

Native Vegetation Clearance

Mt Bold Dam Upgrade

Data Report

Clearance under the Native Vegetation Regulations 2017

6 September 2022

Report version AH055-2-B

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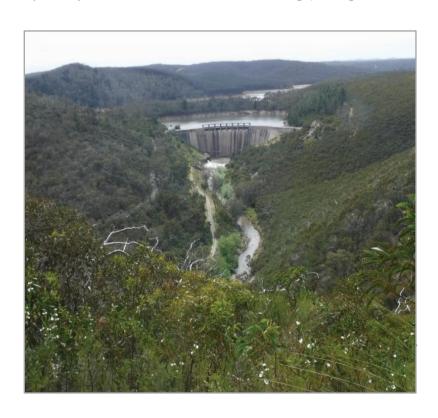


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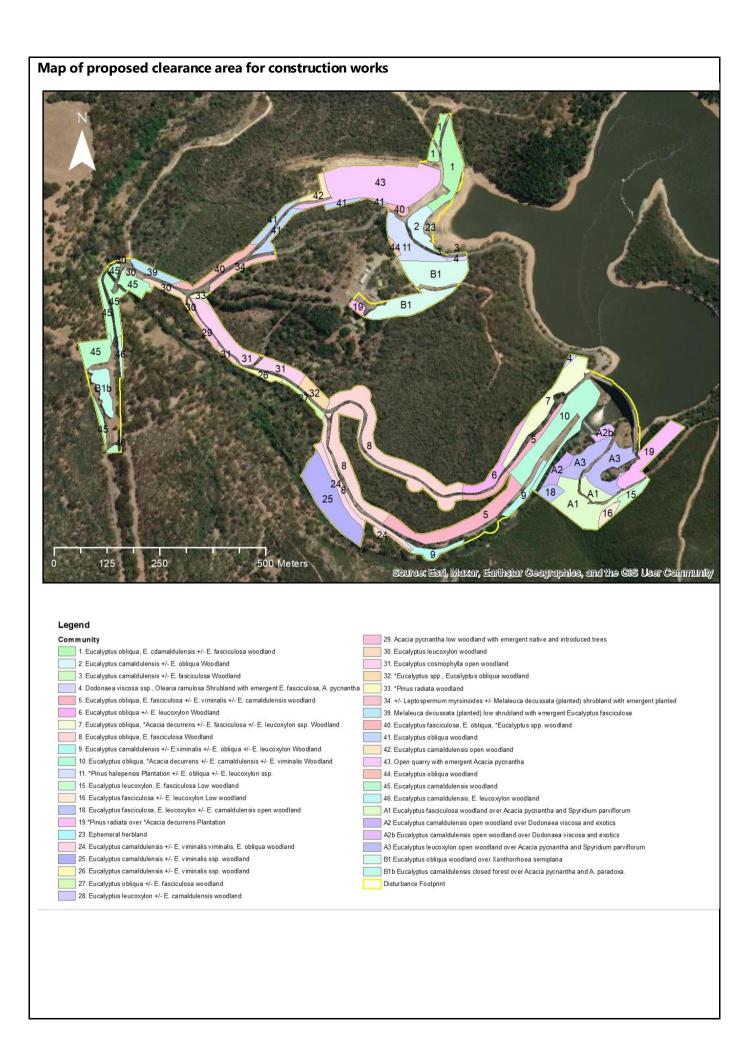
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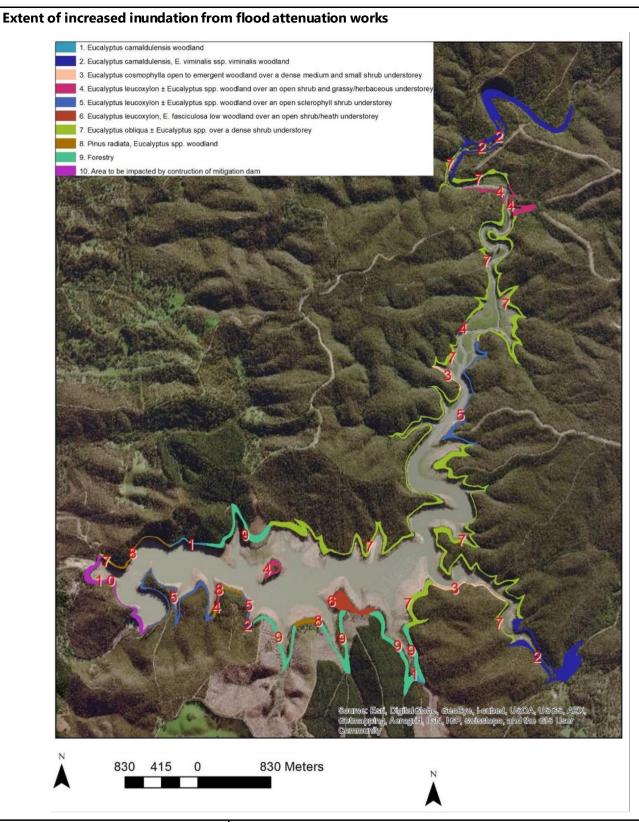
1. Application information

Application Details

Applicant:					
Key contact:					
Landowner:					
Landowner.					
Site Address:	Mount Bold Road, Kangarilla				
Local Government	CITY OF ONKAPARINGA	Hundred:	H105500		
Area:			H105300		
Title ID:	CR/5757/788 Parcel ID H105500 S227				
	CR/5757/784 Parcel ID H105300 S535				

Summary of proposed clearance			
Purpose of clearance	Clearance is required to support works to upgrade the safety of the Mount Bold Dam and to increase the flood mitigation capacity of the reservoir		
	Increasing the flood attenuation capacity of the dam is anticipated to result in a degree of impact to terrestrial vegetation in a band around the perimeter of the reservoir.		
Native Vegetation Regulation	Regulation 12, Schedule 1; clause 34, Infrastructure		
Description of the vegetation under	Clearance impacts for construction works:		
application	11.75 ha of eucalyptus woodland in good to excellent condition (UBS > 60)		
	 6.61 ha of eucalyptus woodland in moderate condition (UBS >40-60) 		
	• 5.86 ha of planted or previously cleared regenerating shrubland or woodland in poor condition (UBS 0-40)		
	The vegetation comprises:		
	5.28 ha of riparian vegetation18.6 ha of terrestrial vegetation		
	Clearance impacts for flood mitigation:		
	64.91 ha of 10 plant communities at the reservoir perimeter		
Total proposed clearance - area (ha)	23.89 ha are proposed to be cleared.		
and number of trees	64.91 ha are proposed to be impacted by short-term inundation.		
Level of clearance	Level 4		
Overlay (Planning and Design Code)	N/A		





Mitigation hierarchy

Impacts to native vegetation have been avoided and minimised by:

- relocating works to minimise disturbance to areas of high conservation significance
- maximising the use of areas of degraded or non-native vegetation areas in the design of the works
- avoiding large hollow-bearing habitat trees where possible
- designing roadworks to widen existing roads and minimise their footprint
- designing batter slopes to minimise vegetation clearance

	- increasing the capacity of hollow jets to minimise the duration of inundation during flood mitigation events
SEB Offset proposal	Offset through on-ground works equivalent to
	1,320.93 SEB Points for vegetation clearance works and
	345.31 SEB Points for anticipated inundation at the reservoir perimeter (resulting from a modelled 1-in-100-year AEP event)

2. Purpose of clearance

2.1 Description

SA Water is proposing to undertake safety upgrade works to Mount Bold dam that require the removal of native vegetation.

2.2 Background

Mount Bold is the largest reservoir in South Australia with a capacity of 46.6 GL. The reservoir is located in a reserve 24 km south of Adelaide on the Onkaparinga River in the Southern Mount Lofty Ranges (**Figure 1**). The dam was constructed in 1937 to supply the Adelaide metropolitan area and stores water captured from the Onkaparinga River and transferred from the River Murray.

The 5,500 ha Mount Bold Reservoir Reserve includes the immediate catchment area around the reservoir and extends from Mylor to Kangarilla. The reserve shares a common boundary with Scott Creek Conservation Park to the northwest and Heritage Agreement 1275 in the north-east. Over half the reserve supports native vegetation in moderate to excellent condition (AWE 2010 - see Appendix 1 References). The reserve also includes areas of pasture and timber plantations. The reservoir itself occupies 308 ha.

Land surrounding the reserve is managed for conservation, plantation forestry, grazing, dryland agriculture, horticulture and rural lifestyle.

SA Water is planning to upgrade Mount Bold Dam to comply with the Australian National Committee of Large Dams (ANCOLD) guidelines. The upgrade will ensure that the dam is able to withstand the "maximum design earthquake" and the probable maximum flood. The upgraded dam will also provide flood attenuation to the downstream community. Increased temporary storage of floodwater will result in infrequent and short-term inundation of periphery vegetation above the full supply level (FSL). Neither the water supply volume nor full supply level of the dam will be increased.

In early May 2022, the Commonwealth Government announced additional funding to implement the F1 flood mitigation option for the project. As such, the F1 option is SA Water's preferred design. Flooding will be attenuated via a slot 5.6 m deep by 3.4 m wide in the primary spillway to provide protection against the 1 in 100 year Annual Exceedance Probability (AEP) protection flood event when the dam is at full supply level at the beginning of the flood. The existing dam affords 1:10 AEP and can include pre-releases by gate operation that is informed by current and on-time weather forecast and extensive levels of operator intervention. The upgraded dam will help prevent impact on downstream assets, by regulating flow past the Mount Bold Dam wall such that the outflow from the dam would be limited to 120 m³/s to prevent flooding downstream at Old Noarlunga. During a flood event, capacity in the reservoir would increase temporarily to achieve a controlled outflow from the dam. For a 1:100 AEP flood event the additional water capacity would gradually drain over a 5-6 day period, until the reservoir reaches FSL again.

Key design elements of Option F1 include:

- Ability to withstand the Probable Maximum Flood;
- Ability to withstand the design earthquake (1 in 10,000 AEP event);

- Removal of spillway gates;
- Reinforcing of the dam wall, through construction of a concrete buttress downstream of the dam wall;
- Construction of a saddle dam;
- Providing 1:100 AEP flood attenuation when the dam is at full supply at the beginning of a flood event;
- Maintaining the same maximum storage level (Full Supply Level); and

2.3 General location map

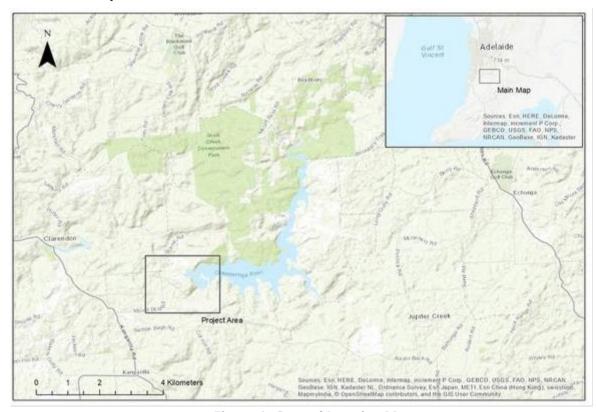


Figure 1. General Location Map

2.4 Details of the proposal

The proposed safety upgrade involves works in the vicinity of the dam wall (Figure 2).

The dam wall will be modified and strengthened. A new stepped spillway will be constructed on the crest of the dam to replace the manually operated flood gates. The dam wall will be strengthened by the addition of a concrete buttress and post tension anchors will be installed to the raised abutments for stability. A new saddle dam will be constructed to the north-east of the dam to contain water when the dam operates at higher water levels under temporary flood conditions. Existing access roads will be widened, and some new roads will be required. Four new bridges will be constructed to provide access and cross the Onkaparinga River.

A temporary concrete batching plant will be constructed within the assessed clearance footprint to supply the concrete for the dam wall. It is likely to be located within the existing quarry at the Saddle Dam Compound.

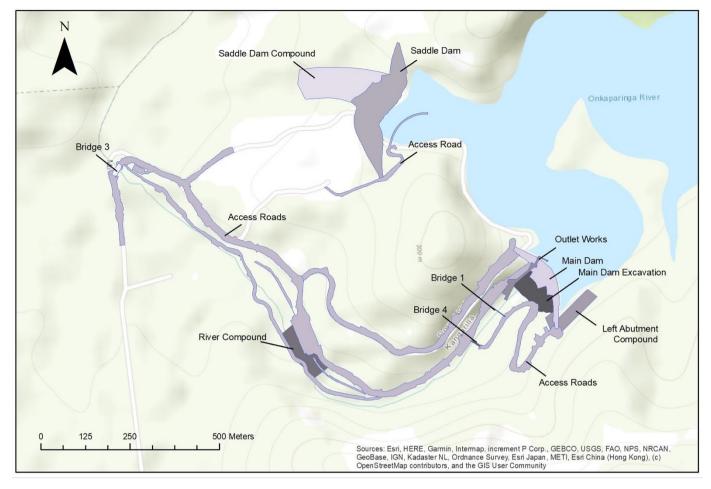


Figure 2. Extent of Works

2.5 Approvals required or obtained

Native Vegetation Act 1991 (SA)

Under the Native Vegetation Act approval is required to remove native vegetation for this project.

Environment Protection and Biodiversity Conservation Act 1999 (Cwth)

Matters of National Environmental Significance have been identified in the vicinity of the site. SA Water has completed an EPBC self-assessment and has determined that a referral under the Act is not required (Appendix 2).

Planning Development and Infrastructure Act 2016 (SA)

A Crown development application for the saddle dam is currently being prepared for lodgment with the State Commission Assessment Panel.

Heritage Act 1993 (SA)

The project does not impact on matters of State Heritage Significance.

Environmental Protection Act 1993 (SA)

The construction contractor will be required to hold EPA licenses for each relevant activity including an Earthworks and Drainage License and Dredging License. A license will be required to operate the concrete batching plant.

Aboriginal Heritage Act 1998 (SA)

A desktop risk assessment has been conducted by Independent Heritage Consultants in February 2020 and found the works did not present a significant risk to matters protected under the Act.

Due to amendments in the most recent concept design a further desktop risk assessment was completed in August 2022 and found the additional areas to be of low risk. A single Culturally Modified Tree was identified downstream of the dam wall adjacent the Onkaparinga River, however this will not be impacted by the works.

Landscape South Australia Act 2019 (SA)

Under Part 175 of the Act consultation is required if transporting declared plants.

2.6 Native Vegetation Regulation

The proposed dam wall safety upgrade works will require approval to clear native vegetation under *Regulation 12(34)* – *Infrastructure* of the *Native Vegetation Act 1991*. This Regulation allows for clearance of vegetation incidental to the construction or expansion of a building or infrastructure (and associated services) where the Minister has declared that the clearance is in the public interest.

2.7 Development Application information (if applicable)

Not applicable.

3. Method

3.1 Flora assessment

A vegetation assessment was undertaken to inform planning and development of the proposed upgrade project and to determine the extent of impacts.

A desk-top review of existing flora records was conducted to identify threatened species and ecological communities within a 5 km search of the impact area. The databases interrogated were NatureMaps and the EPBC protected matters search tool (8th April 2022). Records prior to 1995 were excluded.

The vegetation survey followed the methods set out by the Native Vegetation Council to report the impacts of vegetation clearance. Plant associations were classified according to composition and condition and mapped (**Figure 3**). The survey data was collected over a period of 12 months, to provide a comprehensive survey of the areas potentially impacted by the works, and to sample at optimal times for the identification of seasonal species. Vegetation surveys were undertaken for sites 1-23 in Spring 2018, Summer 2018/2019 and early Winter (June) 2019 (T&M Ecologists 2019). Sites 24-46 were assessed on the 26th and 30th October 2020 (T&M Ecologists 2020).

Additional vegetation assessments were carried out by EBS Ecology on 12 April 2022 at three locations: Block A south-west of the Dam Wall); Block B (east of the site office); and, Block C for a proposed walking track and bridge over the Onkaparinga River (EBS 2022).

A final field survey was conducted (Ecological Associates) on 8 August 2022 to assess vegetation within the expanded footprint of the proposed works. Additional species observed were added to existing species lists for each plant association and noted as occurring outside of the Bushland Assessment Quadrats.

Data from all previous reports was collated, consolidated, and mapped to calculate the area of impact for each vegetation association.

State Conservation Ratings are reported in accordance with the National Parks and Wildlife Act 1972.

3.2 Fauna assessment

A desk-top review was conducted to identify threatened species and ecological communities within a 5 km search of the impact area. Matters of National Environmental Significance (MNES) known to occur within a 5 km search radius were identified using the EPBC protected matters search tool (8th April 2022). Records of threatened fauna reported since 1995 were reviewed using NatureMaps and Atlas of Living Australia (AoLA: 10th April 2022). Records of aquatic species were excluded.

Fauna surveys were undertaken in Spring 2018, Summer 2018/2019 and early Winter (June) 2019 to assess the presence of species of conservation significance within the proposed impact areas (T&M Ecologists 2019) (Figure 3). The following methodologies were utilised within the areas of impact (with reference to target species of conservation significance):

- Standard Biological Survey of SA survey for bird species of conservation significance
- Elliott trapping for the State Vulnerable Yellow-footed Antechinus (Antechinus flavipes)
- Cage traps and scat searches for the State Rare Common Brushtail Possum (Trichosurus vulpecula)
- Motion-detecting cameras for Southern Brown Bandicoots (Isoodon obesulus obesulus), Common Brushtail Possums (Trichosurus vulpecula) and Yellow-footed Antechinus (Antechinus flavipes)
- Anabat survey for bat species
- Searching for diggings and signs for the presence of the Nationally Endangered Southern Brown Bandicoots (Isoodon obesulus obesulus) and State Rare Common Brushtail Possum (Trichosurus vulpecula)
- Focused searching of appropriate rocky/cliff habitats for the State Endangered Cunningham's Skink (*Egernia cunninghami*). This incorporated searching on days where conditions were suitable (sunshine, low wind, during spring) for 2 hours per occasion, using:

- o Searches for scat piles outside crevices
- o Using penlight torches and inspection cameras to look inside suitable crevices
- Using binoculars to look for basking animals outside crevices
- Call identification for frog species, especially the State Rare Bibron's Toadlet (*Pseudophryne bibronii*)
- Opportune searching for reptiles (observation, raking, lifting rocks and logs etc.)

Six primary sites were surveyed (**Figure 3**). These fauna survey sites were chosen to provide broad coverage of the habitat types present in the assessment area. In addition, a control site was included to act as a test for the detectability of the Southern Brown Bandicoot. Comprehensive detail of the methods employed is provided in T&M Ecologists (2019).

National conservation ratings are in accordance with the most recent *EPBC Act* Listing Status available in the Species Profile and Threats Database. State Conservation Ratings are in accordance with the *National Parks and Wildlife Act* 1972.



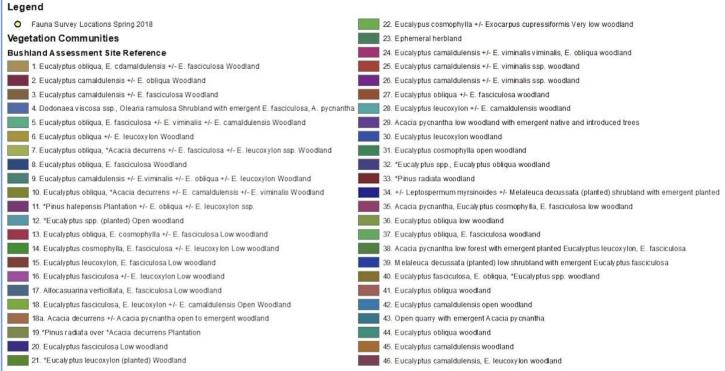


Figure 3. Fauna Survey Sites and Vegetation Survey Extent (from T&M Ecologists (2019)).

3.3 Inundation assessment

SA Water is upgrading the dam wall at Mount Bold Reservoir, and this will bring changes in the reservoir's retention and discharge hydrology. After the upgrade, the reservoir will have increased capacity to retain flood events, and these changes will increase the frequency of sporadic and short duration inundation events upstream of the dam wall. With increased exposure to inundation stress, some dieback of vegetation fringing the reservoir is anticipated, and this loss of vegetation is subject to the Native Vegetation Act.

The impacts of increased inundation to terrestrial plant communities at the perimeter of the reservoir were based on inundation for up to 6 days above full supply level in a 1 in 100-year AEP event.

To calculate the SEB impact of increased inundation the SA Water's Sciences Research team have:

- Developed a framework for estimating the extent to which inundation will affect fringing vegetation around Mount Bold reservoir, and an appropriate Loss Factor for calculating SEB points of loss,
- Used a simple conceptual model within this framework to predict how vegetation assemblages will respond
 to different flood events, and how the assemblages will respond to realistic sequences of flood events over
 the long-term future,
- Applied the model separately across different elevation bands to consider how flood impact reduces at higher positions along elevation gradient, and
- Conducted a research program, including literature reviews, native vegetation surveys and experimental trials
 that tested the relative sensitivity of a limited sample of typical woodland species to inundation. The aim of
 this research program was to understand the amount of dieback that is likely, for the purpose of specifying
 this plant response model.

Vegetation mapping and Bushland Assessments have been undertaken for the inundated area by T&M Ecologists (2020, updated 2022).

Details of the inundation impact assessment methodology are provided in SA Water (2022).

4. Assessment Outcomes

4.1 Vegetation Assessment - Inundation of Reservoir Perimeter

The Data Report information for inundation impacts at the reservoir perimeter is provided in the accompanying reports:

- T&M Ecologists (May 2020): Proposed Mt Bold Flood Mitigation Dam Vegetation Inundation Assessment
- T&M Ecologists (June 2022): Proposed Mt Bold Flood Mitigation Dam Vegetation Inundation Assessment: updated SEB offsets for new inundation models related to dam design; and
- SA Water (2022): How inundation will affect the environmental benefit of vegetation at Mount Bold Reserve

This data report does not repeat the reporting and analysis in these documents. A summary is presented here. Refer to **Appendix 7** for detailed investigation reports.

Twenty-nine bushland assessment sites were surveyed at the reservoir perimeter (**Figure 4Figure 5**). Ten plant associations were identified and mapped (**Figure 5**). Plant association descriptions have been completed and clearance has been assessed against the principles of clearance (Table 4 T&M Ecologists 2020). A total of 64.91 ha is inundated during a flood event rising 6 m above the Full Supply Level (Table N). SEB points required for complete clearance of this vegetation has been assessed for vegetation classified as good/excellent and poor/moderate (**Table 1**).

Based on further investigations undertaken by SA Water which concluded natural regeneration of any flood-impacted vegetation will occur over time, as the ecosystem at Mount Bold Reservoir reserve is in very good condition and is expected to naturally restore quite well from a flood disturbance (SA Water, 2022). The SEB offset requirement was therefore calculated from the likely degradation to the vegetation. SEB points were determined for each of the ten plant associations in 1 m contour intervals above Full Supply Level up to 6 m, which represents a total potential SEB value of 4758.89 points (*Table 2*). The offset required was based on the impact of a 1-in-100-year flood event where inundation above the FSL would occur for up to 6 days with a peak height of 6 m above the FSL, reduced by 50% to account for the likely regeneration of vegetation between flood events.

This provides a total SEB offset in anticipation of inundation impacts at the reservoir perimeter of 345.31 (*Table 3*).

The impact will be offset with on-ground works in proposed SEB offset areas. Refer to Section 6.

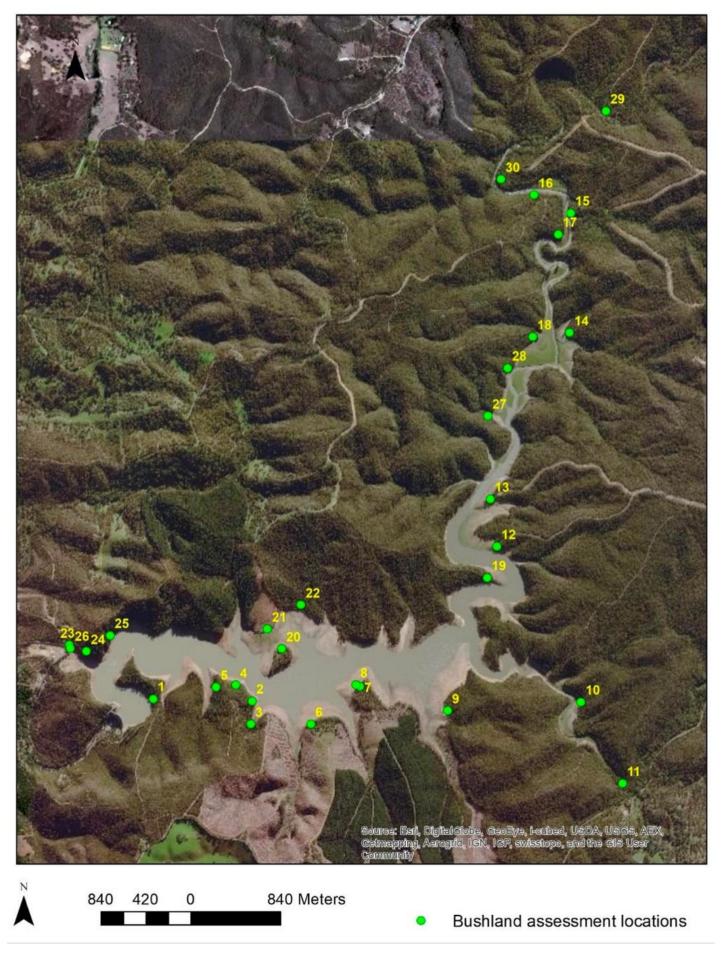


Figure 4. Bushland assessment sites surveyed at the reservoir perimeter

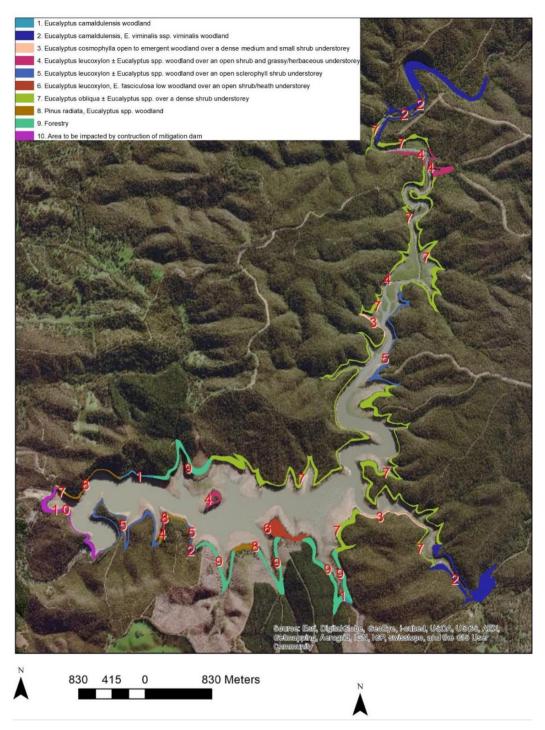


Figure 5. Plant associations mapped at the reservoir perimeter

Table 1. Area of vegetation inundated by augmented flood attenuation capacity up to 6 m above Full Supply Level

Name of vegetation type	Inundation level (m above FSL)						TOTAL
	1	2	3	4	5	6	
8. Eucalyptus camaldulensis woodland	0.11	0.11	0.11	0.13	0.18	0.17	0.81
30. Eucalyptus camaldulensis, E. viminalis ssp. viminalis woodland	1.71	2.79	2.22	3.12	2.88	3.27	15.99
27. Eucalyptus cosmophylla open to emergent woodland over a dense medium and small shrub understorey	0.22	0.23	0.23	0.23	0.23	0.23	1.37
Eucalyptus leucoxylon \pm Eucalyptus spp. woodland over an open shrub and grassy/herbaceous understorey	0.57	0.54	0.54	0.55	0.58	0.61	3.39
Eucalyptus leucoxylon \pm Eucalyptus spp. woodland over an open sclerophyll shrub understorey	0.97	0.98	0.92	0.91	0.91	0.92	5.61
Eucalyptus leucoxylon, E. fasciculosa low woodland over an open shrub/heath understorey	0.58	0.53	0.49	0.47	0.49	0.61	3.17
Eucalyptus obliqua \pm Eucalyptus spp. over a dense shrub understorey	5.45	5.38	5.4	5.34	5.34	5.34	32.25
Pinus radiata, Eucalyptus spp. woodland	0.37	0.36	0.37	0.38	0.4	0.44	2.32
Forestry	2.29	2.35	2.39	2.46	2.57	2.42	14.48
Area to be impacted by construction of mitigation dam	0.3	0.83	0.45	0.38	0.42	0.48	2.86
Total native vegetation for that band of inundation	9.98	10.92	10.28	11.13	11.01	11.59	64.91
Cumulative area of native vegetation (ha.)	9.98	20.9	31.18	42.31	53.32	64.91	

Table 2. SEB points of vegetation inundated by augmented flood attenuation capacity up to 6 m above Full Supply Level

Name of vegetation type	Mean SEB points required (/ha.) good/excellent condition sites	Mean SEB points required (/ha.) poor/moderate condition sites
Eucalyptus camaldulensis woodland		42.57
Eucalyptus camaldulensis, E. viminalis ssp. viminalis woodland	107.26	70.34
Eucalyptus cosmophylla open to emergent woodland over a dense medium and small shrub understorey	71.71	
Eucalyptus leucoxylon ± Eucalyptus spp. woodland over an open shrub and grassy/herbaceous understorey	82.88	55.83
Eucalyptus leucoxylon ± Eucalyptus spp. woodland over an open sclerophyll shrub understorey	69.49	49.43
Eucalyptus leucoxylon, E. fasciculosa low woodland over an open shrub/heath understorey	92.61	
Eucalyptus obliqua ± Eucalyptus spp. over a dense shrub understorey	70.33	
Pinus radiata, Eucalyptus spp. woodland		23.13

Table 3. Offsetting required in SEB points on the basis of a 1 in 100 year AEP storm event

	SEB points for vegetation on elevation bands up to 6m above the FSL				1 in 100 AEP flood reduction in SEB points (with additional 50% reduction to account for regeneration)							
Name of vegetation type	0 to 1 m above FSL	1 to 2 m above FSL	2 to 3 m above FSL	3 to 4 m above FSL	4 to 5 m above FSL	5 to 6 m above FSL	0 to 1 m above FSL	1 to 2 m above FSL	2 to 3 m above FSL	3 to 4 m above FSL	4 to 5 m above FSL	5 to 6 m above FSL
Eucalyptus camaldulensis woodland	4.85	4.82	4.81	5.35	7.78	7.06	0.50	0.57	0.51	0.35	0.39	0.31
Eucalyptus camaldulensis, E. viminalis ssp. viminalis woodland – poor/moderate condition	74.04	94.83	89.78	145.87	112	132.16	3.86	1.64	1.93	2.13	1.64	1.93
Eucalyptus camaldulensis, E. viminalis ssp. viminalis woodland – good/excellent condition	70.64	154.51	100.83	111.7	138.18	149.25	8.18	6.46	5.00	3.74	4.63	3.03
Eucalyptus cosmophylla open to emergent woodland over a dense medium and small shrub understorey	15.84	16.16	16.25	16.31	16.33	16.39	2.04	1.55	1.55	1.30	1.05	1.05
Eucalyptus leucoxylon ± Eucalyptus spp. Woodland over an open shrub and grassy/herbaceous understorey – poor/moderate condition	12.01	10.49	9.35	8.32	7.49	6.69	0.63	0.43	0.38	0.48	0.30	0.26
Eucalyptus leucoxylon ± Eucalyptus spp. Woodland over an open shrub and grassy/herbaceous understorey – good/excellent condition	29.24	29.56	31.19	33.16	36.65	40.8	2.45	1.92	2.14	1.49	1.39	1.55
Eucalyptus leucoxylon ± Eucalyptus spp. Woodland over an open sclerophyll shrub understorey—poor/moderate condition	3.2	3.25	3.17	2.93	2.65	2.45	0.32	0.18	0.12	0.15	0.13	0.12
Eucalyptus leucoxylon ± Eucalyptus spp. Woodland over an open sclerophyll shrub understorey—good/excellent condition	62.6	63.42	59.28	59.11	59.71	60.82	6.51	5.13	4.73	4.60	3.68	2.76
Eucalyptus leucoxylon, E. fasciculosa low woodland over an open shrub/heath understorey	53.85	49	45.58	43.84	45.21	56.4	3.80	1.69	2.11	1.64	0.58	0.72
Eucalyptus obliqua ± Eucalyptus spp. Over a dense shrub understorey	383.13	378.29	379.64	375.72	375.36	375.67	71.05	37.06	36.38	33.02	28.84	28.14
Pinus radiata, Eucalyptus spp. Woodland	8.67	8.43	8.54	8.75	9.33	10.19	0.65	0.50	0.54	0.47	0.44	0.48
TOTAL	718.07	812.77	748.42	811.05	810.69	857.89	99.99	57.12	55.41	49.35	43.07	40.37
CUMULATIVE TOTAL	718.07	1530.84	2279.26	3090.31	3901	4758.89	99.99	157.11	212.53	261.88	304.95	345.31

4.2 Vegetation Assessment - Works at Dam Wall

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

Mount Bold Reservoir is located at the descent of the Onkaparinga River from the Southern Mount Lofty Ranges to the coastal plain of the Noarlunga Embayment. The ranges are characterised by shallow valleys and subparallel hilly ridges. The Onkaparinga River valley becomes increasingly incised as it descends to the coastal plain creating a moderately steep to steep topography.

The geology comprises fine grained weakly metamorphosed basement road of the Saddleworth, Balhannah and Castambul Formations. The basement frequently outcrops in cliffs and ridge crests. Unconsolidated alluvial sediments are confined to narrow drainage depressions.

The majority of soils are moderately deep over basement rock. Loamy surface soils, usually with red or brown clayey subsoils are most common but there are sandier soils formed on sandstones and shallow stony profiles on steeper slopes. There are minor areas of ironstone soils and deep sandy clay loamy and texture contrast soils on alluvium.

The surface elevation at the site ranges between approximately 200 and 250 m AHD. Average annual rainfall at Mount Bold Reservoir is 772.0 mm (1938 to present, BOM data).

Details of the vegetation associates/scattered trees proposed to be impacted

The vegetation surveys by T&M Ecologists identified 46 plant associations The main categories are:

- Hill slope vegetation in rocky soils dominated by E. cosmophylla
- Hill slope vegetation in shallow soils dominated by Eucalyptus obliqua and E. fasciculosa
- Hill slope vegetation in deep soils dominated by *Eucalyptus leucoxylon*
- Gully and valley floor vegetation dominated by Eucalyptus camladulensis with E. viminalis.
- Planted Pinus halepensis, P. radiata and Melaleuca desussata with native vegetation

Eight plant associations were described by EBS Ecologists: Associations A1, A2, A2b, A3, A4, B1, B1b, C1. Of these, the proposed works involve clearance to a total of 40 plant associations.

Vegetation communities were classified in two Blocks: Block A represents dryland vegetation (30 plant associations), refer to **Figure 6** and Block B represents vegetation associated with riparian environments (10 plant association), refer to **Figure 7**.

Highest scoring sites were generally to the south of the dam wall, with areas of impact on the north facing scarp, notably the track to the proposed quarry area and areas adjacent to track 47, representing the highest UBS scores. In addition, the north-western side of the proposed laydown area (west of Track 1d and south of track 1a) also scored highly (site 26).

Descriptions of the affected associations follow. A total of 223 native plant species was recorded within the areas of impact across the surveys undertaken. Flora lists are provided in **Appendix 4**.



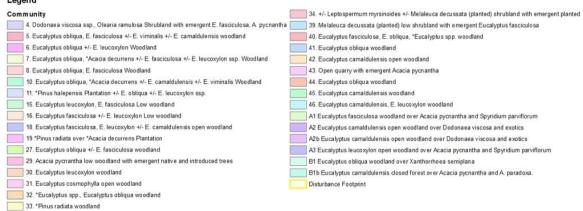


Figure 6. Terrestrial Vegetation to be Cleared (Block A)





Figure 7. Riparian Vegetation to be Cleared (Block B)



Saddle Dam – north of boat ramp, facing south at 288537 / 6111348 (WGS84, Zone 54).

General description

This association occurs on Saddle Dam, north of the boat ramp.

The canopy is dominated by *Eucalyptus obliqua* (Messmate Stringybark) and regenerating *E. camaldulensis* (River Red Gum) with scattered *E. fasciculosa* (Pink Gum). Understory shrubs include *Dodonaea viscosa* (Sticky Hop Bush), *Acacia pycnantha* (Golden Wattle), *A. myrtifolia* (Myrtle Wattle) and *Hibbertia* species (Guinea-flowers).

The most abundant exotic species is *Watsonia meriana* (Bulbil Watsonia), a State Declared weed. Cover of other introduced plants is low (<1%) and the most commonly encountered species included *Aira cupaniana* (Small Hair-grass), *Hypochaeris* species (Cat's Ear), *Ixia* (cultivar), *Asparagus asparagoides* (Bridal Creeper – SA Declared) and *Chrysanthemoides monilifera* (Boneseed – SA Declared). Two other Declared weeds *Genista monspessulana* (Montpellier Broom) and *Fraxinus angustifolia* (Desert Ash) were encountered infrequently.

The vegetation community is in excellent condition and of high habitat value. It has a very high diversity of native species, high density of mature trees providing hollows, and dense understory vegetation and fallen debris.

Threatened species or community

Two plant species listed as Rare in South Australia occur in this association:

- Eucalyptus fasciculosa
- Cardamine paucijuga (Annual Bittercress)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (see section 4.2). They comprise 5 mammal species, 18 bird species, 2 reptile species and 1 amphibian species.

Fauna surveys conducted in 2018 (T&M Ecologists (2019), detected four state-listed species:

- Bibron's Toadlet (Rare)
- Brushtail Possum (Rare)
- Peregrine Falcon (Rare)
- Scarlet Robin (Rare)

	(Vulnerable), Bla (Vulnerable), He (Endangered), V	ick-chinned Honeye ath Goanna (Vulne Vhite-winged Chou Rare), Hooded Robi	eater (Vulnerable), Y rable), Australasian gh (Rare), Eastern Sl	are the Yellow-foote fellow-tailed Black Co Darter (Rare), Square hriketit (Rare), Jacky V t (Rare), Beautiful Fire	ckatoo -tailed Kite Vinter (Rare),	
Landscape	1.18	Vegetation	61.24	Conservation	1.18	
context score		Condition Score significance score				
Unit biodiversity Score	85.27	Area (ha)	0.9213	Total biodiversity Score	78.56	

2. (Block B) Eucalyptus camaldulensis var. camaldulensis +/- E. obliqua woodland



Saddle Dam – south of boat ramp. Facing south-east at 288484 / 6111228 (WGS84, Zone 54).

General description

This association occurs south of the boat ramp, on Saddle Dam, and is dominated by a canopy of River Red Gum with scattered Messmate Stringybarks.

Understory shrubs include Sticky Hop Bush, Golden Wattle, *Melaleuca decussata* (Totem Poles), *Spyridium parvifolium* (Dusty Miller), and the introduced *Acacia decurrens* (Early Black Wattle).

The understory is dominated by *Oxalis pes-caprae* (Soursob) and other exotic species such as *Agapanthus* sp. and *Ehrharta longiflora* (Annual Veldt Grass). Three SA Declared weeds Bridal Creeper, Boneseed and *Echium plantagineum* (Salvation Jane) were also present.

The vegetation is in moderate condition, with low regeneration and a medium level of native species diversity relative to the benchmark community.

Threatened	No threatened p	No threatened plant species were found in this association.				
species or community	(EN), Grey-head	Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).				
	- Peregrii	Fauna surveys conducted in 2018, detected two State-listed species in association A2: - Peregrine Falcon (Rare) - Scarlet Robin (SA Rare)				
	Other state-listed species that may use the association are the Yellow-footed Antechinus, Brushtail Possum, Black-chinned Honeyeater, Yellow-tailed Black Cockatoo, Heath Goanna, Australasian Darter, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail, Painted Button-quail and Bibron's Toadlet.					
Landscape context score	1.18	Vegetation Condition Score	30.64	Conservation significance score	1.10	
Unit biodiversity Score	39.77	Area (ha)	0.3481	Total biodiversity Score	13.84	

3. (Block B) Eucalyptus camaldulensis var. camaldulensis +/- E. fasciculosa woodland



Northern (downslope) side of paved one-way road to dam wall lookout. Facing west at 288599 /6111134 (WGS84, Zone 54).

General description

Vegetation Association 3 occurs within a narrow strip along the northern slope between the road (to the dam wall lookout) and the reservoir.

The community is in moderate condition and comprises a canopy of River Red Gum with scattered Pink Gums, over a shrubby understory including Sticky Hop Bush, Golden Wattle, Myrtle Wattle, *Olearia ramulosa* (Twiggy Daisy-bush) and *Melaleuca decussata* (Totem Poles).

Introduced trees and shrubs (Pinus radiata (Radiata Pine), Acacia baileyana (Cootamundra Wattle) and Early Black Wattle) are a minor component of the overstorey. Dominant exotic species in the groundlayer are Avena barbata (Bearded Oat), Annual Veldt Grass, Senecio pterophorus (African Daisy) and Bromus diandrus (Great Brome). Five SA Declared weeds Montpellier Broom, Bridal Creeper, Olea europaea (Olive), Boneseed and Salvation Jane were also present. **Threatened** Eucalyptus fasciculosa (Pink Gum), listed as Rare in South Australia, occurs in this association. species or Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren community (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2). Fauna surveys conducted in 2018, detected two State-listed species in association A3: Peregrine Falcon (Rare) Scarlet Robin (SA Rare) Other state-listed species that may use the association are the Yellow-footed Antechinus, Brushtail Possum, Black-chinned Honeyeater, Yellow-tailed Black Cockatoo, Heath Goanna, Australasian Darter, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail, Painted Button-quail and Bibron's Toadlet. Landscape 1.18 Vegetation 42.00 Conservation 1.14 **Condition Score** context score significance score Unit biodiversity 56.50 Area (ha) 0.0191 Total biodiversity 1.08 Score Score

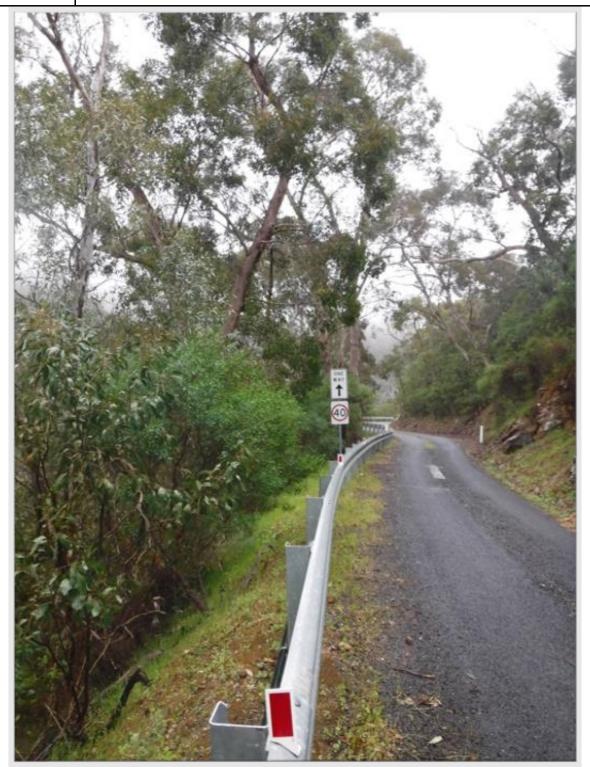
Vegetation Association 4. (Block A) Dodonaea viscosa ssp. spatulata, Olearia ramulosa Shrubland with emergent Eucalyptus fasciculosa and Acacia pycnantha



Upslope side of paved one-way road to dam wall lookout. Facing west at 288866E/6110880N (WGS84, Zone 54).

General description	paved one-way rock face with a	Vegetation association 4 occurs north of the dam wall, on the southern (upslope) side of the paved one-way road to the existing dam wall lookout. The vegetation is growing on a sheer rock face with a gentler slope towards the south-western end. The proposed works involves the clearance of two small areas at the most northern and southern ends of the association.				
	Daisybush with splants include D	The community is comprised of a shrub layer dominated by Sticky Hop-bush and Twiggy Daisybush with scattered emergent Pink Gum and Golden Wattle. Other native understory plants include Dusty Miller, Totem Poles, Spiny Wattle (<i>Acacia spinescens</i>), as well as a variety of lilies and grasses.				
	cancellatus (Bro	Exotic species are dominated by Annual Veldt Grass and Great Brome, with <i>Gomphocarpus</i> cancellatus (Broad-leaf Cotton-bush) and African Daisy. Two SA Declared weed species, Bone Seed and Salvation Jane are a minor component of the association.				
	The vegetation i	The vegetation is in moderate condition.				
Threatened species or	One plant species listed as Rare in South Australia occur in this association: - Eucalyptus fasciculosa (Pink Gum)					
community	(EN), Grey-head	Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).				
	Fauna surveys conducted in 2018, detected two State-listed species in association A5: - Yellow-footed Antechinus (Vulnerable) - Scarlet Robin (Rare)					
	Other state-listed species that may use the association are the Brushtail Possum, Black-chinned Honeyeater, Yellow-tailed Black Cockatoo, Eastern Shriketit and Jacky Winter.					
Landscape context score	1.16	Vegetation Condition Score	38.97	Conservation significance score	1.14	
Unit biodiversity Score	51.53	Area (ha)	0.0802	Total biodiversity Score	4.13	

5. (Block A) Eucalyptus obliqua, E. fasciculosa +/- E. viminalis ssp. cygnetensis +/- E. camaldulensis var. camaldulensis woodland



Downslope side of one-way road between dam wall and Gate 1D. Facing south-west at 288679 / 6110632 (WGS84, Zone 54).

General description Vegetation association 5 occurs on the southern slope below the one-way road that runs between the dam wall and Gate 1D. The proposed works involves the clearance of a narrow strip of woodland along the roadside. The canopy is comprised mostly of Messmate Stringybark and Pink Gum, with *Eucalyptus viminalis* ssp. *cygnetensis* (Rough-bark Manna Gum), River Red Gum and scattered *Eucalyptus leucoxylon* (SA Blue Gum).

The shrubby understory contains a diversity of native species including Golden Wattle, Sticky Hop-bush, Twiggy Daisybush, Pultenaea daphnoides (Large-leaf Bush Pea) and Guineaflowers. The vegetation is in good condition, with low abundance of introduced species. Exotic grasses most commonly encountered included Briza maxima (Large Quaking-grass), Bearded Oat, Polypogon monspeliensis (Annual Beard-grass) and Small Hair-grass. Two SA Declared weed species (Silybum marianum (Variegated Thistle) and Bone Seed) were a minor component of the association. **Threatened** Two plant species listed as Rare in South Australia occur in this association: species or Eucalyptus fasciculosa (Pink Gum) community Spyridium spathulatum (Spoon-leaf Spyridium) Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2). Fauna surveys conducted in 2018, detected three State-listed species in association A5: Yellow-footed Antechinus (Vulnerable) Peregrine Falcon (Rare) Scarlet Robin (Rare) Other state-listed species that may use the association are the Brushtail Possum, Blackchinned Honeyeater, Yellow-tailed Black Cockatoo, Heath Goanna, Square-tailed Kite, Whitewinged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail and Painted Button-quail. 49.95 1.18 Landscape 1.16 Vegetation Conservation **Condition Score** context score significance score 68.37 1.3529 Total biodiversity Unit biodiversity Area (ha) 92.50 Score Score

6. (Block A) Eucalyptus obliqua +/- E. leucoxylon woodland



Upslope side of one-way road between dam wall and Gate 1D. Facing west at 288743/6110712 (WGS84, Zone 54).

General description

Vegetation association 6 occurs on the northern slope above the one-way road that runs between the dam wall and Gate 1D. The proposed works involves clearance of a narrow strip of woodland along the roadside.

The woodland consists of a canopy dominated by Messmate Stringybark with scattered SA Blue Gum, over a shrubby understory that includes Golden Wattle, Sticky Hop-bush, Largeleaf Bushpea, *Xanthorrhoea semiplana* (Yacca), *Allocasuarina muelleriana* (Common Oakbush) and Dusty Miller. Sections of steep embankment have been stabilised with coir matting and revegetated.

The vegetation community is in good condition, with a high diversity of native species and low abundance of introduced species.

Exotic groundlayer species commonly encountered include grasses (Large Quaking-grass, Small Hair-grass, Bearded Oat and *Bromus diandrus* (Great Brome) and African Daisy. Three SA Declared weed species *Rubus* sp. (Blackberry), Montpellier Broom and Bone Seed were recorded as a minor component of the association.

Threatened species or		One plant species <i>Cardamine paucijuga</i> (Annual Bittercress), listed as Rare in South Australia, was found in the association.				
community	(EN), Grey-head	Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).				
	Fauna surveys conducted in 2018, detected four species of conservation significance in vegetation association A6: - South Australian Bassian Thrush (EPBC – Endangered) - Yellow-footed Antechinus (SA Vulnerable) - Black-chinned Honeyeater (SA Vulnerable) - Scarlet Robin (SA Rare)					
	Other state-listed species that may use the association are the Brushtail Possum, Peregrine Falcon, Yellow-tailed Black Cockatoo, Heath Goanna, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail and Painted Button-quail.					
Landscape	1.16	Vegetation	53.55	Conservation	1.14	
context score		Condition Score		significance score		
Unit biodiversity Score	70.81	Area (ha)	0.3674	Total biodiversity Score	26.02	

7. (Block A) Eucalyptus obliqua, *Acacia decurrens +/- E. fasciculosa +/- E. leucoxylon ssp. leucoxylon woodland



Steep slopes above public toilets. Facing south-east at 288826 / 6110835 (WGS84, Zone 54).

General description

The vegetation association occurs along steep south-facing slopes above the public toilets. It is characterised by an overstorey of Messmate Stringybark and the introduced Early Black Wattle. Pink Gum and SA Blue Gum are also found in parts of the community. The vegetation is in moderate condition with medium to high native species diversity. Native understory species include Golden Wattle, *Allocasuarina verticillata* (Drooping Sheoak), Sticky Hop-bush, Twiggy Daisybush, Dusty Miller, Totem-poles and *Myoporum petiolatum* (Sticky Boobialla).

The groundlayer has significant cover of exotic annual grasses and herbs, but also contains a diverse range of native herbs, orchids, lilies, ferns and grasses.

Three SA Declared weeds: Boneseed, *Pittosporum undulatum* (Sweet Pittosporum) and Variegated Thistle were recorded in the association.

Threatened species or community

Two plant species listed as Rare in South Australia occur in this association:

- Eucalyptus fasciculosa (Pink Gum)
- Spyridium spathulatum (Spoon-leaf Spyridium)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected four species of conservation significance in A7:

- South Australian Bassian Thrush (EPBC Endangered)
- Yellow-footed Antechinus (SA Vulnerable)
- Yellow-tailed Black Cockatoo (SA Vulnerable)
- Scarlet Robin (SA Rare)

Landscape	1.16	Vegetation	42.98	Conservation	1.18
context score		Condition Score		significance score	
Unit biodiversity	58.84	Area (ha)	0.9477	Total biodiversity	55.76
Score				Score	

Vegetation
Association

8. (Block A) Eucalyptus obliqua, E. fasciculosa woodland



Roadsides from Gate 1D towards the dam wall. Facing north at 288236 / 6110673 (WGS84, Zone 54).

General description

The vegetation association occurs on both sides of the first section of track between Gate 1D and the dam wall and continues along the northern side of track 1D for ~400 m. The canopy is dominated by Pink Gum and Messmate Stringybark, with scattered River Red Gum and Cup Gum, over an understory of medium and small shrubs and tussocks, including *Exocarpos cupressiformis* (Native Cherry), Wattles, Sticky Hop-bush, Yacca, Totem-poles and *Pteridium esculentum* (Bracken Fern). The groundlayer contains a diverse range of native herbs, orchids, lilies, ferns, sedges and grasses.

The vegetation is in good condition with medium-high diversity of native species. Exotic species are a minor component and include three SA Declared weeds (Boneseed, Montpellier Broom and Salvation Jane), as well as African Daisy, exotic grasses and herbs.

Threatened species or community

Two plant species listed as Rare in South Australia occur in this association:

- Eucalyptus fasciculosa (Pink Gum)
- Spyridium spathulatum (Spoon-leaf Spyridium)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys in 2018, detected four species of conservation significance in association A8:

- South Australian Bassian Thrush (EPBC Endangered)
- Yellow-footed Antechinus (SA Vulnerable)
- Scarlet Robin (SA Rare)
- Peregrine Falcon (SA Rare)

Other state-listed species that may use the vegetation community are the Chestnut-rumped Heathwren, Brushtail Possum, Yellow-tailed Black Cockatoo, Heath Goanna, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Black-chiinned Honeyeater, Hooded Robin, Swamp Rat, Beautiful Firetail and Painted Button-quail.

Landscape context score	1.16	Vegetation Condition Score	53.38	Conservation significance score	1.14
Unit biodiversity	73.07	Area (ha)	2.7731	Total biodiversity	202.63
Score				Score	

9. (Block B) Eucalyptus camaldulensis var. camaldulensis +/-E. viminalis ssp. cygnetensis +/- E. obliqua +/- E. leucoxylon woodland



Second section of track between Gate 1D and the dam wall at 288580 / 6110471 (WGS84, Zone 54).

General description

Vegetation association 9 occurs along the second section of the track that runs between Gate 1D and the dam wall. The woodland canopy is dominated by River Red Gum, with patches of Rough-barked Manna Gum, Messmate Stringybark and SA Blue Gum. Native understory species are characteristic of a shrub layer growing in moist situations, and include *Acacia provincialis* (Swamp Wattle), *Callistemon sieberi* (River Bottlebrush), Native Cherry, Totempoles, as well as a *Phragmites australis* (Common Reed) and a variety of sedges and rushes (e.g. *Carex appressa* (Tall Sedge), *Cyperus vaginatus* (Stiff-Flat-sedge), *Juncus pallidus* (Pale Rush), *J. subsecundus* (Finger Rish)).

The vegetation community is in moderate condition with parts of the understory dominated by introduced species such as Blackberry (SA Declared), exotic grasses, and *Populus nigra* (Lombardy Poplar). Other state declared weeds encountered were Boneseed, Montpellier Broom, *Salix* sp. (Willow), Variegated Thistle, Salvation Jane and *Cytisus scoparius* (English Broom).

Threatened species or community

One plant species *Cardamine paucijuga* (Annual Bittercress), listed as Rare in South Australia, was found in the association.

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected four state-listed species in association B9:

- Yellow-footed Antechinus (SA Vulnerable)
- Black-chinned Honeyeater (SA Vulnerable)
- Peregrine Falcon (SA Rare)
- Scarlet Robin (SA Rare)

Other state-listed species that may use the association are the Brushtail Possum, Yellow-tailed Black Cockatoo, Heath Goanna, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail, Painted Buttonquail and Bibron's Toadlet.

Landscape	1.18	Vegetation	28.55	Conservation	1.14
context score		Condition Score		significance score	
Unit biodiversity	38.40	Area (ha)	0.4039	Total biodiversity	15.51
Score				Score	

10. (Block A) Eucalyptus obliqua, *Acacia decurrens +/- E. viminalis ssp. cygnetenisis +/- E. camaldulensis var. camaldulensis woodland



Steep slopes adjacent to Track 1D (towards the dam wall) facing north-west at 288719/6110598 (WGS84, Zone 54).

General description

Association 10 occurs on the steep slopes south-west of the dam wall, adjacent to Track 1D.

The canopy is dominated by Messmate Stringybark and the introduce Early Black Wattle, with scattered Rough-barked Manna Gum and River Red Gum. The diversity of native understory is medium compared to the benchmark community, and includes wattles, Sticky Hop-bush, Native Cherry, Large-leaf Bush Pea, low shrubby species such as *Acrotriche fasciculiflora* (Mount Lofty Ground-berry), *Indigofera australis* (Austral Indigo), *Hibbertia exutiacies* (Prickly Guinea-flower) as well as a variety of herbs, lilies, ferns and native grasses.

The vegetation community is in moderate condition with much of the understory dominated by introduced species such as Blackberry, Montpellier Broom, Salvation Jane (all SA Declared weeds) and exotic grasses. Other state declared weeds encountered were Boneseed, Desert Ash, Bridal Creeper, Olive, Sweet Pittosporum and Variegated Thistle.

Threatened species or community

The state Rare plant Cardamine paucijuga (Annual Bittercress) occurs in this association.

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected four species of conservation significance in A10:

- South Australian Bassian Thrush (EPBC Endangered)
- Peregrine Falcon (SA Rare)
- Scarlet Robin (SA Rare)

Other state-listed species that may use the vegetation community are the Brushtail Possum, Yellow-footed Antechinus, Yellow-tailed Black Cockatoo, Black-chinned Honeyeater, Heath Goanna, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail and Painted Button-quail.

Landscape	1.16	Vegetation	31.01	Conservation	1.14
context score		Condition Score		significance score	
Unit biodiversity	41.00	Area (ha)	1.3879	Total biodiversity	56.91
Score				Score	

11. (Block A) *Pinus halepensis Plantation +/- Eucalyptus obliqua +/- E. leucoxylon ssp. leucoxylon



First section of proposed haul road (near depot). Facing north-east at 288384 / 6111131 (WGS84, Zone 54).

General description

The association occurs is part of a *Pinus halapensis* (Aleppo Pine) plantation near the SA Water depot, within the first section of the proposed haul road. It includes areas with some remnant native canopy species (Messmate Stringybark, SA Blue Gum and River Red Gum).

The vegetation association is in poor condition, lacking a mid-stratum. The understory consists of sparse regeneration of native and introduced wattles. The groundlayer is sparse but contains a diversity of native low shrubs, sedges, herbs, lilies, orchids and grasses, as well as introduced grasses and herbs. Two SA Declared weeds (Bridal Creeper and Boneseed) were recorded as a minor component of the association.

Threatened species or community

No threatened plant species were found in this association.

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected two State-listed species:

- Yellow-tailed Black Cockatoo (SA Vulnerable)
- Scarlet Robin (SA Rare)

Given the poor condition of the vegetation and limited structural diversity, it is unlikely to provide habitat for many other threatened species, other than the White-winged Chough which is known to utilise pine forests.

Landscape	1.16	Vegetation	11.25	Conservation	1.04
context score		Condition Score		significance score	
Unit biodiversity	13.57	Area (ha)	0.6244	Total biodiversity	8.47
Score				Score	



Track 47B. Eucalyptus leucoxylon ssp. leucoxylon, E. fasciculosa low woodland. Facing east at 289131E/6110271N.

Vegetation association 15 occurs along the Haul Road (Track 47B) on the southern side of the dam wall.

It consists of a low woodland with a canopy of Pink Gum and SA Blue Gum, over a dense shrublayer dominated by Golden Wattle, Spoon-leaf Spyridium and Sticky Hopbush. The community is in good condition with an understory that supports a high diversity of native shrubs, groundcovers, lilies, orchids, ferns, grasses and other herbaceous species.

Scattered Radiata Pine trees occur in the canopy layer but cover of exotic species is generally low. One SA Declared weed (Boneseed) was found in the association.

Threatened species or community

The association belongs to the ecological community "Eucalyptus fasciculosa +/- E. leucoxylon Heathy Woodland on sandy loams of flats and slopes" which is provisionally listed as Vulnerable in South Australia.

Two plant species listed as Rare in South Australia occur in this association:

- Eucalyptus fasciculosa (Pink Gum)
- Spyridium spathulatum (Spoon-leaf Spyridium)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected two State-listed species in association 18:

- Yellow-footed Antechinus (SA Vulnerable)
- Scarlet Robin (SA Rare)

Other state-listed species that may be supported by this vegetation community are: Brushtail Possum, Heath Goanna, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail and Painted Button-quail.

Landscape context score	1.16	Vegetation Condition Score	49.88	Conservation significance score	1.38
Unit biodiversity Score	79.84	Area (ha)	0.1899	Total biodiversity Score	15.16

16. (Block A) Eucalyptus fasciculosa +/- E. leucoxylon ssp. leucoxylon low woodland



Proposed haul road to old guarry. Facing south at 288886 / 6110466 (WGS84, Zone 54).

General description

The woodland in association 16 comprises a canopy dominated by Pink Gum, with scattered SA Blue Gum, over a highly diverse and dense shrubby understory of native species.

The vegetation association is in excellent condition. There is good regeneration of canopy and understory species such as eucalypts, Golden Wattle, *Dianella revoluta* (Black-anther Flax Lily), *Pelargonium austral*e (Austral Stork's Bill) and *Spyridium spathulatum* (Spoon-leaf Spyridium). Other native shrubs include *Hakea rostrata* (Beaked Hakea), Twiggy Daisy-bush, Mount-lofty Groundberry, *Allocasuarina striata* (Stalked Oak-bush), *Bursaria spinosa* (Sweet Bursaria), *Correa decumbens* (Spreading Correa), *Prostanthera behriana* (Downy Mintbush) and *Pultenaea largiflorens* (Twiggy Bush-pea). The groundlayer supports a range of native herbs, lilies, orchids, sedges, ferns and grasses.

The number and abundance of exotic species in the vegetation association is low, and includes four SA Declared weeds (Desert Ash, Olive, Boneseed and *Rosa canina* (Dog Rose)).

Threatened species or community

The ecological community "Eucalyptus fasciculosa +/- E. leucoxylon Heathy Woodland on sandy loams of flats and slopes" is provisionally listed as Vulnerable in South Australia.

Three plant species listed as Rare in South Australia occur in this association:

- Eucalyptus fasciculosa (Pink Gum)
- Spyridium spathulatum (Spoon-leaf Spyridium)
- Logania saxatilis (Rock Logania)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected four species of conservation significance in vegetation association A16:

- South Australian Bassian Thrush (EPBC Endangered)
- Yellow-footed Antechinus (SA Vulnerable)
- Black-chinned Honeyeater (SA Vulnerable)
- Scarlet Robin (SA Rare)

In addition, the high diversity of species, and dense understory could provide suitable habitat for a number of other state-listed species: Brushtail Possum, Yellow-tailed Black Cockatoo, Heath Goanna, Square-tailed Kite, Peregrine Falcon, White-winged Chough, Eastern Shriketit, Hooded Robin, Swamp Rat, Bibron's Toadlet, Beautiful Firetail and Painted Button-quail.

Landscape	1.16	Vegetation	63.00	Conservation	1.38
context score		Condition Score		significance score	
Unit biodiversity	100.85	Area (ha)	0.1295	Total biodiversity	13.06
Score				Score	

Vegetation Association 18. (Block A) *Eucalyptus fasciculosa, E. leucoxylon* ssp. *leucoxylon* +/- *E. camaldulensis* var. *camaldulensis* Low open woodland



Lower slopes south of dam wall on south-eastern side of watercourse at 288951 / 6110648 (WGS84, Zone 54).

General description

Vegetation association 18 occurs on the lower slopes south of the dam wall on the south-eastern side of the watercourse and consists of a low open woodland with a canopy dominated by Pink Gum and SA Blue Gum, and scattered River Red Gum.

The understory contains large amounts of fallen timber and supports a very high diversity of native shrubs, groundcovers, sedges, rushes, orchids, ferns, grasses, lilies and other herbaceous species.

The introduced Early Black Wattle, Cootamundra Wattle and Cypress Pine also make a significant contribution to the canopy and midstory layers and the groundlayer contains a range of exotic grasses and herbs. Four SA Declared weeds occur in the association: Boneseed, Blackberry, Variegated Thistle and Salvation Jane.

Threatened species or community

The association belongs to the ecological community "Eucalyptus fasciculosa +/- E. leucoxylon Heathy Woodland on sandy loams of flats and slopes" which is provisionally listed as Vulnerable in South Australia.

One plant species listed as Rare in South Australia occurs in this association:

- Eucalyptus fasciculosa (Pink Gum)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected five species of conservation significance in vegetation association 18:

- South Australian Bassian Thrush (EPBC Endangered)
- Yellow-footed Antechinus (SA Vulnerable)
- Yellow-tailed Black Cockatoo (SA Vulnerable)
- Peregrine Falcon (SA Rare)
- Scarlet Robin (SA Rare)

Other state-listed species that may be supported by this vegetation community are: Brushtail Possum, Heath Goanna, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Bibron's Toadlet, Beautiful Firetail and Painted Button-quail.

Landscape context score	1.16	Vegetation Condition Score	52.70	Conservation significance score	1.34
Unit biodiversity Score	81.92	Area (ha)	0.1592	Total biodiversity Score	13.04

Vegetation Association

19. (Block A) *Pinus radiata Plantation over *Acacia decurrens, *A. baileyana +/- Eucalyptus leucoxylon ssp. leucoxylon +/- E. camaldulensis var. camaldulensis



Upper slopes south of dam wall on south-eastern side of watercourse. Facing south-west at 289056 / 6110668 (WGS84, Zone 54).

General description	Association 19 occurs on the upper slopes south of the dam wall, on the south-eastern side of the watercourse. The vegetation consists of a Radiata Pine plantation over exotic wattles (<i>Acacia decurrens</i> Early Black Wattle and <i>A. baileyana</i> Cootamundra Wattle), with occasional SA Blue Gum and River Red Gum. Native understory is sparse but contains a relatively high diversity of species, including wattles, Sticky Hop-bush, Native Cherry, Sticky Boobialla, Bushpeas, Daisies, lilies, sedges, herbs and grasses.						
	The understory contains a large amount of fallen timber but is highly degraded and dominated by exotic species such as Boneseed (SA Declared), African Daisy and annual grasses. Five other Declared weeds grow in the association: Salvation Jane, Bridal Creeper, Olive, Sweet Pittosporum and Dog Rose.						
Threatened species or community	One plant species listed as Rare in South Australia was recorded in this association: - Spyridium spathulatum (Spoon-leaf Spyridium) Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2). Fauna surveys in 2018, detected four species of conservation significance in vegetation association A19: - South Australian Bassian Thrush (EPBC – Endangered) - Yellow-tailed Black Cockatoo (SA Vulnerable) - Scarlet Robin (SA Rare)						
	- Peregrine Falcon (SA Rare) The plant community could also provide suitable habitat for White-winged Chough which is known to utilise pine forests.						
Landscape context score	1.16	Vegetation Condition Score	35.58	Conservation significance score	1.12		
Unit biodiversity Score	46.22	Area (ha)	0.7403	Total biodiversity Score	32.88		

23. (Block B) *Dittrichia graveolens, *Conyza bonariensis over Eclipta platyglossa ephemeral herbland.



Ephemeral herbland on the edge of the reservoir water body. Facing North at 288518 /6111167 (WGS84, Zone 54).

General description	This highly degraded vegetation association occurs on the edge of the reservoir body, adjacent to the Saddle Dam. It consists of an ephemeral herbland dominated by introduced Stinkweed (<i>Dittrichia graveolens</i>) and Flax-leaf Fleabane (<i>Conyza bonariensis</i>) over a low cover of native herbs (Yellow Twin-heads (<i>Eclipta platyglossa</i>), Common Sneezeweed (<i>Centipeda cunninghamii</i>), Jersey Cudweed (<i>Pseudognaphalium luteoalbum</i>)) and Kneed Wallaby-grass (<i>Rytidosperma geniculatum</i>).					
	Other exotic species include Spear Thistle (<i>Cirsium vulgare</i>), Couch (<i>Cynodon dactylon</i>), Woody Toadflax (<i>Kickxia elatine</i>) and two SA Declared weeds (Boneseed and Salvation Jane).					
Threatened	No threatened flora occur in the association.					
species or	Bibron's Toadlet (SA Rare) has been recorded nearby in Association B1.					
community	The degraded habitat is unlikely to provide suitable habitat for any of the EPBC or other statelisted species recorded in the vicinity.					
Landscape	1.18	Vegetation	5.05	Conservation	1.02	
context score		Condition Score		significance score		
Unit biodiversity	6.03	Area (ha)	0.0147	Total biodiversity	0.09	
Score				Score		



Facing north-west at 288411 / 6110433 (WGS84, Zone 54).

Vegetation association 24 occurs on the southern side of Track 1a and west of Track 1d, in a proposed laydown and future picnic area.

The woodland overstorey is dominated by River Red Gum, with emergent *E. viminalis* ssp. *viminalis* (Manna Gum) and occasional Messmate Stringybark, over an open sclerophyll shrubland. Native understory species include Sticky Hop-bush, Twiggy Daisy-bush, Prickly Guinea-flower, Golden Wattle, Swamp Wattle and *Microlaena stipoides* (Weeping Rice-grass).

The understory biomass however is dominated by exotic species such as Salvation Jane, Montpellier Broom, Boneseed, Olive (all SA Dedared weeds) as well as African Daisy and a variety of introduced grasses and herbs.

Overall, the vegetation is in good condition, with a moderate-high diversity of native species, good regeneration, high tree canopy cover and good habitat value provided by tree hollows and fallen timber.

Threatened species or community

Two eucalypt species listed as Rare in South Australia occur in this association:

- Eucalyptus fasciculosa (Pink Gum)
- Eucalyptus viminalis ssp. viminalis (Manna Gum)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected four State-listed species in association 24:

- Yellow-tailed Black Cockatoo (Vulnerable)
- Brushtail Possum (Rare)
- Peregrine Falcon (Rare)
- Scarlet Robin (Rare)

	Other state-listed species that may be supported by this vegetation community are: Yellow-footed Antechinus, Heath Goanna, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail and Painted Button-quail.						
Landscape	1.18	Vegetation	50.71	Conservation	1.18		
context score		Condition Score		significance score			
Unit biodiversity	70.6	Area (ha)	0.3561	Total biodiversity	25.14		
Score				Score			

25. (Block B) Eucalyptus camaldulensis \pm E. viminalis ssp. woodland over degraded understory



Facing north-west 288310 / 6110445 (WGS84, Zone 54).

General description

Vegetation association 25 occurs on the south-western side of Track 1a and west of Track 1d, in a proposed laydown and future picnic area.

The area is low-lying and supports a woodland dominated by River Red Gum with emergent Manna Gums. The groundlayer is dominated by Salvation Jane (SA Declared), Soursob and exotic grasses and herbs. Six additional Declared weeds occur in the association (Bridal Creeper, Montpellier Broom, Boneseed, Desert Ash and Variegated Thistle). The native component of the understory comprises species characteristic of moist habitats and includes Swamp Wattle, River Bottlebrush, Common Reed, Weeping Rice-grass and a variety of sedges and rushes.

Overall, the vegetation is in moderate condition, with a medium-high diversity of native species, high tree canopy cover and good habitat value provided by fallen timber and numerous hollow-bearing trees.

Threatened species or community

One eucalypt species listed as Rare in South Australia occurs in this association:

- Eucalyptus viminalis ssp. viminalis (Manna Gum)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected four State-listed species in association 25: Yellow-tailed Black Cockatoo (Vulnerable) Brushtail Possum (Rare) Peregrine Falcon (Rare) Scarlet Robin (Rare) Other state-listed species that may be supported by this vegetation community are: Yellowfooted Antechinus, Heath Goanna, Square-tailed Kite, Bibron's Toadlet, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail and Painted Button-quail. Landscape 1.18 Vegetation 39.42 Conservation 1.14 **Condition Score** significance score context score Unit biodiversity 53.03 Area (ha) 1.1548 Total biodiversity 61.23 Score Score

Vegetation Association

26. (Block B) Eucalyptus camaldulensis, E. viminalis ssp. woodland



Facing north-west at 288183 / 6110617 (WGS84, Zone 54).

General description

Vegetation association 26 occurs on the south-western side of Track 1a and west of Track 1d, in a proposed laydown and future picnic area and bridge.

The woodland canopy is made up of River Red Gum and Rough-barked Manna Gum with occasional Pink Gum, Messmate Stringybark, SA Blue Gum and Manna Gum. Native understory is dominated by Bracken Fern and with scattered shrubs (e.g. Golden Wattle, Varnish Wattle, *Beyeria lechenaultii* (Pale Tupentine Bush), Sticky Hop-bush, Native Cherry). The groundlayer comprises native grasses, daisies and herbs. Sedges and rushes increase in abundance along the edge of the creek line.

	Exotic species cover is generally low and includes several state Dedared weeds (Salvation Jane, Montpellier Broom, Bridal Creeper, Boneseed, and Variegated Thistle) as well as a range of exotic grasses and herbs. The vegetation community is in very good condition, with a high diversity of native species, a high density of mature trees and offers good quality habitat through fallen timber and tree hollows.						
Threatened species or community	and/or <i>E. vimino</i>	The association belongs to the ecological community "Eucalyptus viminalis ssp. cygnetensis and/or E. viminalis ssp. viminalis Woodland on alluvial soils in moist areas" which is provisionally listed as Vulnerable in South Australia.					
	- Eucalyp	Two eucalypt species listed as Rare in South Australia occur in this association: - Eucalyptus fasciculosa (Pink Gum) - Eucalyptus viminalis ssp. viminalis (Manna Gum)					
	Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).						
	Fauna surveys conducted in 2018, detected four State-listed species in association 26: - Yellow-tailed Black Cockatoo (Vulnerable) - Brushtail Possum (Rare) - Peregrine Falcon (Rare) - Scarlet Robin (Rare) Other state-listed species that may be supported by this vegetation community are: Yellow-footed Antechinus, Heath Goanna, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail and Painted Button-quail.						
Landscape context score	1.18	Vegetation Condition Score	59.43	Conservation significance score	1.38		
Unit biodiversity Score	96.78	Area (ha)	0.1089	Total biodiversity Score	10.54		

Vegetation
Association

27. (Block A) Eucalyptus obliqua ± E. fasciculosa woodland



Facing north-west at 288198 / 6110773 (WGS84, Zone 54).

General description

Association 27 occurs on the southern side of Track 1a, and is characterised by an overstorey of Messmate Stringybark with Pink Gum, with a dense shrub layer dominated by Varnish Wattle, Twiggy Daisy-bush and Sticky Hop-bush. Other native shrubs include Myrtle Wattle, Beaked Hakea, Spreading Correa, Dusty Miller and Guinea-flowers, and the ground-layer supports a diversity of ferns, sedges, lilies, forbs and grasses.

Cover of exotic species is very low, largely made up of introduced grasses and herbs. Two SA Declared weeds (Boneseed and Sweet Pittosporum) were recorded.

The vegetation community is in good condition with a medium-high diversity of native species and offers high quality habitat with mature hollow-bearing trees and dense undergrowth containing fallen timber and debris.

Threatened species or community

One plant species listed as Rare in South Australia occurs in this association:

- Eucalyptus fasciculosa (Pink Gum)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected three species of conservation significance:

- South Australian Bassian Thrush (EPBC Endangered)
- Yellow-footed Antechinus (SA Vulnerable)
- Scarlet Robin (SA Rare)

Other state-listed species that may be supported by this vegetation community are: Yellow-tailed Black Cockatoo, Heath Goanna, Peregrine Falcon, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Brushtail Possum, Swamp Rat, Beautiful Firetail and Painted Buttonquail.

Landscape	1.16	Vegetation	52.47	Conservation	1.14
context score		Condition Score		significance score	
Unit biodiversity	69.38	Area (ha)	0.1069	Total biodiversity	7.42
Score				Score	



Facing north-west at 287979 / 6110910 (WGS84, Zone 54).

Association 29 occurs along the roadside on the south-western side of Track 1a. It consists of a low woodland with an overstorey of Golden Wattle with emergent Messmate Stringybark, planted Eucalypts and introduced Radiata Pine. The shrub layer is dominated by native species such as Spreading Correa, Sticky Hop-bush, Twiggy Daisy-bush, Myrtle Wattle and Varnish Wattle. Native groundlayer species include *Acrotriche serrulata* (Cushion Groundberry), *Astroloma humifusum* (Cranberry Heath), Black-anther Flax-lily and *Pimelea humilis* (Low Riceflower), as well as a diversity of lilies, grasses and herbs.

Overall exotic species cover is low (mostly annual grasses and herbs), but there are patches dominated by Agapanthus. The SA Declared weed, Boneseed, was also recorded.

The vegetation community is in moderate condition with a medium-high diversity of native species, good cover of fallen timber but has low tree canopy cover and few mature trees.

Threatened species or community

No threatened flora species were recorded in this association.

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected two state-listed species:

- Yellow-tailed Black Cockatoo (Vulnerable)
- Scarlet Robin (Rare)

Other state-listed species that may be supported by this vegetation community include: Yellow-footed Antechinus, Heath Goanna, Peregrine Falcon, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Brushtail Possum, Swamp Rat, Beautiful Firetail and Painted Buttonquail.

Landscape	1.16	Vegetation	34.13	Conservation	1.10
context score		Condition Score		significance score	
Unit biodiversity	43.54	Area (ha)	0.1085	Total biodiversity	4.72
Score				Score	



Facing north-west at 287923 / 6110985 (WGS84, Zone 54).

General description

Association 30 occurs along the roadside on the southern side of Tracks 1 and 1a. It consists of an overstorey of SA Blue Gum with scattered Pink Gum and occasional Radiata Pine, over an open sclerophyll shrub layer dominated by Golden Wattle, Twiggy Daisy-bush, Sticky Hopbush, Black-anther Flax-lily and *Gonocarpus tetragynus* (Small-leaf Raspwort).

Exotic species cover is generally low, comprised largely of annual grasses and herbs. Two SA Declared weeds (Boneseed and Bridal Creeper) were recorded in the association.

The vegetation community is in good condition, with medium-high diversity of native species, a high density of mature trees and canopy cover, offering good quality habitat through fallen timber and tree hollows.

Threatened species or community

One plant species listed as Rare in South Australia occurs in this association:

- Eucalyptus fasciculosa (Pink Gum)

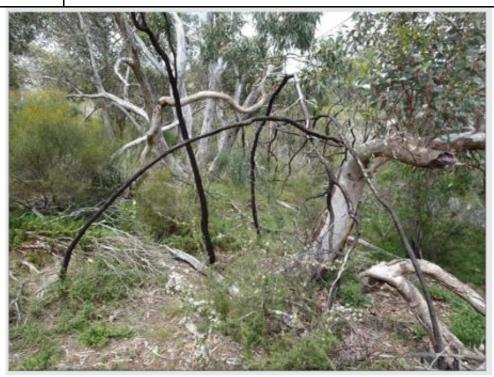
Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected three state-listed species in this habitat type:

- Black-chinned Honeyeater (Vulnerable)
- Peregrine Falcon (Rare)
- Scarlet Robin (Rare)

Other state-listed species that may be supported by this vegetation community include: Yellow-footed Antechinus, Heath Goanna, Yellow-tailed Black Cockatoo, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Brushtail Possum, Beautiful Firetail and Painted Buttonquail.

Landscape	1.16	Vegetation	54.38	Conservation	1.14
context score		Condition Score		significance score	
Unit biodiversity	71.91	Area (ha)	0.2094	Total biodiversity	15.06
Score				Score	



Facing south-east at 287935 / 6110998 (WGS84, Zone 54).

Vegetation association 31 occurs on the northern side of Track 1a, with a small section also located on the southern side between associations A28 and A29.

The vegetation community is in very good condition with a very high species diversity, consisting of an overstorey of *Eucalyptus cosmophylla* (Cup Gum) over a dense sclerophyll shrub understory. Commonly encountered native shrubs include Varnish Wattle, Twiggy Daisy-bush, Heath Tea Tree, Sticky Hop-bush, Yacca, Native Cherry, Totem Poles, Stalked Oakbush and Myrtle Wattle. The groundlayer supports a diversity of low shrubs, lilies, sedges, mat-rushes, orchids, grasses and other herbaceous species.

The number and abundance of exotic species is very low (mostly grasses and herbs) but includes two SA Declared weeds, Boneseed and Sweet Pittosporum. The vegetation community provides high quality habitat, with high canopy cover, high density of mature trees (some with hollows), and dense understory cover of vegetation and fallen logs.

Threatened species or community

One plant species listed as Rare in South Australia occurs in this association:

- Eucalyptus fasciculosa (Pink Gum)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected three species of conservation significance:

- Bassian Thrush (EPBC Endangered)
- Yellow-footed Antechinus (SA Vulnerable)
- Scarlet Robin (SA Rare)

Other state-listed species that may be supported by this vegetation community include: Heath Goanna, Yellow-tailed Black Cockatoo, Peregrine Falcon, Square-tailed Kite, White-winged Chough, Black-chinned Honeyeater, Eastern Shriketit, Elegant Parrot, Hooded Robin, Brushtail Possum, Beautiful Firetail and Painted Buttonquail.

Landscape	1.16	Vegetation	57.69	Conservation	1.14
context score		Condition Score		significance score	
Unit biodiversity	76.29	Area (ha)	0.9904	Total biodiversity	75.55
Score				Score	



Facing south-east at 288170 / 6110812 (WGS84, Zone 54).

General
description

Vegetation association 31 occurs alongside the roadside on the north-eastern side of Track 1a. The canopy layer is a mix of planted non-indigenous eucalypts and Messmate Stringybark, over wattles, Twiggy Daisy-bush, Heath Tea Tree, Spreading Correa, and a diversity of low heathy shrubs, lilies, orchids, mat-rushes and grasses.

The number and abundance of exotic species in the understory is low, and includes one SA Declared Weed, Boneseed.

The vegetation community is in poor to moderate condition, with a low density of mature indigenous trees, and medium native species diversity.

Threatened species or community

No threatened flora species were recorded in this association.

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected one species of conservation significance:

- Scarlet Robin (SA Rare)

Other state-listed species that may be supported by this vegetation community include: Heath Goanna, Yellow-footed Antechinus, Yellow-tailed Black Cockatoo, Peregrine Falcon, Square-tailed Kite, White-winged Chough, Black-chinned Honeyeater, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Brushtail Possum, Beautiful Firetail and Painted Buttonquail.

Landscape	1.16	Vegetation	30.40	Conservation	1.10
context score		Condition Score		significance score	
Unit biodiversity	38.79	Area (ha)	0.2221	Total biodiversity	8.61
Score				Score	

Vegetation
Association

33. (Block A) *Pinus radiata woodland



Facing west at 288005 / 6111003 (WGS84, Zone 54).

General description

Vegetation association 33 is located south-west of the depot and on the southern side of Track 1. It consists of a Radiata Pine plantation over a highly degraded understory of exotic grasses and herbs, with sparse native shrubs. There is a medium diversity of native species in the understory and groundlayer, including scattered wattles, Sticky Hop-bush, Twiggy Daisybush, with low heathy shrubs and groundcovers, lilies, grasses and orchids.

Introduced species in the groundlayer are dominated by *Arctotheca calendula* (Cape Weed) and *Pentameris pallida* (Pussytail Grass), and the association contains three SA Declared weeds (Salvation Jane, Boneseed and Olive).

The woodland is in poor condition providing limited native habitat.

Threatened species or community

No threatened flora were recorded in this association.

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected two state-listed species:

- Yellow-tailed Black Cockatoo (Vulnerable)
- Scarlet Robin (Rare)

The plant community could also provide suitable habitat for the White-winged Chough which is known to utilise pine forests, and the Peregrine Falcon which was recorded in a similar vegetation association (A19).

Landscape	1.16	Vegetation	8.08	Conservation	1.06
context score		Condition Score		significance score	
Unit biodiversity	9.93	Area (ha)	0.0536	Total biodiversity	0.53
Score				Score	

34. (Block A) \pm Leptospermum myrsinoides \pm Melaleuca decussata (planted) shrubland with emergent planted non-indigenous Eucalypts and pines



Facing west at 288060E / 6111052S (WGS84, Zone 54).

General description

Vegetation association 34 occurs north of the dam wall along the Haul Road between track 1 and track 1a. It is a potential laydown are for the proposed works.

The community consists of a low shrubland of Heath Tea Tree, Sticky Hop Bush and planted Totem Poles, with regenerating Golden Wattle and Myrtle Wattle. The ground layer includes a variety of native forbs, sedges, grasses, lilies, orchids and sundews.

Introduced (planted) eucalypts and pine trees provide an emergent canopy, along with Cootamundra Wattle and Black Wattle. Two Declared weeds were recorded (Boneseed and *Moraea flaccida* (One-leaf Cape Tulip)) as minor components of the association.

While there is a moderate level of native species diversity, the community is in poor condition, dominated by planted and/or exotic species and lacks mature trees, leaf litter and fallen timber.

Threatened species or community

No threatened flora species were recorded in this association.

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected two State-listed species in association A20:

- Yellow-tailed Black Cockatoo (Vulnerable)
- Scarlet Robin (SA Rare)

Other state-listed species that may be supported by this vegetation community are: Brushtail Possum, Heath Goanna, Peregrine Falcon, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Bibron's Toadlet, Beautiful Firetail and Painted Button-quail.

Landscape	1.16	Vegetation	17.89	Conservation	1.10
context score		Condition Score		significance score	
Unit biodiversity	22.82	Area (ha)	0.2211	Total biodiversity	5.05
Score				Score	

39. (Block A) *Melaleuca decussata* (planted) low shrubland with emergent *Eucalyptus fasciculosa*



Facing east at 287809 / 6111077 (WGS84, Zone 54).

General
description

Association A39 occurs along the roadside on the northern side of Track 1. It consists of a dense low shrub layer of planted and regenerating Totem Poles (*Melaleuca decussata*) with emergent Pink Gum. The shrub layer contains a diversity of native species such as Golden Wattle, Varnish Wattle, Yacca, Twiggy Daisy-bush, Stalked Oak-bush, Hakeas, Guinea-flowers, *Lasiopetalum behrii* (Pink Velvet-bush) along with lilies, vines, grasses and other herbaceous species.

The abundance and number of exotic species is low, (mostly annual grasses and herbs) but includes two State Declared weeds (Bridal Creeper and Olive).

Threatened species or community

One plant species listed as Rare in South Australia occurs in this association:

- Eucalyptus fasciculosa (Pink Gum)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected one state-listed species:

- Scarlet Robin (SA Rare)

Other state-listed species that may be supported by this vegetation community include: Swamp Rat, Black-chinned Honeyeater, Eastern Shriketit, Elegant Parrot, Hooded Robin, Brushtail Possum, Beautiful Firetail and Painted Buttonquail.

Landscape	1.16	Vegetation	34.17	Conservation	1.14
context score		Condition Score		significance score	
Unit biodiversity	45.19	Area (ha)	0.21	Total biodiversity	3.83
Score				Score	



Facing north-east at 287877 / 6111051 (WGS84, Zone 54).

General description

Vegetation association 40 occurs north of Tracks 1 and 1a.

The dominant canopy species are Pink Gum and Messmate Stringybark, with scattered Cup Gum and SA Blue Gum. The predominantly native understory is dense and diverse, comprised of native shrubs (e.g. Stalked Oak-bush, Yacca, Sticky Hop-bush, wattles, Beaked Hakea, Heath Tree Ree, *Persoonia juniperina* (Prickly Geebung), Cranberry Heath), along with various lilies, twining plants, raspworts, and other herbaceous species.

Cover of exotic species is low (largely annual grasses and herbs). Four SA Declared weeds were recorded as a minor component of the association: Bridal Creeper, Boneseed, Salvation Jane and Dog Rose.

The vegetation community is in good condition, providing good value habitat with mediumhigh native species diversity, high tree canopy cover, dense undergrowth and fallen debris.

Threatened species or community

One plant species listed as Rare in South Australia occurs in this association:

- Eucalyptus fasciculosa (Pink Gum)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected one state-listed species:

- Scarlet Robin (SA Rare)

Other state-listed species that may be supported by this vegetation community include: Heath Goanna, Yellow-tailed Black Cockatoo, Peregrine Falcon, Square-tailed Kite, White-winged Chough, Black-chinned Honeyeater, Eastern Shriketit, Elegant Parrot, Hooded Robin, Brushtail Possum, Beautiful Firetail and Painted Buttonquail.

Landscape	1.16	Vegetation	50.85	Conservation	1.14
context score		Condition Score		significance score	
Unit biodiversity	67.24	Area (ha)	0.389	Total biodiversity	26.16
Score				Score	



Facing south-east at 288166E / 6111231S (WGS84, Zone 54).

Vegetation association 41 occurs along the Haul Road (north of track 1a).

The canopy layer is dominated by Messmate Stringybark, with scattered Cup Gum and Pink Gum. The predominantly native understory is comprised of shrubs (e.g. Heath Tea Tree, Guinea-flowers, *Platylobium obtusangulum* (Holly Flat-pea), Wattles, Oak-bushes, Dusty Miller, Spoon-leaf Spyridium, Yacca) and a diversity of sedges, lilies, grasses and small forbs.

Cover of exotic species is very low (sparse Cootamundra Wattle and small annual grasses). No Declared weeds were recorded.

The community is in good condition, providing good value habitat with medium-high species diversity, good regeneration, high tree canopy cover, tree hollows and fallen debris.

Threatened species or community

Two SA Rare plant species are growing and regenerating in this association:

- Eucalyptus fasciculosa (Pink Gum)
- Spyridium spathulatum (Spoon-leaf Spyridium)

Four EPBC-listed fauna species have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Three species of conservation significance were detected in the 2018 fauna surveys:

- South Australian Bassian Thrush (EPBC Endangered)
- Yellow-footed Antechinus (SA Vulnerable)
- Scarlet Robin (SA Rare)

Other state-listed species that may be supported by this vegetation community include: Heath Goanna, Yellow-tailed Black Cockatoo, Peregrine Falcon, Square-tailed Kite, White-winged Chough, Black-chinned Honeyeater, Eastern Shriketit, Elegant Parrot, Hooded Robin, Brushtail Possum, Beautiful Firetail and Painted Buttonquail.

Landscape	1.16	Vegetation	58.99	Conservation	1.18
context score		Condition Score		significance score	
Unit biodiversity	80.74	Area (ha)	0.5137	Total biodiversity	41.48
Score				Score	



Facing north at 288211E / 6111254S (WGS84, Zone 54).

Vegetation association 42 occurs west of the old quarry (north of track 1a).

It consists of a regenerating community, dominated by River Red Gum, Totem Poles, Lepidosperma semiteres (Wire Rapier-sedge), Golden Wattle, Stalked Oak-bush and Sticky Hop-bush. Other understory species include Varnish Wattle, Callistemon rugulosus (Scarlet Bottlebrush), Guinea-flowers, Heath Tea-tree and Yacca, along with a variety of native grasses, lilies and small forbs.

Dominant exotic species include Sour-sob, *Scabiosa atropurpurea*(Pincushion), *Lysimachia arvensis*(Pimpernel) with scattered Cootamundra Wattle. One-leaf Cape Tulip and Blackberry (both SA Declared weeds) also occur as a minor component of the community.

The community is in moderate to good condition, with medium-high species diversity and good regeneration but has limited mature trees that provide hollows and fallen debris.

Threatened species or community

One plant species listed as Rare in South Australia occurs in this association:

- Spyridium spathulatum (Spoon-leaf Spyridium)

Four EPBC-listed fauna species have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Two SA Rare species were detected in this association in the 2018 fauna surveys:

- Scarlet Robin
- Peregrine Falcon

Other state-listed species that may be supported by this vegetation community include: Heath Goanna, Yellow-tailed Black Cockatoo, Square-tailed Kite, White-winged Chough, Black-chinned Honeyeater, Eastern Shriketit, Elegant Parrot, Hooded Robin, Brushtail Possum, Beautiful Firetail and Painted Buttonquail.

Landscape context score	1.16	Vegetation Condition Score	50.23	Conservation significance score	1.14
Unit biodiversity Score	66.43	Area (ha)	0.1616	Total biodiversity Score	10.73

Vegetation	
Association	

43. (Block A) Open quarry with emergent Acacia pycnantha



Facing east-north-east at 288242 / 6111299 (WGS84, Zone 54).

General description	Association A43 is in the old quarry located north of the dam, and consists of a highly degraded area of bare ground with scattered regenerating native trees, shrubs and herbaceous groundcover species (e.g. eucalypts, wattles, Totem Poles, Stalked Oak-bush, River Bottlebrush). All strata of vegetation are heavily impacted, and there are no trees greater than 5m tall.						
Threatened species or community	The community is in very poor condition. Cover of exotic species is moderate and includes one SA Declared weed (Boneseed), as well as Radiata Pine and African Daisy. One plant species listed as Rare in South Australia is regenerating in this association: - Eucalyptus fasciculosa (Pink Gum) The highly degraded association lacks structural diversity and vegetation cover. It is unlikely to provide suitable habitat for threatened fauna.						
Landscape context score	1.16	Vegetation Condition Score	8.11	Conservation significance score	1.04		
Unit biodiversity Score	9.79	Area (ha)	2.2079	Total biodiversity Score	21.61		



Facing north-west towards Eucalyptus obliqua woodland at 288359E / 6111137S (WGS84, Zone 54).

Facing north-west towards <i>Eucalyptus obliqua</i> woodland at 288359E / 6111137S (WGS84, Zone 54).									
General description		Vegetation association 44 occurs along the edge of a potential laydown area north of the SA Water depot between track 1 and 1a.							
		The community consist of a canopy of Messmate Stringybark over a shrubby understory dominated by Twiggy Daisy-bush, Large-leaf Bush Pea, Wire Rapier-sedge, Wattles and Yacca.							
	Sticky Hop-bus	Other native species include Smooth Guinea-flower, <i>Hardenbergia violacea</i> (Native Lilac), Sticky Hop-bush, Black-anther Flax-lily, Holly Flat-pea, Bush Peas and a variety of native grasses, lilies, orchids and herbs.							
		Exotic species are dominated by <i>Allium</i> sp. (Wild Onion), African Daisy and Soursob. Scattered individuals of the SA Declared weeds, Sweet Pittosporum and Boneseed, were also found.							
		The community is in good condition, providing good value habitat with medium-high species diversity, good regeneration, high tree canopy cover, tree hollows and fallen debris.							
Threatened	No threatened t	No threatened flora species were recorded in this association.							
species or community		Four EPBC-listed fauna species have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).							
	- South A - Yellow Scarlet Other state-liste Heath Goanna, winged Chough	Three species of conservation significance were detected in the 2018 fauna surveys: - South Australian Bassian Thrush (EPBC Endangered) - Yellow-footed Antechinus (SA Vulnerable) - Scarlet Robin (SA Rare) Other state-listed species that may be supported by this vegetation community include: Heath Goanna, Yellow-tailed Black Cockatoo, Peregrine Falcon, Square-tailed Kite, White-winged Chough, Black-chinned Honeyeater, Eastern Shriketit, Elegant Parrot, Hooded Robin, Brushtail Possum, Beautiful Firetail and Painted Buttonquail.							
Landscape context score	1.16	Vegetation Condition Score	49.50	Conservation significance score	1.10				
Unit biodiversity Score	63.16	Area (ha)	0.0472	Total biodiversity Score	2.98				



Facing north-west at 287726 / 6111031 (WGS84, Zone 54).

Association 45 occurs on both sides of Track 1 near the entrance to the Mt Bold Reservoir area. It is a River Red Gum woodland with occasional Pink Gums over a largely exotic understory. Common Reed grows in the wetter areas along a creek line.

The remaining native understory consists of scattered shrubs, rushes and herbs including regenerating wattles, Twiggy Daisy-bush, Sticky Hop-bush, Yaccas and Bracken Fern.

The vegetation is in moderate to good condition, with most of the understory comprising exotic grasses, *Brassica tournefortii* (Long-fruited Wild Turnip), Salvation Jane (SA Declared), *Fumaria capreolata* (White Fumitory), African Daisy, Bridal Creeper (SA Declared) and a range of introduced bulbs and herbs.

While the understory provides little ground cover, the canopy cover and density of mature hollow-bearing trees provides high quality food, shelter and nesting resources.

Threatened species or community

One plant species listed as Rare in South Australia occurs in this association:

- Eucalyptus fasciculosa (Pink Gum)

Four EPBC-listed fauna species (Southern Brown Bandicoot (EN), Chestnut-rumped Heathwren (EN), Grey-headed Flying Fox (VU) and Bassian Thrush (EN)) have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected four state-listed species:

- Yellow-tailed Black Cockatoo (Vulnerable)
- Scarlet Robin (Rare)
- Brushtail Possum (Rare)
- Peregrine Falcon (Rare)

Other state-listed species that may be supported by this vegetation community include: Square-tailed Kite, White-winged Chough, Jacky Winter, Black-chinned Honeyeater, Eastern Shriketit, Elegant Parrot, Hooded Robin and Bibron's Toadlet.

Landscape context score	1.18	Vegetation Condition Score	44.97	Conservation significance score	1.14
Unit biodiversity	60.50	Area (ha)	1.8774	Total biodiversity	113.58
Score				Score	

46. (Block B) Eucalyptus camaldulensis, E. leucoxylon woodland



Facing south-east at 287737 / 6110926 (WGS84, Zone 54).

General description

Association 46 occurs along the eastern side of the entrance track (Track 1) to the Mt Bold Reservoir area.

The woodland consists of River Red Gum and SA Blue Gum over a largely exotic groundlayer. Native midstory shrubs are very sparse, and include Golden Wattle, Twiggy Daisy-bush and Oak-bushes.

The vegetation is in moderate condition, with the understory dominated by exotic annual grasses and herbs. One SA Declared weed (Bridal Creeper) was recorded as a minor component of the community.

While the understory provides little ground cover, the canopy cover and density of mature hollow-bearing trees provides good quality food, shelter and nesting resources.

Threatened species or community

One plant species listed as Rare in South Australia occurs in this association:

- Eucalyptus fasciculosa (Pink Gum)

Four EPBC-listed fauna species have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected four state-listed species in this habitat type:

- Black-chinned Honeyeater (Vulnerable)
- Peregrine Falcon (Rare)
- Scarlet Robin (Rare)
- Brushtail Possum (Rare)

Other state-listed species that may be supported by this vegetation community include: Square-tailed Kite, White-winged Chough, Hooded Robin, Jacky Winter, Eastern Shriketit and Elegant Parrot.

	_				
Landscape	1.18	Vegetation	38.95	Conservation	1.14
context score		Condition Score		significance score	
Unit biodiversity	52.39	Area (ha)	0.0787	Total biodiversity	4.12
Score				Score	

A1 (Block A) Eucalyptus fasciculosa woodland over Acacia pycnantha and Spyridium parvifolium



Facing south-west at 288806.72 / 6110565.79 (WGS84, Zone 54).

General description

Vegetation association A1 occurs south of the Dam Wall and overlaps with Vegetation Association 20 mapped by T&M Ecologists (2020).

The canopy consists of Pink Gum, with SA Blue Gum, over a shrub layer dominated by Golden Wattle and Dusty Miller with Heath Tea-tree, Guinea-flowers, Wire Rapier-sedge and Twiggy Daisy-bush.

The community comprises high quality native vegetation with very low abundance of exotic species. Two SA Dedared weeds (Sweet Pittosporum and Boneseed) were detected (T&M Ecologists 2020).

Threatened species or community

The association belongs to the ecological community "Eucalyptus fasciculosa +/- E. leucoxylon Heathy Woodland on sandy loams of flats and slopes" which is provisionally listed as Vulnerable in South Australia.

Two SA Rare plant species are growing and regenerating in this association:

- Eucalyptus fasciculosa (Pink Gum)
- Spyridium spathulatum (Spoon-leaf Spyridium)

Four EPBC-listed fauna species have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected two State-listed species in association 20:

- Yellow-footed Antechinus (Vulnerable)
- Scarlet Robin (SA Rare)

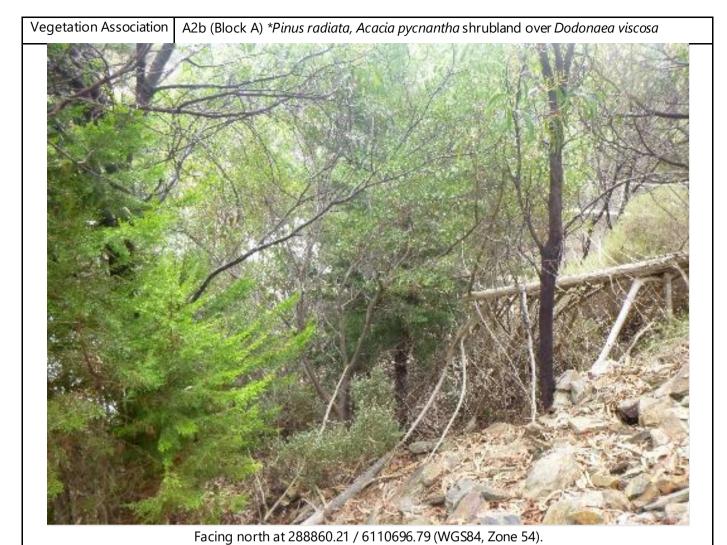
Other state-listed species that may be supported by this vegetation community include: Heath Goanna, Yellow-tailed Black Cockatoo, Peregrine Falcon, Square-tailed Kite, White-winged Chough, Black-chinned Honeyeater, Eastern Shriketit, Elegant Parrot, Hooded Robin, Brushtail Possum, Beautiful Firetail and Painted Buttonquail.

Landscape context score	1.16	Vegetation Condition Score	41.44	Conservation significance score	1.38	
Unit biodiversity Score	66.33	Area (ha)	1.0967	Total biodiversity Score	72.75	



Facing north-west at 288774.66 / 6110608.67 (WGS84, Zone 54). Facing towards Onkaparinga River below dam wall. Logs all *Pinus radiata*.

		9					
General	Vegetation asso	ciation A2 occurs s	outh of the Dam W	all along the souther	n side of the river.		
description	The community consists of an open River Red Gum canopy over Sticky Hop-bush with Goldwattle, Dusty Miller, <i>Acacia retinodes</i> (Wirilda) and Twiggy Daisy-bush. The area has been cleared of Radiata Pine which have been left as fallen logs. Cover of exoti species is high, and includes four SA Declared Weeds: Boneseed, <i>Genista linifolia</i> (Flax-leaf Broom), Olive and Blackberry.						
	The association	is in poor condition	n with low native sp	ecies diversity and hig	gh weed cover.		
Threatened	No threatened f	No threatened flora species were noted.					
species or community		Four EPBC-listed fauna species have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).					
	No fauna survey	No fauna surveys have been conducted in this association.					
	The area is highly degraded and unlikely to provide critical habitat for many threatened species, however fauna that favour riparian habitat with fallen logs may be supported (e.g. White-winged Chough, Swamp Rat and Brown Toadlet).						
Landscape	1.16	Vegetation	10.24	Conservation	1.10		
context score		Condition Score		significance score			
Unit biodiversity	13.06	Area (ha)	0.2199	Total biodiversity	2.87		
Score				Score			



General description	Vegetation asso weir pool.	Vegetation association A2b occurs south-east of the Dam Wall along the southern side of the weir pool.						
	River Red Gum a understory plan	The community consists of Radiata Pine over Golden Wattle and Sticky Hop-bush. Scattered River Red Gum and SA Blue Gums form a small component of the canopy and other native understory plants include Dusty Miller, <i>Correa decumbens</i> (Spreading Correa), <i>Acacia provincialis</i> (Swamp Wattle) and Twiggy Daisy-bush.						
		Cover of exotic groundlayer species is low and includes one SA Declared Weed (Boneseed) and African Daisy.						
	The association	The association is in poor condition with low species diversity.						
Threatened	No threatened f	No threatened flora species were noted.						
species or community		•	e been recorded wit tate level (section 4	thin 5 km of the site a .2).	olong with an			
	The area may su	No fauna surveys have been conducted in this association. The area may support threatened species that favour riparian habitat with fallen logs (e.g. White-winged Chough, Swamp Rat and Brown Toadlet).						
Landscape context score	1.16	Vegetation Condition Score	18.14	Conservation significance score	1.10			
Unit biodiversity Score	23.15	Area (ha)	0.132	Total biodiversity Score	3.06			

A3 (Block A) Eucalyptus leucoxylon open woodland over Acacia pycnantha and Spyridium parvifolium



Facing north at 288896.98 / 6110632.93 (WGS84, Zone 54).

General description

Vegetation association A3 occurs south of the Dam Wall and overlaps Vegetation Association 18 mapped by T&M Ecologists (2020).

The canopy is dominated by SA Blue Gum, with the introduced Early Black Wattle and Radiata Pine, over a shrub layer of Native Cherry, Dusty Miller, Sticky Hop-bush and Golden Wattle.

Exotic species recorded in the ground layer were Boneseed (SA Declared) and African Daisy.

The association is in poor condition with low species diversity and a moderate level of exotic species.

Threatened species or community

No threatened flora species were noted.

Four EPBC-listed fauna species have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).

Fauna surveys conducted in 2018, detected five species of conservation significance in vegetation association 18:

- South Australian Bassian Thrush (EPBC Endangered)
- Yellow-footed Antechinus (SA Vulnerable)
- Yellow-tailed Black Cockatoo (SA Vulnerable)
- Peregrine Falcon (SA Rare)
- Scarlet Robin (SA Rare)

Other state-listed species that may be supported by this vegetation community are: Brushtail Possum, Heath Goanna, Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Robin, Swamp Rat, Beautiful Firetail and Painted Button-quail.

Landscape	1.16	Vegetation	18.68	Conservation	1.10		
context score		Condition Score		significance score			
Unit biodiversity	23.83	Area (ha)	1.074	Total biodiversity	25.6		
Score				Score			



Facing north-west at 288520.56 / 6111063.02 (WGS84, Zone 54).

racing north-west at 200320.307 011 1003.02 (WG304, 2011e 34).									
General description	Vegetation association B1 occurs east of the SA Water Depot and is characterised by an overstory of Messmate Stringybark with scattered Cup Gum and Pink Gum. Dominant understory plants include Yacca, Golden Wattle, Dusty Miller, Heath Tea-tree, Twiggy Daisybush and Sticky Hopbush.								
		Very few exotic species were recorded within B1 apart from several individuals of Radiata Pine that had self-seeded from the planted stand nearby and one small Boneseed (SA Declared).							
	The association	is in moderate cond	dition.						
Threatened species or community	- Eucalyp Four EPBC-listed additional 22 sp No fauna surve	One SA Rare plant species was recorded in the association: - Eucalyptus fasciculosa (Pink Gum) Four EPBC-listed fauna species have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2). No fauna surveys have been conducted in this vegetation association.							
	Threatened species that may be supported by the community include: South Australian Bassian Thrush, Yellow-footed Antechinus, Scarlet Robin, Brushtail Possum, Heath Goan Square-tailed Kite, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrol Hooded Robin, Swamp Rat, Beautiful Firetail and Painted Button-quail.								
Landscape context score	1.16								
Unit biodiversity Score	44.33	Area (ha)	1.5379	Total biodiversity Score	68.18				

B1b (Block A) *Eucalyptus camaldulensis* closed forest over *Acacia pycnantha* and *A. paradoxa* with planted natives



Facing north at 287720.23 / 6110795.5 (WGS84, Zone 54).

General description	Vegetation Asso Reservoir.	Vegetation Association B1b occurs north of the entrance gate (west of the road) into Mt Bold Reservoir.					
	It consists of a dense forest of regenerating River Red Gum over Golden Wattle, <i>Acacia paradoxa</i> (Kangaroo Thorn) and a variety of planted native understory species.						
	The ground layer is dominated by exotic grasses. The vegetation community is in poor condition, with low native species diversity.						
Threatened	No threatened p	No threatened plant species were noted in the association.					
species or community		Four EPBC-listed fauna species have been recorded within 5 km of the site along with an additional 22 species listed at the state level (section 4.2).					
	No fauna surveys have been conducted in this vegetation association. Threatened species that may be supported by the community include: Scarlet Robin, Br Possum, White-winged Chough, Eastern Shriketit, Jacky Winter, Elegant Parrot, Hooded Beautiful Firetail and Painted Button-quail.						
Landscape context score	1.16	Vegetation Condition Score	24.15	Conservation significance score	1.10		
Unit biodiversity Score	30.82	Area (ha)	0.3432	Total biodiversity Score	10.58		

Site map showing areas of proposed impact

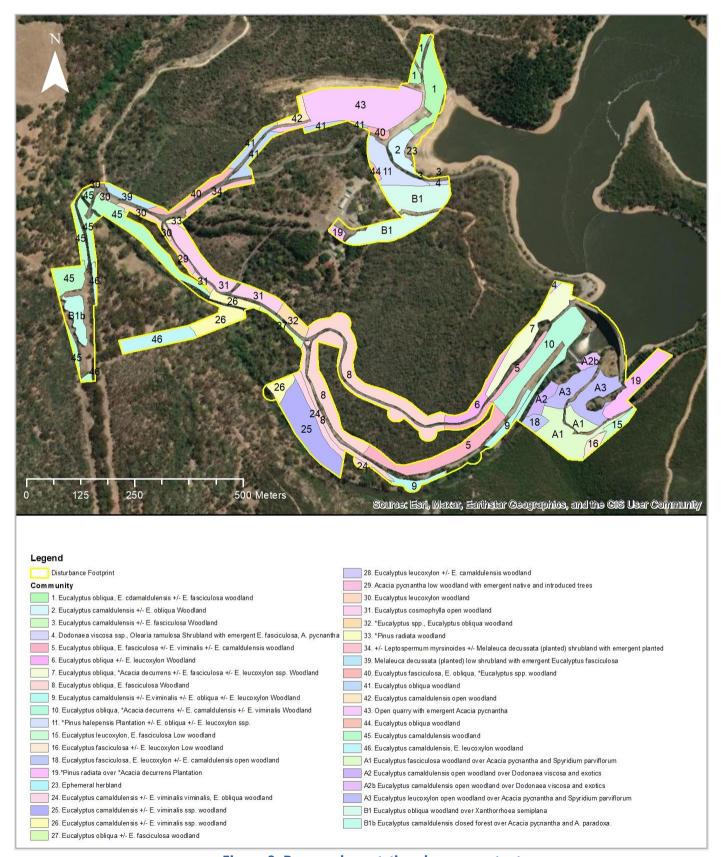


Figure 8. Proposed vegetation clearance extent

Photo log

Photo ID	Description	Photo direction	Location Coordinates (UTM WGS84 54H)
VA1	Association 1	South	288537 / 6111348
VA2	Association 2	South-east	288484 / 6111228
VA3	Association 3	West	288599 /6111134
VA4	Association 4	West	288866 / 6110880
VA5	Association 3	South-west	288679 /6110632
VA6	Association 6	West	288743/6110712
VA7	Association 7	South-east	288826 / 6110835
VA8	Association 8	North	288236 / 6110673
VA9	Association 9		288580 / 6110471
VA10	Association 10	North-west	288719/6110598
VA11	Association 11	North-east	288384 / 6111131
VA15	Association 15	East	289131 / 6110271
VA16	Association 16	South	288886 / 6110466
VA18	Association 18		288951 / 6110648
VA19	Association 19	South-west	289056 / 6110668
VA23	Association 23	North	288518 /6111167
VA24	Association 24	North-west	288411 / 6110433
VA25	Association 25	North-west	288310 / 6110445
VA26	Association 26	North-west	288183 / 6110617
VA27	Association 27	North-west	288198 / 6110773
VA29	Association 29	North-west	287979 / 6110910
VA30	Association 30	North-west	287923 / 6110985
VA31	Association 31	South-east	287935 / 6110998
VA32	Association 32	South-east	288170 / 6110812
VA33	Association 33	West	288005 / 6111003
VA34	Association 34	West	288060 / 6111052
VA39	Association 39	East	287809 / 6111077
VA40	Association 40	North-east	287877 / 6111051
VA41	Association 41	South-east	288166 / 6111231
VA42	Association 42	North	288211 / 6111254
VA43	Association 43	East-north-east	288242 / 6111299
VA44	Association 44	North-west	288359 / 6111137
VA45	Association 45	North-west	287726 / 6111031
VA46	Association 46	South-east	287737 / 6110926
A1	Association A1	South-west	288806.72 / 6110565.79
A2	Association A2	North-west	288774.66 / 6110608.67
A2b	Association A2b	North	288860.21 / 6110696.79
A3	Association A3	North	288896.98 / 6110632.93
B1	Association B1	North-west	288520.56 / 6111063.02
B1b	Association B1	North	287720.23 / 6110795.5

4.2 Threatened Species assessment

Vegetation communities of conservation significance

No nationally (EPBC) listed vegetation communities occur within the areas of impact.

Two provisionally listed vegetation communities in South Australia are present:

- Eucalyptus fasciculosa +/- E. leucoxylon Heathy Woodland on sandy loams of flats and slopes
- Eucalyptus viminalis ssp. cygnetensis and/or E. viminalis ssp. viminalis Woodland on alluvial soils in moist areas.

These communities, recorded in Sites 15, 16, 18, A1 and 26, are listed as Vulnerable in South Australia because reserved examples are mostly small and in poor condition.

Flora of conservation significance

Ten flora species of national conservation significance were identified as "Known to Occur" by the Protected Matters Search Tool within a 5 km radius of the impact site. A search of the Nature Maps Database identified a further three nationally-listed and 86 state-listed flora species recorded within a 5 km radius since 1995 (Appendix 4).

No flora species of national conservation significance were detected during field survey work, and it is considered unlikely that any significant populations of flora of national conservation significance occur in the proposed impact areas.

Five State Rare species were recorded during field surveys (T&M Ecologists 2019).

Scientific Name	Common Name Conservation Status			Location	
		EPBC	SA		
Cardamine paucijuga	Annual Bittercress		Rare	Sites 1, 6, 9 and 10	
Eucalyptus fasciculosa	Pink Gum		Rare	Sites 1, 3, 4, 7, 8, 15, 16, 19, 24, 26, 27, 30, 31, 39, 40, 41, 43, 45, 46, A1 & B1	
Eucalyptus viminalis ssp. viminalis	Manna Gum		Rare	Sites 24, 25, 26	
Logania saxitilis	Rock Logania		Rare	Site 16	
Spyridium spathulatum	Spoon-leaf Spyridium		Rare	Sites 5, 7, 8, 15, 16, 19, 41, 42 & A1	

Two additional State threatened species were recorded in sites that are no longer within the footprint of the proposed works: *Thelymitra grandiflora* Great Sun-orchid (SA-Rare) and *Pterostylis sp. "Rock-ledges"* Rock-ledge Rufoushoood (SA-Endangered).

Fauna of conservation significance

The desktop assessment identified two nationally threatened mammals as potentially occurring within 5km of the impact area:

- Southern Brown Bandicoot (Isoodon obesulus obesulus) EPBC Endangered
- Grey-headed Flying-fox (Pteropus poliocephalus) EPBC Vulnerable

Neither species was observed during the 2018 field survey. Whilst there is a small possibility that the Grey-headed Flying-fox may occur in the impact area at some time, the site would provide no key habitat or essential features required by this species, and as such this development will not significantly impact on this species.

The Southern Brown Bandicoot is known from the Mount Bold Reserve, and has been previously trapped in other survey work. There were no observations of Southern Brown Bandicoots on any cameras, and no other definitive observations were made. It appears unlikely that a significant population occurs within the proposed impact areas, and as such it is unlikely that proposed works would have a significant impact on this species.

The desktop assessment identified two Nationally listed bird species that occur within 5 km of the impact area:

- Chestnut-rumped Heathwren (Calamanthus pyrrhopygius parkeri) EPBC Endangered
- Bassian Thrush (South Australian) (Zoothera lunulata halmaturina) EPBC Endangered

Both species were found within the impact areas during the site assessments.

The Chestnut-rumped Heathwren is a sedentary small bird of south-eastern Australia, with the Mt Lofty Ranges population considered it own endemic subspecies. In the Mount Lofty Ranges it is recorded from Mount Crawford to Mount Bold, and further south through Fleurieu Peninsula. It occurs in heath and dense undergrowth of eucalypt open forest, woodland, and Mallee, often in rocky areas. It feeds on invertebrates, occasionally seed, mainly on the ground beneath dense, low vegetation. Chestnut-rumped Heathwrens live in heath and dense undergrowth within eucalypt forests and woodlands, most commonly in rocky areas. Although the vegetation type varies throughout their range the presence of a dense understory appears to be a primary habitat preference. They are secretive birds which are often hard to observe as they remain in cover. Their nest is a well-concealed dome placed on or low to the ground. The species has been described as being sedentary or resident. The Mt Bold Reservoir area provides suitable habitat for viable populations of the subspecies. Seven individuals of this species were observed at four locations within Mount Bold Reservoir Reserve in a previous survey (EBS Ecology 2009), and there are a total of over 20 discrete locations in the Mount Bold Reservoir Reserve along with numerous other records in surrounding vegetation in the landscape. This species was only observed at one of eight camera sites, on two occasions as part of the previous surveys undertaken for this project. It is considered likely that the species is present at times in rocky, low woodland/shrubland habitats on the north facing slope on the southern side of the dam wall.

The Bassian Thrush is a secretive, sedentary bird, usually found in damp, densely forested areas and gullies often with a thick overhead canopy, and dense leaf-litter below. It feeds on the ground, scratching under the leaf-litter for small invertebrates. It builds a cup-shaped nest in tree fork or stump. This species was observed at four widespread locations within Mount Bold Reservoir Reserve (EBS Ecology 2009), and there are a total of 12 discrete locations within Mount Bold landholdings, along with numerous other records in surrounding vegetation in the landscape. The Bassian Thrush was observed in two of the trapping sites between 2nd December 2018 and 12th January 2019.

An additional 22 state-listed fauna species have been recorded within 5 km of the impact area. They comprise 5 mammal, 18 bird, 2 reptile and 1 amphibian species.

Seven state-listed species were recorded during the site assessments:

- Black-chinned Honeyeater (Melithreptus gularis gularis) Vulnerable
- Yellow-footed Antechinus (Antechinus flavipes) Vulnerable
- Yellow-tailed Black Cockatoo (Zanda funerea whiteae) Vulnerable
- Bibron's Toadlet (Pseudophryne bibronii) Rare
- Common Brushtail Possum (*Trichosurus vulpecula*) Rare
- Peregrine Falcon (Falco peregrinus macropus) Rare
- Scarlet Robin (*Petroica boodang*) Rare

Species observed on site, or recorded within 5km of the application area since 1995, or the vegetation is considered to provide suitable habitat

Species	NP&W	EPBC	Data	Date of	Species known habitat preferences	Likelihood of use for habitat – Comments
(common name)	Act	Act	source	last record		
Pteropus poliocephalus	R	VU	2, 3	2020	Fruiting and flowering trees in native forests, woodlands, urban areas. The species has been	Highly Likely.
(Grey-headed Flying-fox)					recorded intermittently in South Australia for many decades, with a permanent camp becoming established in Adelaide from 2010. Most records are from the Adelaide plains and hills-face zone.	Numerous records in the vicinity of the impact area, and the vegetation would provide suitable habitat and food resources.
Zoothera lunulata halmaturina	R	EN	2, 3, 5, 7	2019	Secretive, sedentary bird, usually found in damp,	Highly Likely.
(South Australian Bassian Thrush)					densely forested areas and gullies often with a thick overhead canopy, and dense leaf-litter below. It feeds on the ground, scratching under the leaf-litter for small invertebrates. It builds a cup-shaped nest in tree fork or stump.	The species would be present in vegetation communities where dense understory is present, cooler shaded slopes or where there is significant fallen timber/leaf litter. Recorded in 2018 surveys within Associations 6, 7, 8, 10, 16, 18, 19, 27, 31, 41 & 44.
Hylacola pyrrhopygia parkeri Chestnut-rumped Heathwren (Mount Lofty Ranges)	E	EN	2, 3, 5, 6, 7	2021	Sedentary small bird of south-eastern Australia, with the Mt Lofty Ranges population considered its own endemic subspecies. It occurs in eucalypt forest, woodland and mallee, often in rocky areas. It feeds on invertebrates, occasionally seed, mainly on the ground beneath dense, low vegetation. Nest is a well-concealed dome placed on or low to the ground.	Highly Likely. Rocky areas within the Mt Bold Reservoir area provides suitable habitat for viable populations of the subspecies. Recorded during 2018 fauna surveys in site 22 and is also likely to be present in sites 35, 36. These sites are not within the impact area.
Isoodon obesulus (SA Southern Brown Bandicoot)	V	EN	2, 5, 6	2021	Dense undergrowth, including wetland fringes and heathland. Native bushland and areas with	Highly Likely. Recently recorded within 5km. Suitable
(3A Southern brown bundleoot)					exotic shrubby species such as blackberry.	habitat present at sites with dense understory. Not recorded in 2018 fauna surveys.
Lophoictinia isura	E		3	2018	Widespread in open eucalypt forest and	Highly Likely.
(Square-tailed Kite)					woodland (often stringybark), ranging into the adjacent open habitat. They specialise in hunting among trees, for birds or insects. They build a stick nest on horizontal branches in mature eucalypt trees, often near water.	Suitable habitat present.
Anhinga novaehollandiae	R		3, 6, 7	2021	Primarily found in smooth, open permanent and	Highly Likely.
(Australasian Darter)					temporary freshwater wetlands, at least half a metre deep, and at times, sheltered coastal water.	The species would use the reservoir deep water for fishing, and fringing vegetation

				Roosts and dries out on tree trunks, branches, stumps or posts fringing or in standing water. Nests in trees in standing water.	communities for roosting (Vegetation associations 1, 2, 3, 19).
Corcorax melanorhamphos (White-winged Chough)	R	3, 6	2021	Largely sedentary colonial bird in groups of up to 20 birds, found in eastern and south-eastern Australia. They occur in open forest and woodlands, often preferring wetter areas with plentiful leaf-litter and available mud for nest building. Habitat in SA includes Eucalyptus leucoxylon, E. fasciculosa, E. camaldulensis woodlands and pine forests. It feeds mainly on the ground on insects and seeds.	Highly Likely. Suitable habitat present.
Falco peregrinus Macropus (Peregrine Falcon)	R	3, 6, 7	2021	Sparsely sedentary bird of prey that occurs across Australia in widespread habitats. It is most common where there is abundant prey and secure nest sites, preferring coastal and inland cliffs or open woodlands near water. It usually nests on cliff faces or tree hollows.	Highly Likely. Suitable habitat present. Recorded in 2018 Surveys: Bushland Assessment sites 1, 2, 3, 5, 8, 9, 10, 18, 19, 24, 25, 26, 30, 42, 45 & 46.
Falcunculus frontatus (Crested Shriketit / Eastern Shriketit)	R	3, 6	2016	A sedentary subspecies is found in eastern and south eastern Australia in eucalypt forest and woodland. It feeds in trees, probing bark for invertebrates, but will sometimes eat fruits and seeds. It builds a deep cone-shaped nest from dry grass and bark strips, high up in forked branches.	Highly Likely. Suitable habitat present.
Microeca fascinans (Jacky Winter)	R	2, 3	2020	Sedentary bird, preferring open Eucalypt and mallee woodland with an open shrub layer and bare ground. Often seen in farmland and parks. They feed from low perches, snatching flying insects. They build a small cup-shaped nest usually on the fork of a dead branch.	Highly Likely. Recorded nearby and suitable habitat and food resources are present.
Neophema elegans (Elegant Parrot)	R	3, 6	2021	A mobile parrot of southern and south-western Australia, found in mallee and woodlands (mainly for breeding), and a wide variety of open habitats, including grasslands, shrublands, bluebush plains, heathlands, saltmarsh and farmland postbreeding. It is primarily ground feeding on seeds of grasses or low-growing shrubs. It nests in the hollow branches of trees.	Highly Likely. The Mt Lofty Ranges is considered one of its important breeding areas, which may include the Mt Bold area.

Petroica boodang	R	3, 6, 7	2021	Sedentary territorial bird, observed in eucalypt	Highly Likely.
(Scarlet Robin)				forest, mallee and woodlands with an open understory of shrubs and/or grasses. Lives in both mature and regrowth vegetation with abundant logs and fallen timber. It feeds mainly on or near the ground on insects. Its nest is a compact open cup nest built in the fork of a tree.	The species would be present in good, viable numbers in the Mt Bold open forest and woodland. It was recorded in 2018 Fauna Surveys in most woodland habitats – Bushland Assessment sites 1-43, 45-46.
Pseudophryne bibronii Bibron's Toadlet / Brown Toadlet	R	2, 3, 6, 7	2020	Distribution within AMLR is extremely restricted with subpopulations occurring in Belair NP, Scott Creek CP, Horsnell Gully CP, Morialta CP and Para Wirra CP. The species lives in forests, heathlands and grasslands, under rocks and logs and in grassy areas beside creeks. Often associated with leaf-litter and grassy-debris near the edges of small ephemeral creeks and depressions, but they can also use small, temporary dams and vegetated roadside drainage lines and ditches.	Highly Likely. Suitable habitat present in riparian sites. Call recorded in 2018 fauna survey – site 1.
Trichosurus vulpecula (Brushtail Possum)	R	3, 6, 7	2021	The species lives in across a wide range of habitats from forest to urban areas, including paddock trees. They feed on leaves, flowers and fruit, and make dens in large tree hollows.	Highly Likely. Recorded in 2018 Surveys where there are trees with moderate - large hollows - Bushland Assessment sites 1, 24-26, 45, 46.
Antechinus flavipes (Yellow-footed Antechinus)	V	2, 3, 6, 7	2021	A short-lived small marsupial that inhabits scrubland and sclerophyll forest, preferring areas with a moderate to dense shrub layer. They feed on insects, small reptiles and nectar. They nest in hollows, in a roughly constructed nest lined with dry leaves and other vegetation.	Highly Likely. Previous surveys (EBS 2009) found the species to be widespread in the area. Recorded in 2018 surveys in areas with moderate to dense understory – Bushland Assessment sites 4, 5, 6, 7, 8, 9, 15, 16, 18, 20, 27, 31, 41 & 44
Melithreptus gularis (Black-chinned Honeyeater)	V	3, 7	2019	Forages in the outer canopy of eucalypts for nectar and honeydew. Favoured habitats incorporate a mixture of mature and regenerating woodland Eucalypts, although adjacent scattered paddock trees are also used.	Highly Likely. Recorded in Mt Bold area and suitable habitat and food resources present. Heard calling during 2019 field survey. Eucalyptus leucoxylon would be most likely habitat – in sites 6, 9, 16, 30 & 46.
Zanda funerea whiteae (Yellow-tailed Black Cockatoo)	V	3, 6, 7	2021	Mobile cockatoo found in eastern and south- eastern Australia, at times forming flocks of many birds. They can inhabit coastal heath, eucalypt woodland and open forest, and increasingly pine plantations. They feed on seeds, including from exotic pine cones, and insect larvae. They nest in large tree hollows.	Highly Likely. The Mt Bold area provides suitable food and habitat for the species, and they may be breed in areas with suitable tree hollows. Observed in 2018 Surveys: Bushland Assessment sites 7, 11, 18, 19, 24, 25, 26, 29, 33, 34, 45, 46.

Melanodryas cucullata	R	2, 3	2007	Territorial bird, found predominantly on the	Likely.
(Hooded Robin)				eastern and northern slopes of the MLR and the Adelaide plains with a widespread, but patchy, distribution. Prefers <i>Eucalypt</i> us woodland and mallee and <i>Acacia</i> shrubland, in remnants at least 50 ha in size. Have also been recorded in revegetated woodlands. They feed on and near the ground on invertebrates, skinks and seeds. They build a cup-shaped nest of leaves and bark in a tree crevice, hollow or stump.	Recorded within the previous 20 years and the area provides habitat and feeding resources for the species.
Rattus lutreolus	R	2, 3	2016	A wide variety of habitats with dense	Likely.
(Australian Swamp Rat)				undergrowth, including forests and woodlands, coastal heath, sedgelands, dune scrub and grassland areas. They feed on grass seeds and the stems of grasses and sedges.	Suitable habitat and food resources are present, however the species was not recorded during 2018 fauna surveys, and there is only one record of the species ~ 2 km south of the impact area.
Stagonopleura bella samueli	R	2, 3, 6	2010	Small sedentary bird found in dense heath to	Likely.
(Beautiful Firetail (MLR, KI))				thick forests especially near sheoaks and teatrees; coastal and sub-coastal heaths; and heathy woodlands. Access to water and dense shrubs for nesting are considered essential habitat requirements. In the Mt Lofty Ranges, it historically occurred further north to Mt Crawford NFR, but now the Mt Bold reservoir seems to be its northern limit, where it is very rare. Its MLR stronghold now appears to be Newland Head CP.	Recorded within the previous 20 years and the area provides habitat and feeding resources for the species.
Turnix varius	R	2, 3	2014	Found in woodland and forest usually with a	Likely.
(Painted Buttonquail)				closed canopy and some shrubby understory and deep ground leaf litter. They feed in the litter, on seeds, fruit, leaves and insects, creating distinctive circular depressions. They build a domed nest of leaves, sticks and grasses beneath a tussock of grass or at the foot of a rock.	Recorded in Scott Creek CP. The area may provide habitat and feeding resources for the species.
Varanus rosenbergii	V	1, 2	2000	Shelters in burrows, hollow logs and rock crevices	Possible.
(Heath Goanna)				in heathy woodland habitats in the Mount Lofty Ranges.	Not recorded in 2018-19 fauna surveys. Last observed in 2000 from near the SA Water depot.
Egernia cunninghami	E	3, 6	2021	A large skink that occurs in higher rainfall open	Unlikely.
(Cunningham's Skink)				woodland. It is restricted to rocky outcrops with deep rocky crevices amongst steep rock faces and	Suitable habitat not present with vegetation communities under application.

				boulder slopes. They may benefit from blackberry cover in some situations. They feed on fruit and seeds, arthropods and small vertebrates.	Recorded recently within impact area, but would only occur at sites with suitable rocky outcrops. Fauna surveys conducted in 2018 only observed the species in rock crevices at a disused quarry (Bushland Assessment site 17) which is not under application.
Ardea intermedia (Intermediate Egret)	R	2	2015	Primarily observed in shallow water of freshwater terrestrial wetlands with dense aquatic vegetation, such as swamps, floodplains and wet grasslands. Very occasionally seen on estuaries and intertidal flats. Feeds by stabbing fish and frogs. Builds stick platform nests on horizontal branches of trees, usually in standing water.	Unlikely. The vegetation under application is unlikely to provide suitable habitat for the species.
Podiceps cristatus australis (Great Crested Grebe)	R	3, 6	2021	This mobile bird can be found on rivers, lakes, estuaries and sheltered bays, but favours deep, open permanent freshwater wetlands. It feeds on fish, caught by diving in clear water. Its nest is a mass of dead water-plants and mud, on or near the vegetated margins of large open waters, attached to reeds, fallen branches or a submerged stumps.	Unlikely. The species likely occurs on the reservoir and breeds in the area, however, it is unlikely to use the vegetation under application.
Stagonopleura guttata (Diamond Firetail)	V	2	2002	Largely sedentary small bird of open grassy woodland, heath and farmland with grassland with scattered trees. In the Mt Lofty Ranges, it is largely found on the drier eastern side of the ranges from the Barossa Valley to Newland Head CP. Habitat includes eucalypt woodland, but has a strong preference for <i>Allocasuarina verticillata</i> (Drooping Sheoak) Low Open Woodland in the MLR. It feeds on the ground on grass and other seeds, and occasionally insects. It builds a nest of grass in trees and shrubs with dense foliage.	Unlikely. Unlikely to be resident or to occur in the Mt Bold area due to unsuitable habitat.

Source; 1- BDBSA, 2 - AoLA, 3 - NatureMaps 4 - Observed/recorded in the field, 5 - Protected matters search tool, 6 - others (EBS Ecology 2009), 7 - T&M Ecologists (2019)

NP&W Act; E= Endangered, V = Vulnerable, R= Rare

 $\mbox{EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable } \\$

Criteria for the likelihood of occurrence of species within the Study area.

Likelihood	Criteria
Highly Likely/Known	Recorded in the last 10 years, the species does not have highly specific niche requirements, the habitat is present and falls within the known range of the species distribution or;
	The species was recorded as part of field surveys.
Likely	Recorded within the previous 20 years, the area falls within the known distribution of the species and the area provides habitat or feeding resources for the species.
Possible	Recorded within the previous 20 years, the area falls inside the known distribution of the species, but the area provides limited habitat or feeding resources for the species.
	Recorded within 20 -40 years, survey effort is considered adequate, habitat and feeding resources present, and species of similar habitat needs have been recorded in the area.
Unlikely	Recorded within the previous 20 years, but the area provide no habitator 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.

4.3 Cumulative impact

This is a stand alone project that is not dependent on or contingent on other works that involve vegetation clearance.

4.4 Address the Mitigation Hierarchy

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

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

Sensitive Habitat

Early concept plans considered the use of the quarry site in the project. The quarry was developed in the 1930s to supply material for the construction of the original dam. T&M Ecologists investigated conservation values at this site and confirmed the presence of the state endangered Cunninghams Skink. SA Water decided not to reopen the old quarry on the basis of:

- avoiding impacts to Cunningham Skink
- avoiding impacts to high quality vegetation
- amenity issues associated with creating a prominent scar in the landscape from new and re-developed access\roads
- safety considerations.

Use of Cleared / Degraded Areas

Temporary laydown areas have been preferentially located at existing disturbed areas or areas containing planted and non-native vegetation. This includes the left abutment proposed laydown area being designated within a patch of pine plantation. Also the main site compound is proposed in a current SA Water fire break with adjacent planted vegetation (if additional area required). The planted vegetation is not protected under the Native Vegetation Act or a registered Carbon Estimation Area for Mt Bold.

Large Habitat Trees

T&M Ecologists identified numerous mature hollow-bearing trees (*Eucalyptus camaldulensis, Eucalyptus leucoxylon, Eucalyptus viminalis ssp.*), in Vegetation Associations 24-26,45 and 46. These hollows are important nesting resources for birds, and the large trees would provide historic and amenity values. T&M Ecologists recommended that these larger trees are avoided, wherever possible and there being value in mapping the specific locations of these larger trees that contain hollows to help with future planning.

EBS Ecology mapped the trees November 2021, using the Scattered Tree Assessment Method to assess their habitat value (EBS Ecology 2022). This information has been provided to the concept designer (SMEC) and the Dual Early Contractor Involvement (DECI) construction contractors to use during design of the recreational picnic area and for sighting of temporary laydown and the main site compound locations. This process will aim to retain as many of the large habitat trees as possible.

Vegetation Association 26

T&M Ecologists advised that Vegetation Association 26 is a priority to avoid. The vegetation has a high Unit Biodiversity Score and is a vulnerable vegetation association in South Australia.

This vegetation association is present between Track 1 and the Onkaparinga River where a temporary laydown area and future picnic and parking area were planned. These works have been relocated to avoid impacts to Vegetation Association 26 in this area.

Road Design

Permanent access roads have been designed to comply with DIT technical standards and the Australian Road Design Code. For several roads with low design speeds, road width has been reduced to the minimum practicable. Temporary roads have been designed to minimise impacts on native vegetation with priority given to high quality plant associations and tree hollows. Some planned roads have been removed from the design because of their impact on high quality plant associations.

Batter Slope Extent

Batter slopes for roads will be constructed to minimise impacts on native vegetation. Batter slope angle design criteria will include minimising excavation volumes and vegetation removal while accounting for slope maintenance requirements, slope stability, slop protection and rock risk falls.

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).

Reduction in Clearance Extent

SA Water engaged in a DECI program to allow contractors to identify opportunities to minimise impacts on flora and fauna values during the development phase of the project. Contractors were provided with flora and fauna survey reports which identified sensitive and high value ecological assets. Contractors undertook multi-criteria analyses to develop options that minimise ecological risks while addressing project requirements.

These options have been further refined through workshops with SA Water for the design of

- temporary access roads
- concrete batching plant
- main site compound and
- laydown areas

These processes have resulted in a reduction in the clearance area for the dam wall works. The original concept design estimate of vegetation clearance was **35.33 ha** with a total biodiversity score of 1876.49. This has been reduced to an area of **23.88 ha** with a total biodiversity score of 1258.03.

Repurposed Impact Areas

The second stage of recreational access to Mt Bold will provide amenities including a picnic area and car parking approximately 1km downstream of the dam wall. This will be delivered following construction of the dam safety upgrade works. Temporary construction laydowns will be incorporated into the permanent footprint for the picnic area and car parking, avoiding disturbing new areas.

Permanent road upgrades and pedestrian tracks will be utilised for temporary construction access.

Minimising Inundation

The hollow jets, which drain water from the reservoir to the Onkaparinga River are being augmented to increase their capacity. This work will reduce the time the reservoir spends above the full supply level when being operated for flood mitigation and will reduce the time vegetation is inundated during flood events. The outlets will be opened on the recession limb of a flood when flow over the spillway is less than 120 cubic metres per second.

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.

Temporary clearance areas will be incorporated in the offset areas (see below).

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.

A significant environmental benefit will be achieved by establishing offset areas on SA Water land within the Mount Bold Reservoir Reserve. The offset proposal and management plan is currently under development and a concept (draft) plan is supplied with this application. A final version will be provided in time for the 18th October NVAP meeting.

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

Principle of	Considerations						
clearance	Number of plant species recorded (native & introduced) for each vegetation association.						
Principle 1a -				TT CONTRACTOR OF THE CONTRACTO			
it comprises a	Association	Native	Exotic	Association	Native	Exotic	
high level of	1	82	14	29	32	9	
diversity of	2	19	35	30	39	17	
plant species	3	26	34	31	65	12	
	4	41	21	32	28	7	
	5	44	17	33	25	18	
	6	65	22	34	25	13	
	7	46	20	39	33	8	
	8	55	14	40	42	20	
	9	37	48	41	38	4	
	10	41	50	42	26	12	
	11	34	12	43	19	9	
	15	40	6	44	36	8	
	16	60	12	45	17	27	
	18	50	40	46	16	18	
	19	33	35	A1	28	6	
	23	4	15	A2	6	7	
	24	35	15	A2b	13	3	
	25	18	19	A3	7	4	
	26	33	19	B1	17	2	
	27	33	12	B1b	5	10	
	Bushland Plan	t Diversity Scor	e				
	Association	Score	Association	Score	Association	Score	
	1	30	19	26	41	22	
	2	14	23	6	42	26	
	3	18	24	24	43	14	
	4	22	25	22	44	20	
	5	24	26	26	45	20	
	6	28	27	20	46	18	
	7	22	29	20	A1	10	
	8	24	30	24	A2	4	
	9	22	31	28	A2b	10	
	10	20	32	18	A3	4	
	11	18	33	14	B1	14	
	15	22	34	14	B1b	10	
	16	28	39	22			
	18	30	40	24			

Assessment against the principles

Seriously at Variance (Bushland Plant Diversity Score > 20)

Vegetation Associations: 1, 4, 5, 6, 7, 8, 9, 15, 16, 18, 19, 24, 25, 26, 30, 31, 39, 40, 41, 42

At Variance (Bushland Plant Diversity Score 10-20)

Vegetation Associations: 2, 3, 10, 11, 27, 29, 32, 33, 34, 43, 44, 45, 46, B1

Moderating factors that may be considered by the NVC

Much of proposed clearance area comprises a narrow strip surrounded by uncleared native vegetation. The vegetation to be impacted represents a very small area relative to the native vegetation within the local vicinity.

Principle 1b significance as a habitat for wildlife

Four nationally threatened fauna species potentially occur within 5 km of the impact area:

- Southern Brown Bandicoot (Isoodon obesulus obesulus) EPBC Endangered
- Grey-headed Flying-fox (Pteropus poliocephalus) EPBC Vulnerable
- Chestnut-rumped Heathwren (Calamanthus pyrrhopygius parkeri) EPBC Endangered
- Bassian Thrush (South Australian) (Zoothera lunulata halmaturina) EPBC Endangered

An additional 22 state-listed fauna species have been recorded within 5 km of the impact area. They comprise 5 mammal, 18 bird, 2 reptile and 1 amphibian species (Section 4.2).

Much of the vegetation is in good to very good condition and is likely to support a high diversity of fauna species.

Seven state-listed species were recorded during the site assessments:

- Black-chinned Honeyeater (*Melithreptus gularis*) Vulnerable
- Yellow-footed Antechinus (Antechinus flavipes) Vulnerable
- Yellow-tailed Black Cockatoo (Zanda funerea whiteae) Vulnerable
- Bibron's Toadlet (Pseudophryne bibronii) Rare
- Common Brushtail Possum (*Trichosurus vulpecula*) Rare
- Peregrine Falcon (Falco peregrinus macropus) Rare
- Scarlet Robin (Petroica boodang boodang) Rare

Threatened Fauna Score; Unit biodiversity Scores (UBS)

Association	Fauna Score	UBS	Association	Fauna Score	UBS
1	0.1	85.27	29	0.1	43.54
2	0.1	39.77	30	0.1	71.91
3	0.1	56.5	31	0.1	76.29
4	0.1	51.53	32	0.1	38.79
5	0.1	68.37	33	0.06	9.93
6	0.1	70.81	34	0.1	22.82
7	0.1	58.84	39	0.1	45.19
8	0.1	73.07	40	0.1	67.24
9	0.1	38.4	41	0.1	80.74
10	0.1	41	42	0.1	66.43
11	0.04	13.57	43	0	9.79
15	0.1	79.84	44	0.1	63.16
16	0.1	100.85	45	0.1	60.5
18	0.1	81.92	46	0.1	52.93
19	0.08	46.22	A1	0.1	66.33
23	0.02	6.08	A2	0.1	13.06
24	0.1	70.6	A2b	0.1	23.15
25	0.1	53.03	A3	0.1	23.83
26	0.1	96.78	B1	0.1	44.33
27	0.1	69.38	B1b	0.1	30.82

Assessment against the principles

Seriously at Variance (Threatened Fauna Score of ≥0.05 OR Unit Biodiversity Score > 50) Vegetation Associations: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 18, 19, 24, 25, 26, 27, 29, 30, 31, 32, 33, 34, 39, 40, 41, 42, 44, 45, 46, A1, A2, A2b, A3, B1, B1b

At Variance (Threatened Fauna Score of < 0.05)

Vegetation Associations: 11, 23

Not at Variance: (Threatened Fauna Score = 0)

Vegetation Associations: A43

Moderating factors that may be considered by the NVC

Both the Chestnut-rumped Heathwren and Bassian Thrush are likely to have substantial areas of suitable habitat within the Mount Bold Reserve. There is over 3000 hectares of remnant vegetation in Mount Bold SA Water landholdings, and the current estimated impact is an area of approximately 10 hectares. As such, it is considered unlikely that the proposed activities would significantly impact on either of these threatened species.

Whilst there is a small possibility that the Grey-headed Flying-fox may occur in the impact area at some time, the site would provide no key habitat or essential features required by this species, and as such this development will not significantly impact on this species.

There were no observations of Southern Brown Bandicoots during the fauna surveys. It appears unlikely that a significant population occurs within the proposed impact areas, and as such it is unlikely that proposed works would have a significant impact on this species.

Principle 1c plants of a rare, vulnerable or endangered species Five State Rare Flora species were recorded during field surveys (Section 4.2)

Threatened Flora Scores

Association	Score	Threatened Species	Association	Score	Threatened Species
1	0.08	Cardamine paucijuga	29	0	
		Eucalyptus fasciculosa			
2	0		30	0.04	Eucalyptus fasciculosa
3	0.04	Eucalyptus fasciculosa	31	0.04	Eucalyptus fasciculosa
4	0.04	Eucalyptus fasciculosa	32	0	
5	0.08	Spyridium spathulatum	33	0	
		Eucalyptus fasciculosa			
6	0.04	Cardamine paucijuga	34	0	
7	0.08	Spyridium spathulatum	39	0.04	Eucalyptus fasciculosa
		Eucalyptus fasciculosa			
8	0.04	Eucalyptus fasciculosa	40	0.04	Eucalyptus fasciculosa
9	0.04	Cardamine paucijuga	41	0.08	Spyridium spathulatum
					Eucalyptus fasciculosa
10	0.04	Cardamine paucijuga	42	0.04	Spyridium spathulatum
11	0		43	0.04	Eucalyptus fasciculosa
15	0.08	Spyridium spathulatum	44	0	
		Eucalyptus fasciculosa			
16	0.08	Logania saxatilis	45	0.04	Eucalyptus fasciculosa
		Spyridium spathulatum			
		Eucalyptus fasciculosa			
18	0.04	Eucalyptus fasciculosa	46	0.04	Eucalyptus fasciculosa
19	0.04	Spyridium spathulatum	A1		Spyridium spathulatum
				0.08	Eucalyptus fasciculosa
23	0		A2	0	
24	0.08	Eucalyptus viminalis	A2b		
		ssp. viminalis		0	

		Eucalyptus fasciculosa			
25	0.04	Eucalyptus viminalis	A3		
		ssp. viminalis		0	
26	0.08	Eucalyptus viminalis	B1		Eucalyptus fasciculosa
		ssp. viminalis			
		Eucalyptus fasciculosa		0.04	
27	0.04	Eucalyptus fasciculosa	B1b		
				0	

Assessment against the principles

Seriously at Variance (Threatened Flora Score of ≥0.1)

Vegetation Associations: None

At Variance (Threatened Flora Score of < 0.1)

Vegetation Associations:

1, 3, 4, 5, 6, 7, 8, 9, 10, 15, 16, 18, 19, 24, 25, 26, 27, 30, 31, 39, 40, 41, 42, 43, 45, 46, A1, B1

Not at Variance (Threatened Flora Score =0)

Vegetation Associations:

2, 11, 23, 29, 32, 33, 34, 44, A2, A2b, A3, B1b

Moderating factors that may be considered by the NVC

No flora species of national conservation significance were detected during field survey work, and it is considered unlikely that any significant populations of flora of national conservation significance occur in the proposed impact areas.

For State-listed species, the proposed clearance represents less than 1% of the individual plants within a 1km radius.

Principle 1d the
vegetation
comprises the
whole or
part of a
plant
community
that is Rare,
Vulnerable or
endangered:

Relevant information

No nationally (EPBC) listed vegetation communities occur within the areas of impact. Two provisionally listed vegetation communities in South Australia are present:

- Eucalyptus fasciculosa +/- E. leucoxylon Heathy Woodland on sandy loams of flats and slopes present at sites 15, 16, 18 and A1
- Eucalyptus viminalis ssp. cygnetensis and/or E. viminalis ssp. viminalis Woodland on alluvial soils in moist areas
 - Present at Site 26

These communities are listed as Vulnerable in South Australia because reserved examples are mostly small and in poor condition.

Threatened Community Score –

Association	Score	Association	Score	Association	Score
1	1	19	1	41	1
2	1	23	1	42	1
3	1	24	1	43	1
4	1	25	1	44	1
5	1	26	1.2	45	1
6	1	27	1	46	1
7	1	29	1	A1	1.2
8	1	30	1	A2	1
9	1	31	1	A2b	1
10	1	32	1	A3	1
11	1	33	1	B1	1
15	1.2	34	1	B1b	1
16	1.2	39	1		_
18	1.2	40	1		

Assessment against the principles

Seriously at Variance

Vegetation Associations: 16, 18, 20, 26 and A1

Moderating factors that may be considered by the NVC

- A total of 1.58 ha of *Eucalyptus fasciculosa Eucalyptus fasciculosa +/- E. leucoxylon* community is proposed for clearance
- A total of 0.86 ha of *Eucalyptus viminalis* community is proposed for clearance.

The proposed clearance occurs as a narrow strip along the edge of vegetation and is unlikely to significantly fragment, reduce the extent of, or lead to long-term adverse effects on threatened communities.

Principle 1e - it is significant as

a remnant of vegetation in

Relevant information

Clarendon IBRA Association percent vegetation remnancy (%): 34%

Mount Lofty Ranges IBRA Subregion percent vegetation remnancy (%): 15%

Block A - Biodiversity Score = 934.33 Block B - Biodiversity Score = 323.7

Total = 1,360.71

an area which has been extensively

cleared.

Assessment against the principles

Seriously At Variance (Total Biodiversity Score > 500 and IBRA Subregion remnancy > 10 – 30%)

Moderating factors that may be considered by the NVC

Principle 1f it is growing in, or in association with, a wetland

environment.

Relevant information

Vegetation associations 1, 2, 3 and 23 are adjacent to the water's edge of Mount Bold Reservoir. These are all terrestrial plant communities and do not contain flora species that rely on the fringing wetland habitat but may support some wetland-associated fauna (e.g. frogs and waterbirds).

Vegetation associations 9, 24-26, 45 and 46 contain riparian zones associated with deep River Red Gum channels. Of these, only 26 and 46 contain species characteristic of an ephemeral wetland.

Assessment against the principles

Clearance of vegetation growing in, on the edge of, or in association with a wetland will be considered to be 'Seriously at variance' with this principle, if the clearance will have a significant impact.

Seriously at Variance – 1, 2, 3, 9, 23, 24, 25, 26, 45, 46

At Variance

Moderating factors that may be considered by the NVC

The proposed clearance will impact a very small area of wetland habitat within Vegetation Associations 26 and 46.

Principle 1git contributes significantly to the amenity of the area in which it is growing or is situated.

Relevant information

Mount Bold Reservoir is open to the public as a scenic, educational and recreational resource. Public access will be increased through government policy and as a result of these works. Clearance will reduce vegetation extent however overall it will facilitate public access and the amenity value of the site.

N/A

Moderating factors that may be considered by the NVC

4.6 Risk Assessment - works at dam wall

Total	No. of trees	0
clearance	Area (ha)	23.8806 ha

	Total biodiversity Score	1,258.03
Seriously at v 1(b), 1(c) or 1	rariance with principle (d)	1 (a), 1(b), 1(c), 1 (d), 1(e)
Risk assessmo	ent outcome	Level 4

4.7 NVC Guidelines

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

Not applicable

5. Clearance summary

Clearance Area(s) Summary table

Block	Site	Native species diversit y score	Threatene d Ecological community Score	Threatene d plant score	Threatene d fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
В	1	30	1	0.08	0.1	85.27	0.9213	78.56	1			82.49	\$80,229.85	\$4,412.64
В	2	14	1	0	0.1	39.77	0.3481	13.84	1			14.54	\$14,138.33	\$777.61
В	3	18	1	0.04	0.1	56.5	0.0191	1.08	1			1.13	\$1,102.10	\$60.62
А	4	22	1	0.04	0.1	51.53	0.0802	4.13	1			4.34	\$4,220.59	\$232.13
А	5	24	1	0.08	0.1	68.37	1.3529	92.50	1			97.12	\$94,464.78	\$5,195.56
А	6	28	1	0.04	0.1	70.81	0.3674	26.02	1			27.32	\$26,568.83	\$1,461.29
А	7	22	1	0.08	0.1	58.84	0.9477	55.76	1			58.55	\$56,948.49	\$3,132.17
А	8	24	1	0.08	0.1	73.07	2.7731	202.63	1			212.76	\$206,939.44	\$11,381.67
В	9	22	1	0.04	0.1	38.4	0.4039	15.51	1			16.29	\$15,839.58	\$871.18
А	10	20	1	0.04	0.1	41	1.3879	56.90	1			59.75	\$58,113.99	\$3,196.27
А	11	18	1	0	0.04	13.57	0.6244	8.47	1			8.90	\$8,653.29	\$475.93
А	15	22	1.2	0.08	0.1	79.84	0.1899	15.16	1			15.92	\$15,484.03	\$851.62
А	16	28	1.2	0.08	0.1	100.85	0.1295	13.06	1			13.71	\$13,337.80	\$733.58
А	18	30	1.2	0.04	0.1	81.92	0.1592	13.04	1			13.69	\$13,319.00	\$732.55
А	19	26	1	0.04	0.08	46.22	0.7403	34.22	1			35.93	\$34,944.30	\$1,921.94
В	23	6	1	0	0.02	6.08	0.0147	0.09	1			0.09	\$91.28	\$5.02
В	24	24	1	0.08	0.1	70.6	0.3561	25.14	1			26.40	\$25,675.29	\$1,412.14
В	25	22	1	0.04	0.1	53.03	1.1548	61.24	1			64.30	\$62,541.32	\$3,439.77
В	26	26	1.2	0.08	0.1	96.78	0.1089	10.54	1			11.07	\$10,918.48	\$600.52
А	27	20	1	0.04	0.1	69.38	0.1069	7.42	1			7.79	\$7,574.44	\$416.59
А	29	20	1	0	0.1	43.54	0.1085	4.72	1			4.96	\$4,824.55	\$265.35
А	30	24	1	0.04	0.1	71.91	0.2094	15.06	1			15.81	\$15,378.17	\$845.80
Α	31	28	1	0.04	0.1	76.29	0.9904	75.55	1			79.33	\$78,269.20	\$4,304.81
А	32	18	1	0	0.1	38.79	0.2221	8.62	1			9.05	\$8,798.47	\$483.92 Page 86 of 109

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А	33	14	1	0	0.06	9.93	0.0536	0.53	1		0.56	\$543.57	\$29.90
A	34	14	1	0	0.1	22.82	0.2211	5.05	1		5.30	\$5,152.80	\$283.40
A	39	22	1	0.04	0.1	45.19	0.21	9.49	1		9.96	\$9,691.71	\$533.04
А	40	24	1	0.04	0.1	67.24	0.389	26.16	1		27.46	\$26,712.59	\$1,469.19
A	41	22	1	0.08	0.1	80.74	0.5137	41.48	1		43.55	\$42,358.15	\$2,329.70
А	42	26	1	0.04	0.1	66.43	0.1616	10.74	1		11.27	\$10,963.37	\$602.99
A	43	14	1	0.04	0	9.79	2.2079	21.62	1		22.70	\$22,075.00	\$1,214.13
А	44	20	1	0	0.1	63.16	0.0472	2.98	1		3.13	\$3,044.55	\$167.45
В	45	20	1	0.04	0.1	60.5	1.8774	113.58	1		119.26	\$115,998.09	\$6,379.89
В	46	18	1	0.04	0.1	52.39	0.0787	4.12	1		4.33	\$4,271.40	\$234.93
А	A1	10	1.2	0.08	0.1	66.33	1.0967	72.74	1		76.38	\$74,291.05	\$4,086.01
А	A2	4	1	0	0.1	13.06	0.2199	2.87	1		3.02	\$2,932.97	\$161.31
А	A2b	10	1	0	0.1	23.15	0.132	3.06	1		3.21	\$3,120.78	\$171.64
А	A3	4	1	0	0.1	23.83	1.074	25.59	1		26.87	\$26,137.68	\$1,437.57
А	B1	14	1	0.04	0.1	44.33	1.5379	68.18	1		71.58	\$69,624.88	\$3,829.37
А	B1b	10	1	0	0.1	30.82	0.3432	10.58	1		11.11	\$10,802.36	\$594.13
						_							
				Total	23.8806	1258.03			1320.93	\$1,286,096.55	\$70,753.33		

Totals summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	1258.03	1320.93	\$1,286,096.55	\$70,753.33	\$1,356,849.88

IBRA Association percent vegetation remnancy (%)	34
IBRA Subregion percent vegetation remnancy (%)	15
Is the vegetation associated with a Wetland	Block A: No; Block B: Yes
Economies of Scale Factor	0.5
Rainfall (mm)	748

	Seriously at	
Principle	variance	Vegetation Association
		B1, A4, A5, A6, A7, A8, B9, A15, A16,
		A18, A19, B24, B25, B26, A30, A31,
a - Plant species diversity	Yes	A39, A40, A41, A42
		B1, B2, B3, A4, A5, A6, A7, A8, B9,
		A10, A15, A16, A18, A19, B24, B25,
		B26, A27, A29, A30, A31, A32, A33,
		A34, A39, A40, A41, A42, A44, B45,
		B46, AA1, AA2, AA2b, AA3, AB1,
b - Wildlife habitat	Yes	AB1b
c - Rare plant species		
d - Rare plant communities	Yes	A15, A16, A18, B26, AA1
e - Remnancy	Yes	All
f - Wetland		Associated vegetation

At variance	Vegetation Association
	B2, B3, A10, A11, A27, A29, A32,
Yes	A33, A34, A43, A44, B45, B46, AB1
Yes	A11, B23
	B1, B3, A4, A5, A6, A7, A8, B9, A10,
	A15, A16, A18, A19, B24, B25, B26,
	A27, A30, A31, A39, A40, A41, A42,
Yes	A43, B45, B46, AA1, AB1

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:

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

SA Water has completed baseline assessment (BAM) on approximately 210 ha of owned land comprising up to 5 allotments (sites) which contain existing like for like biodiversity values and are amenable to high quality on ground restoration activities to be used as an SEB offset for this project (**Table 1 and 2 and Figure 9**).

The proposed SEB has been placed strategically within the Southern Mount Lofty Ranges adjoining remnant vegetation to the north and east surrounding the Mount Bold Reservoir.

Historically this region has been extensively cleared of pre European native vegetation (87%) due to proximity to Adelaide and high soil fertility and resultant agricultural value (Biological Survey SMLR DEH 2003). The SEB aims to fulfill on ground SEB credit obligations for the M.t bold Dam safety upgrades while delivering high value ecological outcomes for local declining flora and fauna through the establishment of strategic biodiversity corridors, fauna habitat (including hollows), wildlife refugia and control of feral fauna species, weeds and management of total grazing pressure (both introduced and native species).

Due to its position in the landscape, with close proximity to large blocks of remnant vegetation the proposed SEB has a high probability of providing a diverse mix of species habitats and resources suitable to encourage and support (long term) locally occurring state and federally rates fauna species.

The Proposed Mount Bold SEB would provide formal protection to an additional 210 hectares of native vegetation within the Clarendon Association which would see a significant increase in protection gain within the Clarendon Association of 8.3%.

Table 4. Proposed SEB sites

Site Number	hectares
1	30.97
2	64.39
3	60.36
4	15.65
5	38.27
TOTAL	209.64

Table 5. Parcels whole or in part which comprise the SEB area

Title	Volume	Folio	Parcel ID	Hundred	Site ID
(e.g. CT/CL)					
CR5757/784	5412	972	H105300SE305	KUITPO	Site 1
CT5412/972	5412	972	F6190AL319	KUITPO	Site 2
CT5412/970	5412	972	F6190AL320	KUITPO	Site 2
CT6270/60	5491	9	D127750QP201	KUITPO	Site 3
CT6270/60	5491	9	D127750QP203	KUITPO	Site 3
CT6270/60	5491	9	D127750QP205	KUITPO	Site 3
H105300SE184	5491	9	H105300SE184	KUITPO	Site 4
CR5757/784	5491	9	H105300SE185	KUITPO	Site 4
CT6218/47	5412	972	D91614 A2	KUITPO	Site 5

SA Water with assistance from Eco Logical Australia are preparing the SEB Vegetation Management Plan for consideration by NVAP in support this project. It is anticipated that this will be supported by the preparation of a detailed restoration management plan or similar following approval. A draft Native Vegetation Management Plan is provided in **Appendix 8**.

Currently the SEB area has a sufficient estimated gain score of what is required by the project. Refer to **Appendix 9**.

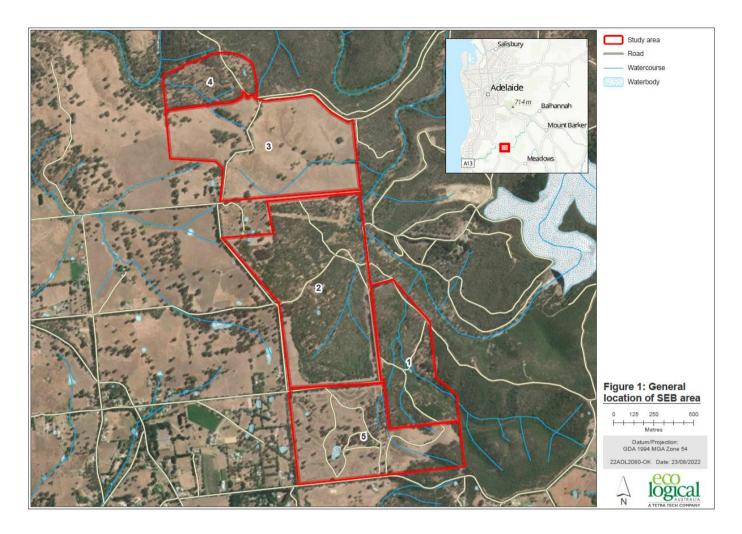


Figure 9. SEB offset location

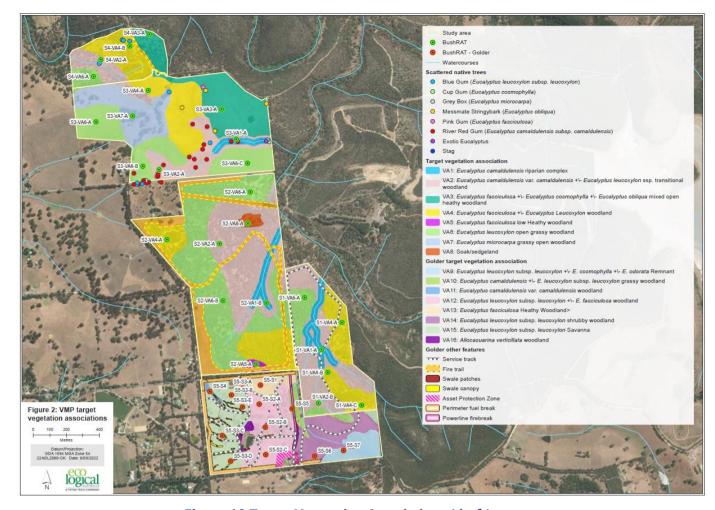


Figure 10 Target Vegetation Associations (draft)

7. Appendices

Appendix 1. References

Appendix 2. EPBC Self-Assessment

Appendix 3. Field Investigations - Dam Safety Upgrade Construction Footprint

T&M Ecologists (2019) Flora and Fauna Investigations

T&M Ecologists (2020) Additional Vegetation Investigations

EBS Ecology (2022) Habitat Tree Survey

EBS Ecology (2022) Left Abutment and additional Areas Survey

Appendix 4. Flora Species Lists – Native and exotic species recorded within each vegetation association

Appendix 5. Bushland, Rangeland or Scattered Tree Vegetation Assessment Scoresheets associated with the proposed clearance and SEB Area (to be submitted in Excel format)

Appendix 6. Threatened Flora Recorded with 5km of Impact Area

Appendix 7. Investigation Reports – Flood Attenuation

Appendix 8. DRAFT Native Vegetation Management Plan (not for public release).

Appendix 9. SEB Calculations Matrix

Appendix 1. References

AWE (2010). Mount Bold Reservoir Reserve Detailed Asset Management Plan. Part 1 Land Management Plan. Australian Water Environments report prepared for SA Water, Adelaide.

EBS Ecology (2009). Mt Bold Reservoir Flora and Fauna Baseline Assessment w2007-2008. EBS Ecology report to the Department of Environment, Water and Natural Resources, Adelaide.

EBS Ecology (2022). Mount Bold Reservoir Vegetation Survey: Habitat Trees Addendum. EBS Ecology report prepared for SA Water, Adelaide.

EBS Ecology (2022). Mount Bold Reservoir Vegetation Survey: Left Abutment and Additional Areas. EBS Ecology report prepared for SA Water, Adelaide.

SA Water (2022). How inundation will affect the environmental benefit of vegetation at Mount Bold Reserve. SA Water report.

T&M Ecologists (2019). Mt Bold Dam Upgrade Flora and Fauna Assessment Final Report June 2019. T&M Ecologists report prepared for SA Water, Adelaide.

T&M Ecologists (2020). Vegetation Survey Mt Bold Dam Upgrade Spring 2020 Report December 2020. T&M Ecologists report prepared for SA Water, Adelaide.

Appendix 4 Native plant species recorded within each vegetation community – adapted from (T&M Ecologists 2019 and EBS Ecology 2022).

Scientific Name	Common Name		Conserve	tion Status									Site								
Scientific Name	Common Name	Annual	EPBC	NPWSA	AMLR	1	2	3	4	1 5	6	7		9	10	11	15	16	18	19	23
Acacia acinacea	Wreath Wattle	7 11111111111		141 113/1	RA	_	_								20			20	√		
Acacia myrtifolia	Myrtle Wattle					✓		R		/	✓					✓		✓	✓		-
Acacia paradoxa	Kangaroo Thorn															✓					
Acacia provincialis	Swamp Wattle				NT									✓					√		-
Acacia pycnantha	Golden Wattle					/	✓	D	1	D	D	/	·	✓	✓	R	R	R	✓	✓	
Acacia spinescens	Spiny Wattle			1		/		K	1		N.	+ -	-	-	-	N.	- N	- N			
Acacia verniciflua	Varnish Wattle				RA	V			-		_		✓	_	✓	_				/	
Acaena echinata	Sheep's Burr				NA.	· /	_	✓		·	·	/	-	-	·	·		✓	√	·	
Acianthus pusillus	Mosquito Orchid	Y		+		-	<u> </u>	<u> </u>		<u> </u>	-	<u> </u>			<u> </u>	<u> </u>		-	_	'	
Acrotriche fasciculiflora	Mount Lofty Ground-berry	-			RA	-	1	_			-				✓			-	_		
Acrotriche serrulata	Cushion Ground-berry				KA	· /	· ·	-	1	_	· ·	_			•	_		· ·	•		
	Cushion Ground-berry Common Maiden-hair			1		+ *		<u> </u>	· ·	+ •	+ *	-			✓	•					
Adiantum aethiopicum						_				-	-	✓			•					_	
Ajuga australis f. A (A.G.Spooner 9058)	Australian Bugle					_				_	-	· ·						✓		· ·	
Allocasuarina muelleriana ssp. muelleriana	Common Oak-bush					· /				· ·	R							· /			
Allocasuarina striata	Stalked Oak-bush				NT	· ·											•	•			
Allocasuarina verticillata	Drooping Sheoak			1		1		✓			1	✓							√		
Alternanthera denticulata	Lesser Joyweed	Υ			NT															V	
Amyema miquelii	Box Mistletoe								✓				V	✓	✓					✓	
Anthosachne scabra	Native Wheat-grass							✓	✓			✓	✓								
Aphanes australiana	Australian Piert	Υ			RA	✓															
Aphelia pumilio	Dwarf Aphelia	Υ			NT	✓															
Arthropodium strictum	Common Vanilla-lily	Υ							✓		~						>	✓	✓		
Astroloma humifusum	Cranberry Heath					~	✓				✓					✓					
Austrostipa mollis	Soft Spear-grass							✓	✓		✓										
Austrostipa muelleri	Tangled Spear-grass				NT	✓				✓											
Austrostipa semibarbata	Fibrous Spear-grass																✓	✓			
Austrostipa sp.						✓		✓	✓		✓	✓	✓		✓	✓	√	✓	✓	✓	
Austrostipa sp.	Spear-grass					✓			1								√				
Beyeria lechenaultii	Pale Tupentine Bush				NT									✓							
Bulbine bulbosa	Bulbine-lily	Υ			NT				1		✓	✓			✓						
Burchardia umbellata	Milkmaids	Υ											✓								
Bursaria spinosa ssp. spinosa	Sweet Bursaria																	✓			
Caesia calliantha	Blue Grass-lily	Υ				✓			1	✓	✓	✓			✓			✓			
Caladenia carnea	Pink Fingers	Y				/				_	✓	✓	_								$\overline{}$
Caladenia tentaculata	King Spider-orchid	Y				✓					_	✓				✓					
Callistemon sieberi	River Bottlebrush	<u> </u>		+	VU	_				_				✓							$\overline{}$
Cardamine paucijuga	Annual Bittercress	Y		Rare	VU	V					/			✓ ·	✓						
Carex appressa	Tall Sedge			Nuic	***	-								✓	-						
Carex breviculmis	Short-stem Sedge			+		+		-		1	1	1	-	-	✓					\vdash	
Cassytha glabella f. dispar	Slender Dodder-laurel			+		-			_	_	/	_	_		· ·				_	\vdash	
Cassytha glabella J. alspar Cassytha pubescens	Downy Dodder-laurel					+ -			•	<u> </u>	· /	<u> </u>	-					✓	·	\vdash	
	-				D.A.	·	✓				· *							*	•	_	✓
Centipeda cunninghamii	Common Sneezeweed	.,			RA	· ·	•			-	-	-	_							· •	
Centrolepis strigosa ssp. strigosa	Hairy Centrolepis	Y				· ·					-/	-/	· /			-/	-/		-/		
Chamaescilla corymbosa var. corymbosa	Blue Squill	Y		1		✓				V	_	✓ ✓	V		✓	✓	✓ ✓	✓	· /		-
Cheilanthes austrotenuifolia	Annual Rock-fern	Y		1		V	1		_	V	1	V	-		√		✓	·	✓		\longrightarrow
Cheiranthera alternifolia	Hand-flower				NT				✓	-	<u> </u>	-									
Clematis microphylla	Old Man's Beard			1							✓										
Comesperma volubile	Love Creeper			1	RA																
Convolvulus remotus	Grassy Bindweed					✓			✓									✓	✓		
Coronidium scorpioides	Button Everlasting					✓			✓	✓											
Correa decumbens	Spreading Correa				RA					✓	✓		✓	✓				✓	✓		
Crassula colorata var. colorata	Dense Crassula	Υ							✓	✓	✓		✓					✓			
Cyperus vaginatus	Stiff Flat-sedge													✓							
Cyrtostylis reniformis	Small Gnat-orchid	γ										✓									

Scientific Name	Common Name		Conserva	tion Status									Site								
Sciencific Name	Common Name	Annual	EPBC	NPWSA	AMLR	1	2	3	4	1 5	6	7	8	9	10	11	15	16	18	19	23
Daucus glochidiatus	Native Carrot	Y	Libe	IN WOR	AWILK	V -		V	√	1		,			10	✓	13	√	10	13	2.5
Daviesia brevifolia	Leafless Bitter-pea	<u> </u>			 					/	_										-
Daviesia leptophylla	Narrow-leaf Bitter-pea				 						✓										-
Dianella revoluta var. revoluta	Black-anther Flax-lily				1	✓		/	/	/	✓	✓			✓	_	✓	R	✓	_	-
Dichondra repens	Kidney Weed			+	+	+ -		-	<u> </u>	+ -	<u> </u>	·	_		·	· /	· /		· /		-
Dillwynia hispida	Red Parrot-pea			1	+	✓			1	+	_	<u> </u>	-		<u> </u>	<u> </u>	-	-	· ·		-
Dodonaea viscosa ssp. spatulata	Sticky Hop-bush				+	· /	_	✓	R	R	·	V	✓	D	✓	✓	R	R	√	_	-
Drosera auriculata	Tall Sundew	Y			1	· /	<u> </u>	<u> </u>	K	K	<u> </u>	<u> </u>	· /	K	<u> </u>	· /	K	ĸ			-
Drosera auriculata Drosera macrantha ssp. planchonii	Climbing Sundew	_		-	1	•				-		_	•			•	_		· /		-
		Y		1	1					-		· •	_				•		•		-
Drosera peltata s.str.	Swamp Sundew	Y				_				_			•			_					-
Drosera whittakeri	Scented Sundew	Y				· •										<u> </u>					_
Eclipta platyglossa ssp. platyglossa	Yellow Twin-heads					✓				_	/		✓								•
Epacris impressa	Common Heath					· ·					· ·		· ·								
Epilobium billardierianum ssp. billardierianum	Robust Willow-herb													✓	~						
Epilobium sp.	Willow-herb					_		,						· ·							
Eucalyptus camaldulensis ssp. camaldulensis	River Red Gum				NT	R	✓	✓		✓			√	R	✓	✓			✓	✓	
Eucalyptus cosmophylla	Cup Gum								✓				√					✓			
Eucalyptus fasciculosa	Pink Gum			Rare	NT	✓		√	1	V		V	✓				✓	R	V		
Eucalyptus leucoxylon ssp. leucoxylon	South Australian Blue Gum				NT				✓	✓	✓	✓		✓		√	R	R	✓	✓	
Eucalyptus obliqua	Messmate Stringybark					✓	✓		✓	✓	✓	✓	✓	✓	✓	✓					
Eucalyptus viminalis ssp. cygnetensis	Rough-bark Manna Gum				NT					✓				R	✓						
Euchiton involucratus	Star Cudweed								✓												
Euphorbia drummondii s.str.																				✓	
Exocarpos cupressiformis	Native Cherry								✓	✓		✓	✓	✓	✓			✓		✓	
Galium migrans	Loose Bedstraw				RA				✓								✓	✓			
Geranium retrorsum	Grassland Geranium									✓		✓		✓			✓	✓		✓	
Gonocarpus mezianus	Broad-leaf Raspwort																	✓	✓		
Gonocarpus tetragynus	Small-leaf Raspwort					✓					✓		✓			✓	✓	✓	✓		
Goodenia amplexans	Clasping Goodenia												✓	✓				✓	✓		
Goodenia blackiana	Native Primrose										✓						✓	✓			
Goodenia geniculata	Bent Goodenia					✓															
Goodia medicaginea	Western Golden-tip				RA													✓			
Grevillea lavandulacea ssp. lavandulacea	Spider-flower					✓					✓										
Hakea rostrata	Beaked Hakea				1				1	/	✓							√	✓		-
Hakea rugosa	Dwarf Hakea				NT												✓		✓		-
Haloragis sp.	Raspwort				141					 					✓						-
Hardenbergia violacea	Native Lilac				NT			R		/	✓				_		✓	✓	✓	_	-
Hibbertia crinita	Velvet-leaf Guinea-flower				NT					·							✓	✓		_	-
Hibbertia devitata	Smooth Guinea-flower				NT	_				+ -							-				-
Hibbertia exutiacies	Prickly Guinea-flower				INI	·				_		_			_		_	√	✓	_	-
Hibbertia riparia	Bristly Guinea-flower				+	·		✓	1	+ -	✓	-	✓				-		·		-
Hibbertia sericea	Silky Guinea-flower			+	NT	· /		-	·	+	<u> </u>		<u> </u>						· ·		-
Hyalosperma demissum	Dwarf Sunray	Y			INI	+ -				1		_	_								
• •	•	Y				/				1		<u> </u>	<u> </u>				✓	✓			
Hydrocotyle callicarpa	Tiny Pennywort	Y	<u> </u>		1	+ *				1			✓				,	•			
Hypericum gramineum	Small St John's Wort									_			•	-	_						-
Indigofera australis ssp. australis	Austral Indigo				NT					1					· ·						
Isolepis sp.						✓	√			1				✓							
Isopogon ceratophyllus	Horny Cone-bush									-	V										
Ixodia achillaeoides ssp. achillaeoides	Coast Ixodia					✓											✓				
Juncus pallidus	Pale Rush									1				✓							
Juncus sp.	Rush																		√		
Juncus subsecundus	Finger Rush													✓							
Kennedia prostrata	Scarlet Runner						✓									✓					
Lachnagrostis aemula	Blown-grass					✓															

Scientific Name	Common Name		Conserva	tion Status									Site								
		Annual		NPWSA	AMLR	1	2	3	4	5	6	7	8	9	10	11	15	16	18	19	23
Lagenophora gunniana	Coarse Bottle-daisy					✓	_	_			_		_	-							
Laxmannia orientalis	Dwarf Wire-lily	Υ											✓							-	-
Lepidosperma carphoides	Black Rapier-sedge									✓	✓									-	
Lepidosperma curtisiae	Little Sword-sedge				NT														✓		
Lepidosperma laterale	Tall Sword-sedge										✓							✓	√	✓	-
Lepidosperma semiteres	Wire Rapier-sedge					✓				✓	✓		✓			_				-	-
Leptoceras menziesii	Hare-orchid	Y											✓							-	
Leptospermum continentale	Prickly Tea-tree										_									-	
Leptospermum myrsinoides	Heath Tea-tree					·					<u> </u>		✓							\longrightarrow	-
Leucopogon virgatus var. virgatus	Common Beard-heath					-					_		<u> </u>							\longrightarrow	-
Lissanthe strigosa ssp. subulata	Peach Heath			+	NT	-					-							✓	√	+	
				Rare	RA													·	-	\longrightarrow	
Logania saxatilis Lomandra densiflora	Rock Logania Soft Tussock Mat-rush			Kare	KA													· /		✓	
		-		+							_							•		<u> </u>	-
Lomandra fibrata	Mount Lofty Mat-rush			+	NT	/		_			-		_						_	\longrightarrow	-
Lomandra micrantha ssp. micrantha	Small-flower Mat-rush							-	1					,				,	· /	\longrightarrow	
Lomandra multiflora ssp. dura	Hard Mat-rush					✓		✓	√	✓	✓	√	✓	✓				✓	·	\longrightarrow	
Luzula meridionalis	Common Wood-rush											✓								\longrightarrow	
Lysiana exocarpi ssp. exocarpi	Harlequin Mistletoe							✓						✓						\longrightarrow	
Lythrum hyssopifolia	Lesser Loosestrife	Y				✓	✓													\longrightarrow	
Melaleuca decussata	Totem-poles				NT	✓	✓	R	✓	✓	✓	✓	✓	R	✓						
Microlaena stipoides var. stipoides	Weeping Rice-grass									✓		✓		✓	✓	✓		✓			
Microtis arenaria	Notched Onion-orchid	Υ											✓								
Microtis sp.	Onion-orchid	Υ										✓			~	~					
Myoporum petiolatum	Sticky Boobialla				NT					✓	✓	✓	✓				>	>	✓	✓	
Myosotis australis	Austral Forget-me-not																✓				
Neurachne alopecuroidea	Fox-tail Mulga-grass					✓					✓		✓		✓				✓		
Olearia axillaris	Coast Daisy-bush												✓							✓	
Olearia ramulosa	Twiggy Daisy-bush					✓		R	✓	R	R	✓	✓	✓	✓	✓	R	✓	✓		
Opercularia turpis	Twiggy Stinkweed				NT						✓							✓	✓		
Opercularia varia	Variable Stinkweed					✓															
Oxalis perennans	Native Sorrel						✓					✓			✓	✓	✓	✓	✓	✓	
Patersonia fragilis	Short Purple-flag				VU									✓							
Patersonia occidentalis	Long Purple-flag				RA								✓							$\overline{}$	
Pelargonium australe	Austral Stork's-bill																	R		-	
Persicaria prostrata	Creeping Knotweed					✓	✓													✓	
Pheladenia deformis	Bluebeard Orchid	Y			NT								✓			✓				$\overline{}$	
Phragmites australis	Common Reed	<u> </u>		+										✓					√	$\overline{}$	
Pimelea humilis	Low Riceflower					✓							✓							-	
Pimelea linifolia ssp. linifolia	Slender Riceflower			+		✓														-	-
Pimelea octophylla	Woolly Riceflower			+						_	✓		✓							-	-
Platylobium obtusangulum	Holly Flat-pea					V					✓									-	
Pleurosorus rutifolius	Blanket Fern			+		· ·											✓			-	
Poa clelandii	Matted Tussock-grass			+								✓			✓					\longrightarrow	-
	Matted Tussock-grass			+					1			•			•					+	-
Poa sp. Poranthera microphylla	Small Boranthera	v		+					· ·	-	-		_				√			_	-
	Small Poranthera	Y		+	RA					-	-	-	· ·				•	✓		*	\dashv
Prostanthera behriana	Downy Mintbush			+	KA	_	✓	-		-	-			-/	-/			٧			
Pseudognaphalium luteoalbum	Jersey Cudweed	Υ				· ·	· ·							√	✓					·	✓
Pteridium esculentum ssp. esculentum	Bracken Fern											,	✓	٧						\longrightarrow	
Pterostylis nana	Dwarf Greenhood	Υ										✓								\longrightarrow	
Pterostylis pedunculata	Maroon-hood	Υ				V						√	√		√						
Pultenaea daphnoides	Large-leaf Bush Pea					V				√	V	✓			✓					√	
Pultenaea largiflorens	Twiggy Bush-pea					√			✓		✓						✓	✓	✓	✓	
Rytidosperma geniculatum	Kneed Wallaby-grass					✓															✓
Rytidosperma racemosum	Slender Wallaby-grass																✓				

Scientific Name	Common Name		Conserva	tion Status									Site								
		Annual	EPBC	NPWSA	AMLR	1	2	3	4	5	6	7	8	9	10	11	15	16	18	19	23
Rytidosperma setaceum	Small-flower Wallaby-grass								·												
Rytidosperma sp.	Wallaby-grass					✓	✓	✓							√	✓	✓	✓	✓		
Scaevola aemula	Fairy Fanflower				VU																
Scaevola albida	Pale Fanflower								1			✓					✓	✓	~		
Schoenus apogon	Common Bog-rush	Υ				✓					✓		✓								
Schoenus breviculmis	Matted Bog-rush										✓		√								
Senecio glomeratus ssp. glomeratus	Swamp Groundsel	Υ				✓				✓	✓	✓			✓						
Senecio hispidulus	Rough Groundsel	Y												✓	✓						
Senecio phelleus	Woodland Groundsel				NT									✓	√	✓					
Senecio picridioides	Purple-leaf Groundsel	Υ				✓				✓						✓		✓		✓	
Senecio quadridentatus	Cotton Groundsel					~	✓	~			✓	✓		✓	✓	✓	✓		✓	✓	
Senecio spanomerus																	✓	✓			
Sigesbeckia orientalis	Oriental Sigesbeckia				NT								✓	✓							
Siloxerus multiflorus	Small Wrinklewort	Υ							✓				✓								
Spyridium parvifolium	Dusty Miller				NT	✓	✓	✓	✓	✓	R	√	✓	√			✓	√	√	✓	
Spyridium spathulatum	Spoon-leaf Spyridium			Rare	RA					✓		✓	✓				R	R		✓	
Stackhousia monogyna	Creamy Candles	Υ				✓		~		✓	✓										
Stenanthera conostephioides	Flame Heath					✓															
Tetratheca pilosa	Hairy Pink-bells					✓					✓										
Thelymitra bracteata	Slender Sun-orchid	Υ			NT							✓									
Thelymitra rubra	Salmon Sun-orchid	Υ				✓										✓	✓		✓		
Thelymitra sp.	Sun-orchid	Υ										√	✓		√			✓			
Thysanotus patersonii	Twining Fringe-lily					✓		√	✓	✓	✓	✓	✓	✓		✓		✓			
Tricoryne elatior	Yellow Rush-lily	Υ			NT	✓															
Wahlenbergia stricta ssp. stricta	Tall Bluebell					✓			1		✓					✓					
Xanthorrhoea semiplana ssp. semiplana	Yacca					~	V			✓	✓	✓	V				~	✓	✓	✓	
Xanthosia huegelii	Hairy Xanthosia					✓					✓							✓			

Storage common assert April 1985 Storage Control Storage C				Con	servation S	tatus											Site													
March Name	Scientific name	Common name	Annual				24	25	26	27	29	30	31	32	33	34		40	41	42	43	44	45	46	Δ1	Δ2	A2h	Δ3	B1	B1b
Access presention: Access				2, 50	141 44 67 1	7411211																				/ 12	, , , ,	7.00		
Accordance (Section Section Se																		- "	- 11	- "	- "								-	√
Accordance Acc			1			NT	R	✓															R				✓		$\overline{}$	
Monte								R	✓	R	RO	R	R	R	R	R	R	✓	R	UR	R	R		R	R	√	✓	✓	_	-
Accordance Servi Watter March World							-		✓		-													-		✓			$\overline{}$	
Access entering Vernis Wester NA V V US US US US US US														✓																
Seesan Section of Common Processing Seesan						RA			√	U	UR		UR	UR	R		✓			✓		R	R						$\overline{}$	
According a process September Septem							✓	✓		✓	✓	✓			√	✓	√	✓				√	√	✓					\neg	
According problem According or Control According problem A										✓																				
According transfer of the control															✓															
Administration Common New York Amount Am	Acrotriche fasciculiflora					RA				V			✓		✓	√														
All Sections are selections as permanenteriors (a) musteriorisms (b) Miles	Acrotriche serrulata	Cushion Ground-berry								√	√	√	✓	√	√			✓		✓		√			✓		✓	√	V	
Milescoarring strong Soles Call blours Milescoarring strong	Adiantum aethiopicum	Common Maiden-hair								√																				
Milesseering strate Sanke Clark buth	Allocasuarina muelleriana ssp. muelleriana	Common Oak-bush					✓				✓		✓						R					✓	√					
## Annew mayer all manager all	Allocasuarina striata	Stalked Oak-bush				NT					✓		R				√	R	R	R	R			√						
### demonstration	Allocasuarina verticillata	Drooping Sheoak																							√				✓	
Antersopies membrane Common Vanilla-lay Artropopies uniform Common Vanilla-lay Autropopies uniform Autropopie	Amyema miquelii	Box Mistletoe						✓	~	~		√					√						✓	√						✓
Astrollers sumflum Caulierry Heath Astrollers and Seer grass Astrollers	Amyema preissii	Wire-leaf Mistletoe				NT												✓												
Authorstope authoring Au	Arthropodium strictum	Common Vanilla-lily	Y									_										√								
Authorsteips and Make Make Speer grass Authorsteips and Speer grass Authorstein and Spee	Astroloma humifusum	Cranberry Heath									✓	✓	_	√	✓		✓	~	✓	√	√									
Authorstope molifs	Austrostipa curticoma																		✓	√										
Authority in Section Authority in Section Authority in Section Authority in Section Authority Authorit	Austrostipa mollis										✓	✓	✓			✓			✓	✓										
Austracting as Speen grass	Austrostipa nodosa																		✓			√								
Reprof betwendtil	Austrostipa sp.																													
Repert betwenstelling	Austrostipa sp.	Spear-grass									✓				√															
Silluration symbols sp. opmosos Sweet Apple betry	Beyeria lechenaultii					NT		✓	✓		✓																			
Surchards unhelion	Billardiera cymosa ssp. cymosa												✓				✓													
Burthandia mileolita Millimaids Y	Billardiera sp.	Apple-berry											✓																	
Coesis collision	Burchardia umbellata	Milkmaids	Υ								✓		✓	✓				✓	~			✓								
Consider centroculate	Bursaria spinosa ssp. spinosa	Sweet Bursaria																												
Collistemon rugulosus Scarlet Bottlebrush	Caesia calliantha	Blue Grass-lily	Υ							✓																				
Common Fringe-myrtle Collyrin tetragona Common Fringe-myrtle Common Frin	Caladenia tentaculata	King Spider-orchid	Y										~	√		✓						√								
Common Finge-myrite Consystem pubsesers Consystem pubsesers Consystem pubsesers Downy Dodder-laurel Consystem pubsesers Down Dodder-laurel Consystem pubsesers Consystem pubse	Callistemon rugulosus	Scarlet Bottlebrush																		~										
Control tereticulis Auth Sedge Auth Sedg	Callistemon sieberi	River Bottlebrush				VU		✓	√												R									
Cares treaticulis Rush Sedge Cassytha pubescens Downy Dodder-laurel Cassytha pubescens Downy Dodder-laurel Dodder-laurel Dodder-laurel Dodder-laurel Processing aconymbasa var. corymbasa Processing aconymbasa var. corymbasa Dodder-laurel Processing aconymbasa var. corymbasa Processing aconymbasa Processing aconymbasa var. corymbasa Processing aconymbasa var. var. var. var. var. var. var. var	Calytrix tetragona	Common Fringe-myrtle											✓						^											
Cassytho glabellof, dispar Slender Dodder-laurel	Carex appressa	Tall Sedge						✓	✓																					
Cassyth app. Downy Dodder-laurel	Carex tereticaulis	Rush Sedge							✓																					
Cassytha sp. Cass	Cassytha glabella f. dispar	Slender Dodder-laurel															✓					~								
Chamaescilla corymbosa war. corymbosa Blue Squill Y V V V V V V V V V V V V V V V V V V	Cassytha pubescens	Downy Dodder-laurel											✓			✓		✓							✓					
Cheinanthes austrotenuifolia Annual Rock-fern Y NT V V V V V V V V V V V V V V V V V V	Cassytha sp.	Dodder-laurel																									~	√	V	
Cheminanics discriming Cheminanics Che	Chamaescilla corymbosa var. corymbosa	Blue Squill	Υ								✓			~		√			~											
Comesperma volubile Love Creeper Corres decumbens Spreading Corres Spreading Correa RA V V V Spreading Correa RA Sprea	Cheilanthes austrotenuifolia	Annual Rock-fern	Y				✓			✓		✓	✓					✓												
Corresperma volubile	Cheiranthera alternifolia	Hand-flower				NT					✓																			
Cornection Cor	Chrysocephalum apiculatum	Common Everlasting											√	✓																
Correa decumbers Spreading Correa RA V U V V V S S Spreading Correa Cryptandra tomentosa Heath Cryptandra Tall Scurf-pea RA RA V U V V V S S Spreading Correa RA Cryptandra tomentosa Heath Cryptandra Tall Scurf-pea RA RA RA V S S Spreading Correa RA V U V V V V S S Spreading Correa RA Cryptandra tomentosa Heath Cryptandra Tall Scurf-pea RA RA V S S S S S S S S S S S S S S S S S S	Comesperma volubile	Love Creeper																							√					
Cryptandra tomentosa	Coronidium (Helichrysum) scorpioides										✓											√							\rightarrow	
Cullen australasicum Tall Scurf-pea RA V RA	Correa decumbens					RA				✓	U	✓		✓											✓		✓		\longrightarrow	
Cymbopogon ambiguus Lemon-grass Stiff Flat-sedge Native Carrot Y Native Carrot Y Narrow-leaf Bitter-pea Dinavisia leptophylla Narrow-leaf Bitter-pea Narrow-leaf Na	Cryptandra tomentosa	Heath Cryptandra											✓																	
Cyperus variety Cyperus va	Cullen australasicum	Tall Scurf-pea				RA			✓																					
Journey Journey Sugnitudes Daviesia leptophylla Narrow-leaf Bitter-pea Dianella revoluta var. revoluta Black-anther Flax-lily V V V V V V V V V V V V V	Cymbopogon ambiguus	Lemon-grass				RA														√	√									
Daviesia leptophylla Narrow-leaf Bitter-pea	Cyperus vaginatus	Stiff Flat-sedge							✓																					
Dianella revoluta var. revoluta Black-anther Flax-lily V V V V V V V V V V V V V V V V V V V	Daucus glochidiatus		Y										✓				✓													
Dichondra repens Kidney Weed	Daviesia leptophylla											-																		
Dodonaea viscosa ssp. spatulata Dodonaea viscosa ssp. spatulata Sticky Hop-bush UR R V UR U UR U UR OR R R R R V V V V V V V V V V V V V V	Dianella revoluta var. revoluta	Black-anther Flax-lily					-			√	V	-	V				-	√				√			√		V			
Dodonaea viscosa ssp. spatulata Sticky Hop-bush UR R V UR U UR U UR OR V R R V V V V V V V V V V V V V V V	Dichondra repens						✓		✓			✓			✓		✓													
Dodonaea viscosa ssp. spatulata Sticky Hop-bush UR R V UR U UR U UR OR V R R V V V V V V V V V V V V V V V	Dillwynia hispida	Red Parrot-pea											✓																	
Drosera glanduligera Scarlet Sundew Y	Dodonaea viscosa ssp. spatulata							R	✓	UR										R			R		√	√	V	√	V	
	Drosera auriculata	Tall Sundew	Y				✓				√	✓	✓		√	√	✓	✓	√		✓	✓								
Drosera hookeri Pale Sundew Y NT V V V	Drosera glanduligera	Scarlet Sundew	Υ										✓																	
Property Investment III	Drosera hookeri	Pale Sundew	Υ			NT								✓	✓	✓														

			Con	servation S	tatus											Cito													
Colontific name	Common name	Annual				24	25	20	27	20	20	24	22	22	2.4	Site	40	//4	42	42	44	A.F.	0.0	A-1	2.2	An	А3	D4	D11-
Scientific name	Common name		EPBC	NPWSA	AMLR	24	25	26	27	29 ✓	30	31	32	33	34 ✓	39	40	41	42	43 ✓	44	45	46	A1	A2	A2b	A3	B1	B1b
Drosera pygmaea	Tiny Sundew	Y			NT	-				v		٧		-	*	-	-	\vdash	\rightarrow	٧			✓		_	$\overline{}$			
Eleocharis acuta	Common Spike-rush													\vdash	-	-	-	_	\rightarrow				Ľ		_				
Epacris impressa	Common Heath																	*					\vdash			,			
Eucalyptus camaldulensis ssp. camaldulensis	River Red Gum				NT	OR	OR	OR						\vdash	\longrightarrow				OR			OR	OR		✓	✓			
Eucalyptus cosmophylla	Cup Gum					~			✓			0				✓	✓	R		R			-					√	
Eucalyptus fasciculosa	Pink Gum			Rare	NT	✓		V	0		✓	V				OR	OR	R		R		✓	E	R		,		✓	
Eucalyptus leucoxylon ssp. leucoxylon	South Australian Blue Gum				NT			V			OR	V					✓						OR	>		~	√		
Eucalyptus obliqua	Messmate Stringybark					E		✓	0	E			0			✓	OR	0		R	OR		igspace					✓	
Eucalyptus viminalis ssp. cygnetensis	Rough-bark Manna Gum				NT		ER	OR															igsquare						
Eucalyptus viminalis ssp. viminalis	Manna Gum			Rare	VU	ER	✓	✓															$\perp \perp \perp \mid$						
Exocarpos cupressiformis	Native Cherry					√		✓	✓	✓		✓					✓						$\perp \perp \perp \mid$	✓			✓	✓	
Geranium retrorsum	Grassland Geranium					✓	✓				✓	✓										✓	✓			✓			
Gonocarpus mezianus	Broad-leaf Raspwort										√	✓				✓	✓							~				✓	
Gonocarpus tetragynus	Small-leaf Raspwort										U	✓	~	✓	✓	✓	✓		✓	^	✓			~					
Goodenia blackiana	Native Primrose																	√			√		\Box						
Goodenia geniculata	Bent Goodenia											✓											\Box						
Goodia medicaginea	Western Golden-tip				RA						✓																		
Grevillea lavandulacea ssp. lavandulacea	Spider-flower									✓		✓											\Box						
Hakea carinata	Erect Hakea									✓		✓											\vdash						\neg
Hakea rostrata	Beaked Hakea								✓			_				✓	_	✓					\vdash	√				✓	-
Hakea rugosa	Dwarf Hakea	1			NT	†						\vdash				✓		\vdash	-				\vdash						\neg
Hardenbergia violacea	Native Lilac	+			IVI																✓		$\vdash \vdash$						-
Hibbertia crinita	Velvet-leaf Guinea-flower	_			NT	/			_			_	_	✓		_		R	✓				\vdash						-
Hibbertia devitata	Smooth Guinea-flower				NT	V			✓	_	_	/	_	-		_	_	R	_		_		$\vdash \vdash$	_					-
	Prickly Guinea-flower				INI	R			<u> </u>		-	•	•			•	-	К					\vdash	·					-
Hibbertia exutiacies		_			NT	K ✓		-		✓	~				√				-				\vdash	-					-
Hibbertia sericea	Silky Guinea-flower				NT	•				,	•			\vdash	*	\vdash	-	\vdash	\rightarrow						_	_		_	-
Hibbertia sp.	Guinea-flower																				✓		-			•		•	
Hybanthus floribundus ssp. floribundus	Shrub Violet											_						R			٧								
Hydrocotyle callicarpa	Tiny Pennywort											٧	✓										✓						
Isolepis sp.																							· ·						
Isopogon ceratophyllus	Horny Cone-bush																		√		✓		-						
Ixodia achillaeoides ssp. achillaeoides	Coast Ixodia											✓						√		✓			igsquare						
Juncus pallidus	Pale Rush					✓	✓	✓															ш						
Juncus pauciflorus	Loose-flower Rush				NT	✓																✓	oxdot						
Juncus sp.	Rush																			✓		✓	✓						
Juncus subsecundus	Finger Rush																												
Kennedia prostrata	Scarlet Runner													✓	~	~	✓												
Lasiopetalum behrii	Pink Velvet-bush				VU											✓													
Laxmannia orientalis	Dwarf Wire-lily											✓											\Box						
Lepidosperma carphoides	Black Rapier-sedge																✓	✓					\Box					✓	
Lepidosperma curtisiae	Little Sword-sedge				NT							✓			✓								\Box						
Lepidosperma longitudinale	Pithy Sword-sedge				NT	✓	✓		✓						✓								\Box						
Lepidosperma semiteres	Wire Rapier-sedge								✓		✓	✓	✓	✓				✓	U	✓	U			✓					
Leptospermum myrsinoides	Heath Tea-tree	1									✓	U	U	✓	0	~	✓	UR	7	R			\vdash	√				✓	\neg
Lomandra micrantha ssp. micrantha	Small-flower Mat-rush	1									√		7		7		\neg	V					\vdash						\neg
Lomandra multiflora ssp. dura	Hard Mat-rush							✓	✓	✓	✓	✓	√			✓	✓						\vdash						\neg
Lomandra mana	Small Mat-rush											✓	✓	\vdash				\vdash					\vdash			\vdash			\dashv
Lythrum hyssopifolia	Lesser Loosestrife						_				_			\vdash	-		-+		-			_	✓						-
Melaleuca decussata	Totem-poles	+			NT		-				R	R		\vdash	✓	UR	R	_	UR	R		-	\vdash		-				_
Microlaena stipoides var. stipoides	Weeping Rice-grass	+	 	 	141	U	U	U	_	\vdash	rt.	r\		_	·	OK	ri.	-	UK	ri	_				\vdash	\vdash			\dashv
		v	 	 	 	0	U	0	· ·	_	√	_	_	-	·	\vdash	✓	\vdash	_		·		$\vdash \vdash$		\vdash	\vdash			-
Microtis sp.	Onion-orchid	Y			NIT	_			· ·	-	<u> </u>	-	•	•	•	\vdash	•	\vdash	*		•		$\vdash \vdash \vdash$		-	\vdash			-
Myoporum petiolatum	Sticky Boobialla	+	-	-	NT	*		-	-	\vdash		_	_	\vdash		\vdash		_	-+		_		$\vdash \vdash$		<u> </u>	\vdash			-
Neurachne alopecuroidea	Fox-tail Mulga-grass	1				_								<u> </u>			_	٧		_		-	⊢₌⊢	.,	-				
Olearia ramulosa	Twiggy Daisy-bush					R		✓	U	U	U	U	R	UR	✓	R	R			R	UR	R	R	~	٧	✓		✓	
Opercularia turpis	Twiggy Stinkweed				NT				✓	\vdash	✓	✓		\vdash		√		✓	✓	✓	,			,		\vdash			
Oxalis perennans	Native Sorrel	1				✓		✓		\sqcup		\square		\sqcup		igsquare	V	\sqcup			✓	✓	-	√					
Persoonia juniperina	Prickly Geebung				NT												✓						igsquare						
Phragmites australis	Common Reed					✓	✓															U	\Box						
Pimelea humilis	Low Riceflower					✓				✓	✓	✓	✓																
										✓																			

			Con	servation S	tatus											Site													
Scientific name	Common name	Annual	EPBC	NPWSA	AMLR	24	25	26	27	29	30	31	32	33	34	39	40	41	42	43	44	45	46	A1	A2	A2b	А3	B1	B1b
Pimelea octophylla	Woolly Riceflower													✓	✓													\neg	
Platylobium obtusangulum	Holly Flat-pea																	√			✓							\Box	
Poa clelandii	Matted Tussock-grass					✓	✓	✓																			\Box	$\overline{}$	\neg
Poranthera microphylla	Small Poranthera	Υ						✓				✓					√										\Box	\Box	
Pteridium esculentum ssp. esculentum	Bracken Fern					✓		U														✓						\Box	\neg
Pultenaea acerosa	Bristly Bush-pea																				✓						\Box	\Box	
Pultenaea daphnoides	Large-leaf Bush Pea								√												UR						\Box	\Box	
Pultenaea largiflorens	Twiggy Bush-pea																							✓			\Box	\Box	
Pyrorchis nigricans	Black Fire-orchid																				✓							\Box	
Rytidosperma geniculatum	Kneed Wallaby-grass																										\Box	\neg	✓
Rytidosperma sp.	Wallaby-grass							U			√			✓		√	~	√					~	✓			\Box	\neg	
Scaevola aemula	Fairy Fanflower																							✓				\Box	
Scaevola albida	Pale Fanflower										√																	\neg	
Schoenus apogon	Common Bog-rush										√	✓					✓		√									\Box	
Schoenus breviculmis	Matted Bog-rush																	✓	√								\Box	\Box	
Senecio phelleus	Woodland Groundsel				NT			√													✓								
Senecio picridioides	Purple-leaf Groundsel	Υ				✓		✓	✓		✓			✓			✓												
Senecio quadridentatus	Cotton Groundsel					✓		~						✓			✓				✓		✓					\Box	
Spyridium parvifolium	Dusty Miller				NT	✓			✓			~						V						V	V	~	✓	✓	
Spyridium spathulatum	Spoon-leaf Spyridium			Rare														UR	√					~				\Box	
Stenanthera conostephioides	Flame Heath									✓		~			~														
Stackhousia monogyna	Creamy Candles																				✓						\Box	\neg	
Stylidium graminifolium	Grass Trigger-plant											~															\Box	\neg	
Tetratheca pilosa	Hairy Pink-bells											~				V		V										\neg	
Thelymitra sp.	Sun-orchid	Υ										✓																	
Thysanotus patersonii	Twining Fringe-lily								✓		>	✓	~			✓	✓		>		✓								
Tricoryne elatior	Yellow Rush-lily	Υ			NT				✓			~	~																
Viola sp.								~																					
Vittadinia dissecta var. hirta	Dissected New Holland Daisy				RA												✓												
Vittadinia gracilis	Woolly New Holland Daisy																✓												
Wahlenbergia stricta ssp. stricta	Tall Bluebell																				✓								
Xanthorrhoea semiplana ssp. semiplana	Yacca					✓		✓				✓				R		✓	√		√	✓		✓				✓	
Xanthosia huegelii	Hairy Xanthosia																	✓											
																												\Box	
						O = ove	erstorey	dominar	nt, U = u	ndersto	rey don	ninant,	E = em	ergent:	species	, R = no	ted to b	e reger	nerating										

Introduced plant species recorded within each vegetation community – adapted from (T&M Ecologists 2019 and EBS Ecology 2022)

											Site								
Species	Common Name	Declared?	1	2	3	4	5	6	7	8	9	10	11	15	16	18	19	20	23
Acacia baileyana	Cootamundra Wattle	Deciarea.	-	1	1	_			1a			1	1	10		2	3	20	23
Acacia decurrens	Early Black Wattle			2	1				3			3	-			3	3		
Acacia iteaphylla	Flinders Ranges Wattle												1						
Agapanthus sp.	Tilliders Kanges Wattie			2	1			1	1a			1a	1			2			
Agave americana	Century Plant				1			1	10			10							
Ajave americana Aira cupaniana	Small Hair-grass	+	1a	1a	1a	1a	1a	1a		1a		2	1a	1a	1	1a	1a		
Arctotheca calendula	Cape Weed	1	14	1a	14	1a	Id	1a		14	1a		Id	14	1	1	1a		
Arctotis stoechadifolia	White Arctotis			1a	1a						1a					1			
Asparagus asparagoides f. asparagoides	Bridal Creeper	Declared	1a	1a	1a							1a	1a				1		
	Onion Weed	Declared	1a	18	1a			1				Ia	1a				1		
Asphodelus fistulosus Avena barbata	Bearded Oat			-	2	1-	1-		1-	1.	2	3		1-		2		-	
				1	2	1a	1a	1a	1a	1a	2			1a		2	2	1	
Bellardia latifolia	Red Bartsia			_	_	_	_	_	_	1	1a	1a				_			
Briza maxima	Large Quaking-grass			1a	1a	1a	1a	1a	1a	1a						2			
Briza minor	Lesser Quaking-grass							1a	1a	1a	1a	_				1a	_	1	<u> </u>
Bromus diandrus	Great Brome			1a	2	2		1a			3	1				1a	1		<u> </u>
Bromus hordaceus	Soft Brome										1								<u> </u>
Bromus rubens	Red Brome															1a			<u> </u>
Carduus tenuiflorus	Slender Thistle															1a			<u> </u>
Carpobrotus edulis ssp. edulis	Hottentot Fig															1			<u> </u>
Casuarina glauca	Grey Bulloak											1a							<u> </u>
Casuarina sp.																1a			
Cenchrus macrorus	African Feather-grass										1a								
Centaurea calcitrapa	Star Thistle										1								
Centaurium tenuiflorum	Branched Centaury							1a				1							<u> </u>
Cerastium glomeratum	Common Mouse-ear Chickweed			1		1a	1				1 a								
Chamaecytisus palmensis	Tree Lucerne								1a			1							
Chrysanthemoides monilifera ssp.	Barrage d	Deelessel	1		4-	4 -			4 -		_	4-	4-	4 -	4 -	_	_	4 -	4
monilifera	Boneseed	Declared	1a	1	1a	1a	1	1	1a	1	2	1a	1a	1a	1a	2	2	1a	1
Cirsium vulgare	Spear Thistle											1a			1		1a		1a
Conyza bonariensis	Flax-leaf Fleabane			1	1		1			1a	1a					1			2
Cortaderia selloana	Common Pampas Grass			1	1a														
Corymbia ficifolia	Red-flowering Gum			1															
Cotoneaster sp.					1a				1			1				1	1		
Cupressus sp.	Cypress Pine															2			
Cynodon dactylon	Couch																		1a
Cytisus scoparius	English Broom	Declared									1								
Disa bracteata	South African Weed Orchid		1	1a						1	<u> </u>		1						
Dittrichia graveolens	Stinkweed		1							-		1					1a		3
Echium candicans	Pride of Madeira											1							
Echium plantagineum	Salvation Jane	Declared		1	1	1				1	1	2				1a	1a		1

											Site								
Species	Common Name	Declared?	1	2	3	4	5	6	7	8	9	10	11	15	16	18	19	20	23
Ehrharta longiflora	Annual Veldt Grass			2	2	2		1a		1a	2	2			1	1a	1a		
Erodium botrys	Long Heron's-bill															1	1		
Erodium sp.																			1
Euphorbia maculata	Eyebane																		1
Euphorbia peplus	Petty Spurge			1a							1						1a		
Ficus carica	Edible Fig										1	1				1			
Fraxinus angustifolia ssp. angustifolia	Desert Ash	Declared	1									1a			1				
Freesia cultivar														1					
Fumaria capreolata	White-flower Fumitory				1a	1a			1		2	2				1			
Galium aparine	Cleavers					1		1	1a		1	1a			1	1a			
Gastridium phleoides	Nit-grass					1													
Genista monspessulana	Montpellier Broom	Declared	1		1			1		1	2	3							
Gomphocarpus cancellatus	Broad-leaf Cotton-bush				1	1					1	1				1	1a		
Gramineae sp.									3										
Hedera helix ssp. helix	Ivy								1a										
Heliotropium europaeum	Common Heliotrope																		1
Holcus lanatus	Yorkshire Fog										2	1 a							
Hypericum perforatum	St John's Wort																1	1	
Hypochaeris glabra	Smooth Cat's Ear		1 a	1 a			1a	1a								1 a			
Hypochaeris radicata	Rough Cat's Ear		1a	1a				1a		1a	1a	1a							1
lxia cultivar	Ixia		1a	1a	1a							1a							
Kickxia elatine ssp. elatine	Woody Toadflax			1													1		1a
Lactuca serriola f. serriola	Prickly Lettuce					1a													
Lamarckia aurea	Toothbrush Grass				1a		1												
Linum trigynum	French Flax															1			
Lolium sp.	Ryegrass										1								
Lysimachia arvensis	Pimpernel		1 a	1 a	1a	1a	1a	1a	2		2	2	1 a		1a	1a	1a		1
Medicago minima var. minima	Little Medic											1a							
Melaleuca armillaris	Bracelet Honey-myrtle											1					1		
Mentha pulegium	Pennyroyal			1															
Mentha spicata	Spearmint										1								
Moenchia erecta	Erect Chickweed			1															
Narcissus pseudonarcissus	Common Daffodil						1												
Oenothera stricta ssp. stricta	Evening Primrose															1			
Olea europaea ssp. europaea	Olive	Declared			1							1			1		1		
Oxalis pes-caprae	Soursob			3							1a				1a		1a		
Papaver sp.	Рорру										1								
Parthemocissus quinqueflora	Virginia Creeper					1													
Pelargonium sp.					1														
Pentameris airoides ssp. airoides	False Hair-grass															1			

											Site								
Species	Common Name	Declared?	1	2	3	4	5	6	7	8	9	10	11	15	16	18	19	20	23
Pentameris pallida	Pussytail Grass		1							1	1								1
Petrorhagia dubia	Velvet Pink															1			
Phalaris aquatica	Phalaris										1	1a							
Pinus halepensis	Aleppo Pine												4						
Pinus radiata	Radiata Pine		1	1	1				1					1a			3		
Pinus sp.												1							
Pittosporum undulatum	Sweet Pittosporum	Declared		1	1			1	1			1					1	1	
Plantago bellardii	Hairy Plantain																		1
Plantago lanceolata var. lanceolata	Ribwort			1a	1a				1		1a	1a				2			
Polypogon monspeliensis	Annual Beard-grass				1a		1a												
Populus nigra	Lombardy Poplar										3	1a							
Prunus sp.					1														
Rapistrum rugosum	Turnip Weed											1a							
Romulea rosea var. australis	Common Onion-grass														1a		1a		
Rosa canina	Dog Rose	Declared													1		1		
Rostraria cristata	Annual Cat's-tail										1a	1a							
Rubus sp.		Declared						1			3	3				2			
Salix sp.	Willow	Declared									2								
Salvia verbenaca var. verbenaca	Wild Sage										1						1		
Scabiosa atropurpurea	Pincushion				1	1	1				1	1 a	1 a			2			
Senecio pterophorus	African Daisy		1	1a	2	1a	1	1a	1a	1	2	2	1a	1		1a	1a	1	
Sherardia arvensis	Field Madder			1					1a		2		1a						
Silybum marianum	Variegated Thistle	Declared					1a		1a		2	1a				1			
Solanum nigrum	Black Nightshade										1	1			1		1		
Sonchus asper	Rough Sow-thistle					1					1								
Sonchus oleraceus	Common Sow-thistle				1a	1a	1	1a			1	1a	1a			1			
Trifolium angustifolium	Narrow-leaf Clover				1a	1a													
Trifolium arvense var. arvense	Hare's-foot Clover				1 a		1				1	1 a				1a	1a		
Trifolium campestre	Hop Clover			1a		1a					1a	1				1a	1a		
Urospermum picroides	False Hawkbit							1			1	1				1	1		
Verbascum virgatum	Twiggy Mullein				1						1	1					1a		
Vicia sativa	Common Vetch						1a	1			1	2					1		
Vulpia sp.	Fescue			1a				1			3	2				2	1a		
Watsonia meriana var. bulbillifera	Bulbil Watsonia	Declared	2																
Xanthium strumarium	Californian Burr																		1
Zaluzianskya divaricata	Spreading Night Phlox			1															
-					<u> </u>		<u> </u>		<u> </u>										<u> </u>
*Cover ratings: 1 = not many, cover<19	%; 1a = plentiful, low cover (<1%)); 2 = 1-5%; 3 = 6-2	5%; 4	= 26-5	0%; 5	= 51-	/5%;	6 = >7	5%.										

											Si	te														
Species	Common Name	Declared?	24	25	26	27	29	30	31	32	33	34	39	40	41	42	43	44	45	46	A1	A2	A2b	А3	B1	B1b
Acacia baileyana	Cootamundra Wattle	Decidica.									1	1a		1	1	1	1			1		712	,,_,			
Acacia decurrens	Early Black Wattle										1	1a		-	-									2	$\overline{}$	$\overline{}$
Agapanthus sp.							3			1	-								1					\vdash	-	\Box
Aira cupaniana	Small Hair-grass													1a	1a				_					\Box	-	\Box
Allium sp.	Wild onion																	1a	1					\vdash	-	\Box
Arctotheca calendula	Cape Weed							1	1a		2								-					\vdash	-	
Asparagus asparagoides f. asparagoides	Bridal Creeper	Declared		1a	1			1					1a	1					1	1				\vdash	-	1
Asphodelus fistulosus	Onion Weed		1a	1a				1						1					_					\Box	-	
Avena barbata	Bearded Oat		1a	3		1a	1a	2					1a	1a					2	3	1			\vdash	\rightarrow	4
Brassica tournefortii	Long-fruited Wild Turnip		- 10			- 10	- 20	-					10	- 20			1		2		-			\vdash	-	
Briza maxima	Large Quaking-grass			1a		1a			1a	1a		1a		1a					<u> </u>	1a				\vdash	$\overline{}$	$\overline{}$
Briza minor	Lesser Quaking-grass		1a	1a								10			1a						1			\vdash	-	
Bromus diandrus	Great Brome		- 10										1a		10				1a	3	1			\vdash	$\overline{}$	4
Bromus hordaceus	Soft Brome		2		2			1a				1a	10						1a	1a				\vdash	\rightarrow	
Catapodium rigidum	Rigid Fescue		-		-	1a						10							- 20	10				\vdash	\rightarrow	
Cenchrus (Pennisetum) sp.	rigio i escue			1		10											1		1		 	1		\vdash	\rightarrow	
Centaurea calcitrapa	Star Thistle		<u> </u>	-	<u> </u>			1a									-		1		<u> </u>	1		\vdash		
Chrysanthemoides monilifera ssp.	Stal Hilstie							10				1							-	-	-	-		\vdash	-	-
	Boneseed	Declared	1a	1	1	1	1	1	1a	1	1	1		1			1a	1			1	1	1	1	2	l .
monilifera Cirsium vulgare	Spear Thistle																		1	-	-	1			-	
Convza bonariensis	Flax-leaf Fleabane							1a											1	_		_		\vdash	-	
Cynosurus echinatus	Rough Dog's-tail Grass				1a			10											_	_	-	_		\vdash	$\overline{}$	-
Disa bracteata	South African Weed Orchid		1		1a				1	1a	1a	1-	1	1	1	1	1	1	1	1	-	-		\vdash	-	
Drosanthemum candens	Rodondo Creeper		1		14				1	14	14	1a	1	1	1	1	1	1	1	1				$\vdash \vdash$	-	
Echium plantagineum	Salvation Jane	Declared	2	3	2				1		1a			1					2					$\vdash \vdash$	-	
	Annual Veldt Grass	Declared		1	1a	1a		1			1a			1					1a	_	-	-		$\vdash \vdash$	$\overline{}$	1
Ehrharta longiflora Erica sp.	Erica			1	14	14		1	4		14								14		_			$\vdash \vdash$	$\overline{}$	
							4		1	-		2							-			-		$\vdash \vdash$	$\overline{}$	
Eucalyptus sp.	Planted non-indigenous Eucalypt				1-		1			2		2		1						1-				$\vdash \vdash$	-	
Euphorbia peplus	Petty Spurge Desert Ash			1	1a													1	-	1a	-	-		$\vdash \vdash$	$\overline{}$	
Fraxinus angustifolia ssp. angustifolia		Declared		_	4-														-	4-		-		\vdash	$\overline{}$	
Fumaria capreolata	White-flower Fumitory			1a	1a			_											2	1a	-	-		\vdash	$\overline{}$	_
Galium sp.	Galium					1		1						1a					1		-	-		$\vdash \vdash$	$\overline{}$	1
Galium aparine	Cleavers	D. d. d.		-	1									_					1a		-			${f m m m m m m m m m m m m m $	$\overline{}$	_
Genista linifolia	Flax-leaf Broom	Declared	_		_	_													-	_	-	1		$\vdash \vdash$	$\overline{}$	
Genista monspessulana	Montpellier Broom Broad-leaf Cotton-bush	Declared	2	1a	2														-		-	-		$\vdash \vdash$	$\overline{}$	
Gomphocarpus cancellatus	broad-lear Cotton-bush			1	-	_					1								-	_	-	-		$\vdash \vdash$	$\overline{}$	
Gramineae sp.																								$\vdash \vdash$		_
Holcus lanatus	Yorkshire Fog																		1		.			$\vdash \vdash$	$\overline{}$	3
Hypericum perforatum	St John's Wort		1a	1a	1a		4-	1a	4-		1a	-		1		1			1a	1	1	_		$\vdash \vdash$	$\overline{}$	
Hypochaeris glabra	Smooth Cat's Ear						1a		1a			1a					1							\vdash	\vdash	2
Hypochaeris radicata	Rough Cat's Ear				1			1a		1a								1a						$\vdash \vdash$	\longrightarrow	
lxia cultivar	Ixia															1								$\vdash \vdash$		
Juncus capitatus	Dwarf Rush													_					-			-		$\vdash \vdash$		-
Lagurus ovatus	Hare's Tail Grass																				_	-				1
Lolium sp.	Ryegrass		L .	<u> </u>	L .		L						L	L.		L.			-			-		-		
Lysimachia arvensis	Pimpernel		1a	1a	1a	1a	1a	1	1a		1a		1a	1a		1a	1a		-			-				
Malva parviflora	Small-flower Marshmallow																		1					igspace		
Mentha pulegium	Pennyroyal				1														1					-		
Moraea flaccida	One-leaf Cape Tulip	Declared										1a				1								-		
Oenothera stricta ssp. stricta	Evening Primrose													1a										igspace		
Olea europaea ssp. europaea	Olive	Declared	1								1		1a									1				

											Si	ite														
Species	Common Name	Declared?	24	25	26	27	29	30	31	32	33	34	39	40	41	42	43	44	45	46	A1	A2	A2b	A3	B1	B1b
Onopordum acaulon	Horse Thistle																					1				
Oxalis pes-caprae	Soursob		1a	2	1a													1a		1a						
Parentucellia latifolia	Red Bartsia								1a		1	1a				1										
Pentameris airoides ssp. airoides	False Hair-grass		1																							
Pentameris pallida	Pussytail Grass						1a		2		2			1a		1										
Petrorhagia dubia	Velvet Pink										1a															
Phalaris aquatica	Phalaris																									1
Pinus radiata	Radiata Pine						2				4	1					1a					1	4	1		
Pinus sp.								1				2														
Pittosporum undulatum	Sweet Pittosporum	Declared				1			1									1			1				1	
Plantago bellardii	Hairy Plantain												1a													
Plantago lanceolata var. lanceolata	Ribwort					1a								1		1			1a	2				<u> </u>		
Rosa canina	Dog Rose	Declared						1						1												
Rubus sp.		Declared														1						1				
Salvia verbenaca var. verbenaca	Wild Sage		1a																							
Scabiosa atropurpurea	Pincushion															1a				1						
Senecio pterophorus	African Daisy		2		1a	1		1a	1			1		1			1	1a	2	1a	1	1	1	1		
Silybum marianum	Variegated Thistle	Declared		1	1																					
Sonchus oleraceus	Common Sow-thistle					1a								1						1						
Sparaxis sp.	Sparaxis					1													1	1a						
Trifolium angustifolium	Narrow-leaf Clover										1								1a							
Trifolium arvense var. arvense	Hare's-foot Clover										1								1a							
Trifolium campestre	Hop Clover			1a	1a						1			1a		1a			1a	1a						
Trifolium sp.	Clover																									
Vicia sativa	Common Vetch							1a											1	1a						
Vulpia sp.	Fescue			1			1a			1a			1a													4
Zantedeschia aethiopica	White Arum Lily																		1							
			*Cover	ratings:	1 = not	many, o	over<19	%; 1a = p	lentiful,	, low cov	er (<1%); 2 = 1-9	5%; 3 = 6	5-25%; 4	= 26-509	%; 5 = 5:	1-75%; 6	= >75%).							

Appendix 6.

Flora species of conservation significance which occur within 5km of the areas of impact, identified using the EPBC Protected Matters and Nature Maps search tools.

Species in Bold are listed at "Known to Occur" by the EPBC PM Search Tool.

FAMILY NAME	SPECIES	COMMON NAME	NATIONAL RATING	STATE RATING
ADIANTACEAE	Anogramma leptophylla	Annual Fern		R
BLECHNACEAE	Blechnum nudum	Fishbone Water-fern		R
BLECHNACEAE	Blechnum wattsii	Hard Water-fern		R
CAMPANULACEAE	Lobelia pedunculata	White-flower Matted Pratia		V
CARYOPHYLLACEAE	Stellaria angustifolia ssp. tenella	Swamp Starwort		R
COMPOSITAE	Brachyscome diversifolia	Tall Daisy		E
COMPOSITAE	Coronidium gunnianum	Pale Everlasting		Е
COMPOSITAE	Lagenophora sublyrata	Slender Bottle-daisy		V
COMPOSITAE	Olearia pannosa ssp. pannosa	Silver Daisy-bush	VU	V
COMPOSITAE	Senecio pinnatifolius var. pinnatifolius			R
CRUCIFERAE	Cardamine gunnii	Spade-leaf Bitter-cress		V
CRUCIFERAE	Cardamine paucijuga	Annual Bitter-cress		R
CRUCIFERAE	Cardamine tenuifolia	Slender Bitter-cress		R
CYPERACEAE	Carex gunniana	Mountain Sedge		R
CYPERACEAE	Cladium procerum	Leafy Twig-rush		R
CYPERACEAE	Machaerina (Baumea) gunnii	Slender Twig-rush		R
CYPERACEAE	Machaerina laxa	Lax Twig-rush		R
CYPERACEAE	Schoenus discifer	Tiny Bog-rush		R
CYPERACEAE	Schoenus latelaminatus	Medusa Bog-rush		V
DENNSTAEDTIACEAE	Hypolepis dicksonioides	Downy Ground-fern	VU	
DENNSTAEDTIACEAE	Hypolepis rugosula	Ruddy Ground-fern		R
DROSERACEAE	Drosera praefolia	Early Sundew		R
ELATINACEAE	Elatine gratioloides	Waterwort		R
EUPHORBIACEAE	Phyllanthus calycinus	Snowdrop Spurge		R
GLEICHENIACEAE	Gleichenia microphylla	Coral Fern		R
GRAMINEAE	Amphibromus archeri	Pointed Swamp Wallaby-grass		R
GRAMINEAE	Austrostipa gibbosa	Swollen Spear-grass		R
GRAMINEAE	Austrostipa multispiculis	Many-flowered Spear-grass		R
GRAMINEAE	Deyeuxia densa	Heath Bent-grass		R
GRAMINEAE	Echinopogon ovatus	Rough-beard Grass		R
GRAMINEAE	Rytidosperma tenuius	Short-awn Wallaby-grass		R
GUTTIFERAE	Hypericum japonicum	Matted St John's Wort		R

FAMILY NAME	SPECIES	COMMON NAME	NATIONAL RATING	STATE RATING
HALORAGACEAE	Gonocarpus micranthus ssp. micranthus	Creeping Raspwort		R
HALORAGACEAE	Meionectes brownii	Swamp Raspwort		R*
JUNCACEAE	Juncus amabilis			V
JUNCACEAE	Juncus australis	Austral Rush		R
JUNCACEAE	Luzula flaccida	Pale Wood-rush		V
JUNCACEAE	Luzula ovata	Clustered Wood-rush		R
JUNCAGINACEAE	Cycnogeton alcockiae	Alcock's Water-ribbons		R
LABIATAE	Mentha diemenica	Slender Mint		R
LEGUMINOSAE	Acacia dodonaeifolia	Hop-bush Wattle		R
LEGUMINOSAE	Acacia gunnii	Ploughshare Wattle		R
LEGUMINOSAE	Acacia iteaphylla	Flinders Ranges Wattle		R
LEGUMINOSAE	Glycine latrobeana	Clover Glycine	VU	V
LEGUMINOSAE	Viminaria juncea	Native Broom		R
LENTIBULARIACEAE	Utricularia lateriflora	Small Bladderwort		V
LILIACEAE	Dianella longifolia var. grandis	Pale Flax-lily		R
LILIACEAE	Wurmbea latifolia ssp. vanessae	Broad-leaf Nancy		R
LILIACEAE	Wurmbea uniflora	One-flower Nancy		E
LOGANIACEAE	Logania saxatilis	Rock Logania		R
LOGANIACEAE	Phyllangium distylis	Tiny Mitrewort		R
MYRTACEAE	Eucalyptus dalrympleana ssp. dalrympleana	Candlebark Gum		R
MYRTACEAE	Eucalyptus fasciculosa	Pink Gum		R
MYRTACEAE	Eucalyptus pauciflora ssp. pauciflora	Snow Gum		V
MYRTACEAE	Eucalyptus viminalis ssp. viminalis	Manna Gum		R
ORCHIDACEAE	Caladenia behrii	Pink-lip Spider-orchid	EN	E
ORCHIDACEAE	Caladenia gladiolata	Bayonet Spider-orchid	EN	E
ORCHIDACEAE	Caladenia leptochila ssp. leptochila	Narrow-lip Spider-orchid		R
ORCHIDACEAE	Caladenia pusilla	Pigmy Caladenia		R
ORCHIDACEAE	Caladenia reticulata	Veined Spider-orchid		R
ORCHIDACEAE	Caladenia rigida	Stiff White Spider-orchid	EN	Е
ORCHIDACEAE	Caladenia vulgaris	Plain Caladenia		R
ORCHIDACEAE	Corybas expansus	Dune Helmet-orchid		V
ORCHIDACEAE	Corybas dentatus	Toothed Helmet-orchid	VU	E
ORCHIDACEAE	Diuris behrii	Behr's Cowslip Orchid		V
ORCHIDACEAE	Diuris brevifolia	Short-leaf Donkey-orchid		E
ORCHIDACEAE	Prasophyllum australe	Austral Leek-orchid		R
ORCHIDACEAE	Prasophyllum occultans	Hidden Leek-orchid		R
ORCHIDACEAE	Prasophyllum pallidum	Pale Leek-orchid	VU	R

FAMILY NAME	SPECIES	COMMON NAME	NATIONAL RATING	STATE RATING
ORCHIDACEAE	Prasophyllum pruinosum	Plum Leek-orchid	EN	E
ORCHIDACEAE	Pterostylis curta	Blunt Greenhood		R
ORCHIDACEAE	Pterostylis cucullata	Leafy Greenhood	VU	E
ORCHIDACEAE	Pterostylis foliata	Slender Greenhood		R
ORCHIDACEAE	Pterostylis sp. Rock ledges	Rock-ledge rufoushood		E
ORCHIDACEAE	Thelymitra aristata	Great Sun-orchid		E
ORCHIDACEAE	Thelymitra batesii			R
ORCHIDACEAE	Thelymitra carnea	Small Pink Sun-orchid		R
ORCHIDACEAE	Thelymitra cyanapicata	Blue Top Sun-orchid, Dark- tipped Sun-orchid	CE	E
ORCHIDACEAE	Thelymitra flexuosa	Twisted Sun-orchid		R
ORCHIDACEAE	Thelymitra grandiflora	Great Sun-orchid		R
ORCHIDACEAE	Thelymitra holmesii	Blue Star Sun-orchid		V
ORCHIDACEAE	Thelymitra hygrophila	Blue Star Sun-orchid	CE	E
ORCHIDACEAE	Thelymitra ixioides	Spotted Sun-orchid		E
ORCHIDACEAE	Thelymitra latifolia	Blue Star Sun-orchid		V
ORCHIDACEAE	Thelymitra peniculata	Blue Star Sun-orchid		V
OSMUNDACEAE	Todea barbara	King Fern		E
PORTULACACEAE	Montia australasica	White Purslane		R
PORTULACACEAE	Montia fontana ssp. chondrosperma	Waterblinks		V
PSILOTACEAE	Psilotum nudum	Skeleton Fork-fern		E
RHAMNACEAE	Spyridium daphnoides	Spoon-leaved Spyridium		R
RUTACEAE	Leionema hillebrandii	Mount Lofty Phebalium		R
SCROPHULARIACEAE	Gratiola pumilo	Dwarf Brooklime		R
SCROPHULARIACEAE	Mazus pumilio	Swamp Mazus		V
SCROPHULARIACEAE	Veronica derwentiana ssp. homalodonta	Mt Lofty Speedwell	CR	E
SCROPHULARIACEAE	Veronica gracilis	Slender Speedwell		V
UMBELLIFERAE	Oreomyrrhis eriopoda	Australian Carraway		E
UMBELLIFERAE	Xanthosia tasmanica	Southern Xanthosia		R
VIOLACEAE	Viola betonicifolia ssp. betonicifolia	Showy Violet		E