased habitat zones / structures for avian species.

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.

The basin edges should have weed management and plantings of locally indigenous species to increase species and structural diversity. Top soil should be stockpiled during construction and respread around the edges to allow for natural regeneration.

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

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

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

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

Principle of clearance	Relevant information	Assessment against the principles	Moderating factors that may be considered by the NVC
Principle 1b - significance as a habitat for wildlife	Provide details of the threatened species that were recorded or may use the vegetation. No threatened species have historical records since 1995. Elegant parrots were observed during the field survey. Patches; Threatened Fauna Score 0.02 Unit biodiversity Score	Seriously at Variance Associations 3 and 4 were seriously at variance.	The clearance action is unlikely to • lead to a long-term decrease in the size of a population • fragment an existing population into two or more populations • modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline • result in invasive species that are harmful to a threatened species becoming established in the threatened species habitat
Principle 1c - plants of a rare, vulnerable or endangered species	No threatened plants recorded	Not at Variance	N/A
Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered:	No threatened communities under the EPBC Act or threatened ecosystems under the DEW Provisional list of threatened ecosystems were observed	Not at Variance	N/A

4.7 Risk Assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	
	Area (ha)	9.012
	Total biodiversity Score	292.98
Seriously at variance with principle 1(b), 1(c) or 1 (d)		1(b)
Risk assessment outcome		Level 4

4.8 NVC Guidelines

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

Not applicable

5 Clearance Summary

5.1 Clearance Area(s) Summary table

Block 1 Retention basin and Block 2 Sandy Church Road - Overall combined totals

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
1	1	24	1	0	0	51.15	0.277	14.17	1.0			15.59	$9,034.06	$496.87
1	2	6	1	0	0	7.52	1.37	10.30	1.0			11.33	$6,565.48	$361.10
1	3	26	1	0	0.02	66.71	1.94	129.42	1.0			142.36	$82,494.43	$4,537.19
1	4	14	1	0	0.02	29.8	1.975	58.86	1.0			64.75	$37,521.17	$2,063.66
2	1	24	1	0	0	51.15	0.298	15.24	1.0			16.76	$9,712.04	$534.16
2	2	6	1	0	0	7.52	0.975	7.33	1.0			8.06	$4,670.59	$256.88
2	4	14	1	0	0.02	29.8	0.826	24.61	1.0			27.07	$15,686.46	$862.76
2	5	12	1	0	0	26.01	0.679	17.66	1.0			19.43	$11,259.25	$619.26
2	6	12	1	0	0	20.76	0.513	10.65	1.0			11.72	$6,791.48	$373.53
2	7	10	1	0	0	29.8	0.159	4.74	1.0			5.21	$3,019.08	$166.05
						Total	9.012	292.98				**322.28**	**$186,754.04**	**$10,271.46**

Block 1 - Retention basin only

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
1	1	24	1	0	0	51.15	0.277	14.17	1.0			15.59	$9,034.06	$496.87
1	2	6	1	0	0	7.52	1.37	10.30	1.0			11.33	$6,565.48	$361.10
1	3	26	1	0	0.02	66.71	1.94	129.42	1.0			142.36	$82,494.43	$4,537.19
1	4	14	1	0	0.02	29.8	1.975	58.86	1.0			64.75	$37,521.17	$2,063.66
						Total	5.562	212.75				**234.03**	**$135,615.14**	**$7,458.82**

Block 2 - Sandy Church Road only

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
2	1	24	1	0	0	51.15	0.298	15.24	1.0			16.76	$9,712.04	$534.16
2	2	6	1	0	0	7.52	0.975	7.33	1.0			8.06	$4,670.59	$256.88
2	4	14	1	0	0.02	29.8	0.826	24.61	1.0			27.07	$15,686.46	$862.76
2	5	12	1	0	0	26.01	0.679	17.66	1.0			19.43	$11,259.25	$619.26
2	6	12	1	0	0	20.76	0.513	10.65	1.0			11.72	$6,791.48	$373.53
2	7	10	1	0	0	29.8	0.159	4.74	1.0			5.21	$3,019.08	$166.05
						Total	3.45	80.23				**88.25**	**$58,423.65**	**$3,213.30**

5.2 Totals Summary Table

Block 1 Retention basin and Block 2 Sandy Church Road - Overall combined totals

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	292.98	322.28	$186,754.04	$10,271.46	$197,025.50

Block 1 - Retention basin

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	212.75	234.03	$135,615.14	$7,458.82	$143,073.96

Block 2 - Sandy Church Road

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	80.23	88.25	$58,423.65	$3,213.30	$61,636.95

Economies of Scale Factor	0.5
Rainfall (mm)	351

6 Significant Environmental Benefit

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

ACHIEVING AN SEB

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

☐ Establish a new SEB Area on land owned by the proponent.

☐ Use SEB Credit that the proponent has established. Provide the SEB Credit Ref. No. _____

☐ Apply to have SEB Credit assigned from another person or body. The application form needs to be submitted with this Data Report.

☐ Apply to have an SEB to be delivered by a Third Party. The application form needs to be submitted with this Data Report.

☒ Pay into the Native Vegetation Fund.

PAYMENT SEB

If a proponent proposes to achieve the SEB by paying into the Native Vegetation Fund, summary information must be provided on the amount required to be paid and the manner of payment: $186,754.04 plus an administration fee of $10,271.46, totalling $197,025.50

7 References

Department of Climate Change, Energy, the Environment and Water (2020), Interim Biogeographic Regionalisation for Australia v. 7 (IBRA) [ESRI shapefile

Department for Environment and Water (2023) BDBSA Supertable overview. Accessed: 25th September 2023. Available at: http://www.environment.sa.gov.au/Science/Information_data/Biological_databases_of_South_Australia

Department of Agriculture Water and the Environment (2024) Protected Matters Search Tool. Accessed: 13th November 2024. http://www.environment.gov.au/epbc/protected-matters-search-tool. Available at: http://www.environment.gov.au/epbc/protected-matters-search-tool

Department of the Environment and Energy (DoEE) (2012) Interim Biogeographic Regionalisation for Australia v. 7 (IBRA) [ESRI shapefile]. Available at: http://intspat01.ris.environment.gov.au/fed/catalog/search/resource/details.page?uuid=%7B3C182B5A-C081-4B56-82CA-DF5AF82F86DD%7D

NatureMaps (2024) EnviroData SA. Government of South Australia, Department of Environment and Water (DEW). Available at: https://data.environment.sa.gov.au/NatureMaps/Pages/default.aspx

8 Appendices

8.1 PMST Results

Department of Climate Change, Energy, the Environment and Water

Protected Matters Search Tool

Report Generated - 9:32AM - 13 November 2024

Matters of National Environment Significance	Count
World Heritage Properties	0
National Heritage Places	0
Wetlands of International Importance (Ramsar Wetlands)	0
Great Barrier Reef Marine Park	0
Commonwealth Marine Area	0
Listed Threatened Ecological Communities	1
Listed Threatened Species	52
Listed Migratory Species	42

Other Matters Protected by the EPBC Act	Count
Commonwealth Lands	0
Commonwealth Heritage Places	0
Listed Marine Species	76
Whales and Other Cetaceans	8
Critical Habitats	0
Commonwealth Reserves Terrestrial	0
Australian Marine Parks	0
Habitat Critical to the Survival of Marine Turtles	0

Extra Information	Count
State and Territory Reserves	1
Regional Forest Agreements	0
Nationally Important Wetlands	0

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected and is accurate at the time of generation. Please see the caveat for interpretation of information provided here. Consider carefully the age of information for decision making.

EPBC Act Referrals	5
Key Ecological Features	0
Biologically Important Areas	3
Bioregional Assessments	0
Geological and Bioregional Assessments	0

Report Metadata	Caveat

8.2 BDBSA Flora Species records within 5 km

Scientific Name	Common Name	Date of Last Record
Acacia cyclops	Western Coastal Wattle	24/07/2014
Acacia hakeoides	Hakea Wattle	24/07/2014
Acacia ligulata	Umbrella Bush	20/10/1999
Acacia oswaldii	Umbrella Wattle	24/07/2014
Acacia saligna	Golden Wreath Wattle	27/06/2014
Acacia sclerophylla var. sclerophylla	Hard-leaf Wattle	24/07/2014
Acacia sp.	Wattle	20/10/1999
Allocasuarina verticillata	Drooping Sheoak	24/07/2014
Arctotheca calendula	Cape Weed	1/07/2014
Asparagus asparagoides	Bridal Creeper	24/07/2014
Asparagus asparagoides (NC)	Bridal Creeper	20/10/1999
Asparagus asparagoides f.	Bridal Creeper	9/02/2005
Asphodelus fistulosus	Onion Weed	1/07/2014
Asteriscus spinosus	Golden Pallensis	1/07/2014
Austrostipa elegantissima	Feather Spear-grass	9/02/2005
Austrostipa sp.	Spear-grass	24/07/2014
Avena barbata	Bearded Oat	20/10/1999
Avena sp.	Oat	24/07/2014
Beyeria lechenaultii	Pale Turpentine Bush	1/07/2014
Brassica tournefortii	Wild Turnip	9/02/2005
Brassicaceae sp.	Cress Family	24/07/2014
Bromus diandrus	Great Brome	9/02/2005
Bromus diandrus (NC)	Great Brome	20/10/1999
Bromus madritensis	Compact Brome	9/02/2005
Bursaria spinosa ssp. spinosa	Sweet Bursaria	1/07/2014
Carduus tenuiflorus	Slender Thistle	1/07/2014
Carrichtera annua	Ward's Weed	1/07/2014
Carthamus lanatus	Saffron Thistle	20/10/1999
Cynodon dactylon var. dactylon	Couch	1/07/2014
Dianella brevicaulis	Short-stem Flax-lily	9/02/2005
Dianella brevicaulis/revoluta var.	Black-anther Flax-lily	24/07/2014
Distichlis distichophylla	Emu-grass	9/02/2005
Echium plantagineum	Salvation Jane	19/10/1999
Ehrharta calycina	Perennial Veldt Grass	19/10/1999
Enchylaena tomentosa var.	Ruby Saltbush	24/07/2014
Enchylaena tomentosa var. tomentosa	Ruby Saltbush	9/02/2005
Enneapogon sp.	Bottle-washers/Nineawn	1/07/2014
Eragrostis curvula	African Love-grass	27/06/2014
Eucalyptus brachycalyx	Gilja	24/07/2014

Scientific Name	Common Name	Date of Last Record
Eucalyptus gracilis	Yorrell	24/07/2014
Eucalyptus incrassata	Ridge-fruited Mallee	24/07/2014
Eucalyptus leptophylla (NC)	Narrow-leaf Red Mallee	20/10/1999
Eucalyptus phenax (NC)	Sessile-fruit White Mallee	20/10/1999
Eucalyptus phenax ssp.		1/07/2014
Eucalyptus porosa	Mallee Box	1/07/2014
Eucalyptus socialis (NC)	Beaked Red Mallee	20/10/1999
Eucalyptus socialis ssp.	Beaked Red Mallee	24/07/2014
Eucalyptus sp.		1/07/2014
Euphorbia terracina	False Caper	1/07/2014
Ficinia nodosa	Knobby Club-rush	9/02/2005
Gahnia deusta	Limestone Saw-sedge	24/07/2014
Geijera linearifolia	Sheep Bush	24/07/2014
Gramineae sp.	Grass Family	24/07/2014
Hordeum glaucum	Blue Barley-grass	9/02/2005
Lagurus ovatus	Hare's Tail Grass	9/02/2005
Lasiopetalum behrii	Pink Velvet-bush	1/07/2014
Lepidosperma sp.	Sword-sedge/Rapier-sedge	1/07/2014
Lomandra effusa	Scented Mat-rush	1/07/2014
Lycium ferocissimum	African Boxthorn	24/07/2014
Malva parviflora	Small-flower Marshmallow	19/10/1999
Malvaceae sp.		24/07/2014
Marrubium vulgare	Horehound	27/06/2014
Melaleuca acuminata ssp. acuminata	Mallee Honey-myrtle	24/07/2014
Melaleuca lanceolata	Dryland Tea-tree	24/07/2014
Melaleuca lanceolata ssp. lanceolata (NC)	Dryland Tea-tree	19/10/1999
Melaleuca uncinata	Broombush	27/06/2014
Melaleuca uncinata (NC)	Broombush	20/10/1999
Moraea setifolia	Thread Iris	9/02/2005
Myoporum platycarpum ssp.	False Sandalwood	24/07/2014
Nitraria billardierei	Nitre-bush	24/07/2014
Olearia axillaris	Coast Daisy-bush	9/02/2005
Oxalis pes-caprae	Soursob	24/07/2014
Paspalum dilatatum	Paspalum	1/07/2014
Pinus halepensis	Aleppo Pine	1/07/2014
Piptatherum miliaceum	Rice Millet	24/07/2014
Pittosporum angustifolium	Native Apricot	24/07/2014
Pomaderris paniculosa ssp. paniculosa	Mallee Pomaderris	1/07/2014
Pterostylis pusilla	Small Rusty-hood	16/09/2016
Reichardia tingitana	False Sowthistle	24/07/2014
Retama raetam	White Weeping Broom	29/08/2005
Rhagodia candolleana ssp. candolleana	Sea-berry Saltbush	24/07/2014
Rhagodia crassifolia	Fleshy Saltbush	9/02/2005
Rhagodia parabolica	Mealy Saltbush	9/02/2005
Romulea sp.	Onion-grass	27/06/2014
Rytidosperma sp.	Wallaby-grass	1/07/2014
Salvia verbenaca var.	Wild Sage	1/07/2014
Santalum acuminatum	Quandong	1/07/2014
Schinus molle	Pepper-tree	1/07/2014
Senna artemisioides ssp. petiolaris		24/07/2014
Sixalix atropurpurea	Pincushion	1/07/2014
Solanum nigrum	Black Nightshade	24/07/2014

Scientific Name	Common Name	Date of Last Record
Sonchus oleraceus	Common Sow-thistle	24/07/2014
Tetragonia implexicoma	Bower Spinach	24/07/2014
Threlkeldia diffusa	Coast Bonefruit	24/07/2014
Vittadinia gracilis	Woolly New Holland Daisy	1/07/2014

8.3 BDBSA Fauna Species records within 5 km

Scientific Name	Common Name	Date of Last Record
Acanthagenys rufogularis	Spiny-cheeked Honeyeater	13/11/2012
Acanthiza chrysorrhoa	Yellow-rumped Thornbill	13/11/2012
Alauda arvensis arvensis	Eurasian Skylark	20/08/2012
Anilios sp.		13/01/2021
Anthochaera carunculata woodwardi	Red Wattlebird (MLR, AP, YP, EP, far west, Yellabinna)	13/11/2012
Artamus cinereus	Black-faced Woodswallow	21/08/2012
Artamus cyanopterus	Dusky Woodswallow	13/11/2012
Austronomus australis	White-striped Free-tailed Bat	17/12/2011
Chalinolobus gouldii	Gould's Wattled Bat	17/12/2011
Chroicocephalus novaehollandiae novaehollandiae	Silver Gull	22/08/2012
Colluricincla harmonica	Grey Shrikethrush	13/11/2012
Columba livia	Feral Pigeon	21/08/2012
Coracina novaehollandiae	Black-faced Cuckooshrike	12/11/2012
Corvus coronoides	Australian Raven	13/11/2012
Cracticus torquatus leucopterus	Grey Butcherbird	13/11/2012
Ctenotus robustus	Eastern Striped Skink	16/12/2011
Daphoenositta chrysoptera pileata	Black-capped Sittella	2/05/2012
Egretta novaehollandiae	White-faced Heron	15/12/2011
Elanus axillaris	Black-shouldered Kite	21/08/2012
Eolophus roseicapilla	Galah	12/11/2012
Falco berigora berigora	Brown Falcon	12/11/2012
Falco cenchroides cenchroides	Nankeen Kestrel	13/11/2012
Falco longipennis murchisonianus	Australian Hobby	2/05/2012
Felis catus	Domestic Cat (Feral Cat)	18/07/2012
Gavicalis virescens	Singing Honeyeater	13/11/2012
Grallina cyanoleuca cyanoleuca	Magpielark	12/11/2012
Gymnorhina tibicen	Australian Magpie	13/11/2012
Hemiergis peronii	Four-toed Earless Skink	20/07/2012
Hirundo neoxena neoxena	Welcome Swallow	13/11/2012
Hydroprogne caspia	Caspian Tern	1/05/2012
Lasiorhinus latifrons	Southern Hairy-nosed Wombat	22/07/2012
Lerista bougainvillii	Bougainville's Skink	14/12/2011
Limnodynastes dumerilii	Banjo Frog	19/07/2012
Manorina flavigula	Yellow-throated Miner (complex)	13/11/2012

Scientific Name	Common Name	Date of Last Record
Manorina melanocephala	Noisy Miner	2/05/2012
Microcarbo melanoleucos melanoleucos	Little Pied Cormorant	1/05/2012
Milvus migrans affinis	Black Kite	20/08/2012
Mormopterus sp.		16/12/2011
Mus musculus	House Mouse	23/07/2012
Neobatrachus pictus	Burrowing Frog	20/07/2012
Nyctophilus geoffroyi	Lesser Long-eared Bat	17/12/2011
Ocyphaps lophotes lophotes	Crested Pigeon	13/11/2012
Pardalotus punctatus xanthopyge	Yellow-rumped Pardalote	12/11/2012
Pardalotus striatus substriatus	Striated Pardalote	22/08/2012
Parvipsitta porphyrocephala	Purple-crowned Lorikeet	22/08/2012
Passer domesticus domesticus	House Sparrow	13/11/2012
Pomatostomus superciliosus	White-browed Babbler	13/11/2012
Psephotus haematonotus haematonotus	Red-rumped Parrot (eastern SA except NE)	13/11/2012
Pseudonaja textilis	Eastern Brown Snake	16/12/2011
Ptilotula penicillata	White-plumed Honeyeater	12/11/2012
Pupoides adelaidae	Adelaide Pupasnail	24/10/2016
Rattus rattus	Black Rat (Ship Rat, Roof Rat)	22/07/2012
Rhipidura albiscapa	Grey Fantail	1/05/2012
Rhipidura leucophrys leucophrys	Willie Wagtail	13/11/2012
Spilopelia chinensis	Spotted Dove	13/11/2012
Sternula nereis nereis	Fairy Tern	20/11/2011
Sturnus vulgaris vulgaris	Common Starling	13/11/2012
Succinea australis	Striate Ambersnail	24/10/2016
Tiliqua rugosa	Sleepy Lizard	17/12/2011
Turdus merula merula	Common Blackbird	13/11/2012
Turnix velox	Little Buttonquail	14/12/2011
Tyto javanica delicatula	Eastern Barn Owl	22/08/2012
Underwoodisaurus milii	Common Barking Gecko	17/12/2011
Varanus gouldii	Sand Goanna	29/12/2019
Varanus sp.	goannas	19/11/2014
Vulpes vulpes	Fox (Red Fox)	20/07/2012
Zosterops lateralis	Silvereye	22/08/2012