

# Native Vegetation Clearance

## Rockwella Farm Holsteins, New Dairy Development – Willow Creek

Clearance under the *Native Vegetation Regulations 2017*

20/11/2022

Prepared by Ecosphere Ecological Solutions



# Table of contents

1. Application information
2. Purpose of clearance
  - 2.1 Description
  - 2.2 Background
  - 2.3 General location map
  - 2.4 Details of the proposal
  - 2.5 Approvals required or obtained
  - 2.6 Native Vegetation Regulation
  - 2.7 Development Application information (if applicable)
3. Method
  - 3.1 Flora assessment
  - 3.2 Fauna assessment
4. Assessment outcomes
  - 4.1 Vegetation assessment
  - 4.2 Threatened Species assessment
  - 4.3 Cumulative impacts
  - 4.4 Addressing the Mitigation hierarchy
  - 4.5 Principles of clearance
  - 4.6 Risk Assessment
  - 4.7 NVC Guidelines
5. Clearance summary
6. Significant environmental benefit
7. Appendices
  - 7.1 Bushland, Rangeland or Scattered Tree Vegetation Assessment Scoresheets (to be submitted in Excel format).
  - 7.2 Flora Species List
  - 7.3 Fauna Species List
  - 7.4 SEB Management Plan (where applicable)

# 1. Application information

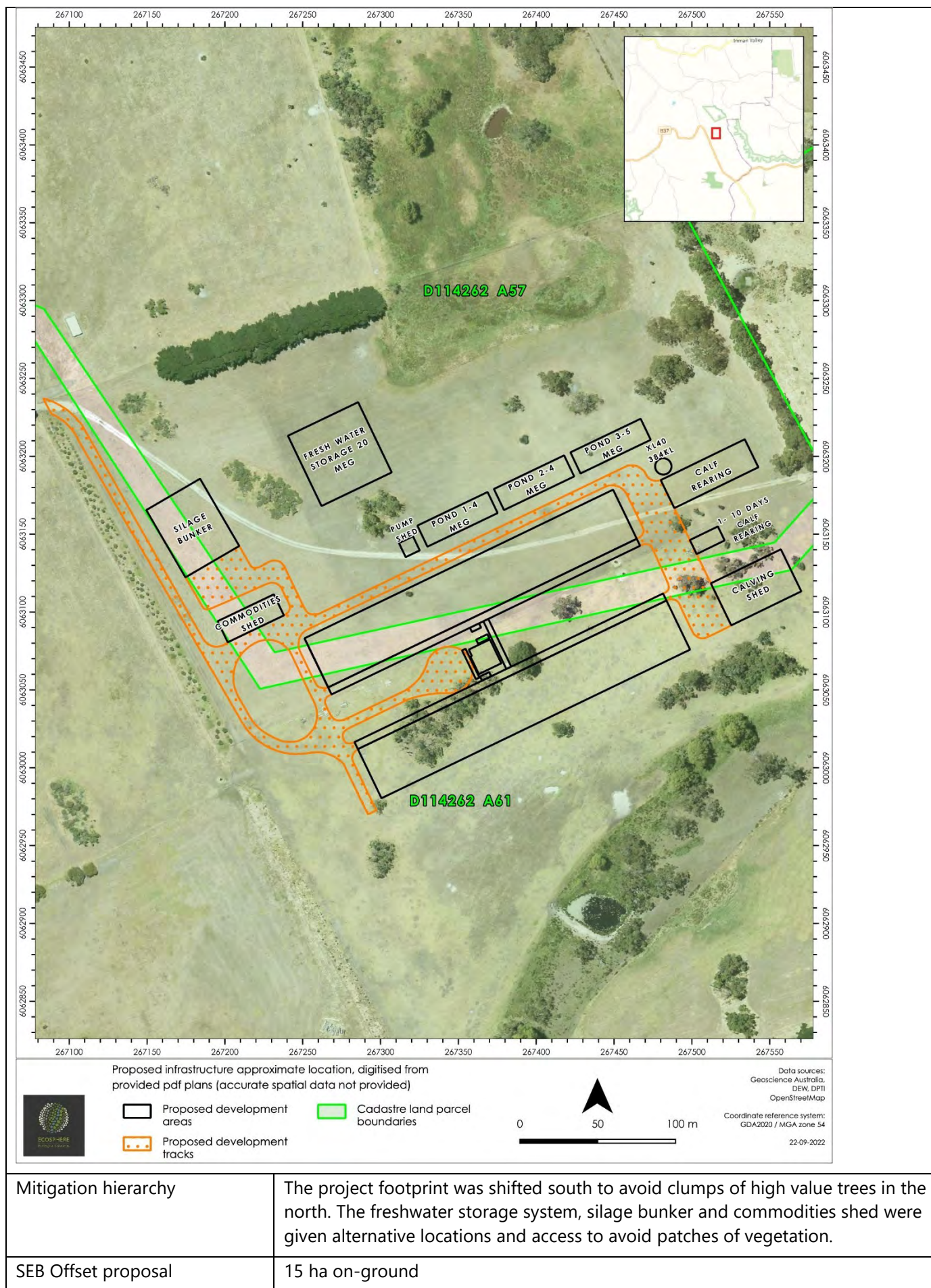
## Application Details

|                        |  |           |                              |
|------------------------|--|-----------|------------------------------|
| Applicant:             | [REDACTED]   |           |                              |
| Key contact:           | [REDACTED]<br>[REDACTED]<br>[REDACTED]               |           |                              |
| Landowner:             | Rockwella Farm Holsteins                             |           |                              |
| Site Address:          | 2381 Range Road, Willow Creek, South Australia, 5211 |           |                              |
| Local Government Area: | Yankalilla District Council                          | Hundred:  | Yankalilla,<br>Waitpinga     |
| Title ID:              | CT6194/149<br>CT6194/152                             | Parcel ID | D114262 AL57<br>D114262 AL61 |

## Summary of proposed clearance

|  |  |
|--|--|
| Purpose of clearance                                     | Clearance for the construction of two cow sheds and associated infrastructure.                                     |
| Native Vegetation Regulation                             | Regulation 12, Schedule 1, Clause 34 - Infrastructure  |
| Description of the vegetation under application          | <u><i>Eucalyptus baxteri</i> (Brown Stringybark) Woodland over <i>Xanthorrhoea semiplana</i> ssp. <i>tatei</i></u> |
| Total proposed clearance - area (ha) and number of trees | Under a refined layout, the removals were limited to 0.352 ha and 25 scattered trees.                              |
| Level of clearance                                       | Level 4  |
| Overlay (Planning and Design Code)                       | Native Vegetation Overlay  |





# 2. Purpose of clearance

## 2.1 Description

The proposed clearance is required for the construction of two cow barns and associated infrastructure including:

- Silage bunker
- Fresh water storage
- Three ponds
- Calf rearing area
- Calving shed
- Commodities shed

This new format dairying known as a total mixed ration (TMR) housed farming system involves the use of large barns which house the cows. The land surrounding the dairy and barn, previously grazed by the herd, would then be used to grow ryegrass pastures and crops which are fed back to the milking cows.

Significant environmental benefits are associated with this from a watercourse and vegetation perspective where traditional dairying causes impacts such as cows pugging up the ground around watercourses during wet periods and avoids nitrogen leaching (from cattle urine), phosphorus runoff (from cattle feces) and soil loss into waterways.

Vegetation patches within the farm currently are used as shelter by the cows and the impact to these areas as shown within this report is significantly degrading.

## 2.2 Background

The subject land comprises 2381 Range Road, Willow Creek - CT6194/149 and CT6194/152.

The allotment is currently used as a traditional dairy farm where cows are grazed over improved pastures.

Dependent on the outcome of this barn, future stages may also proceed.



## 2.4 General location map

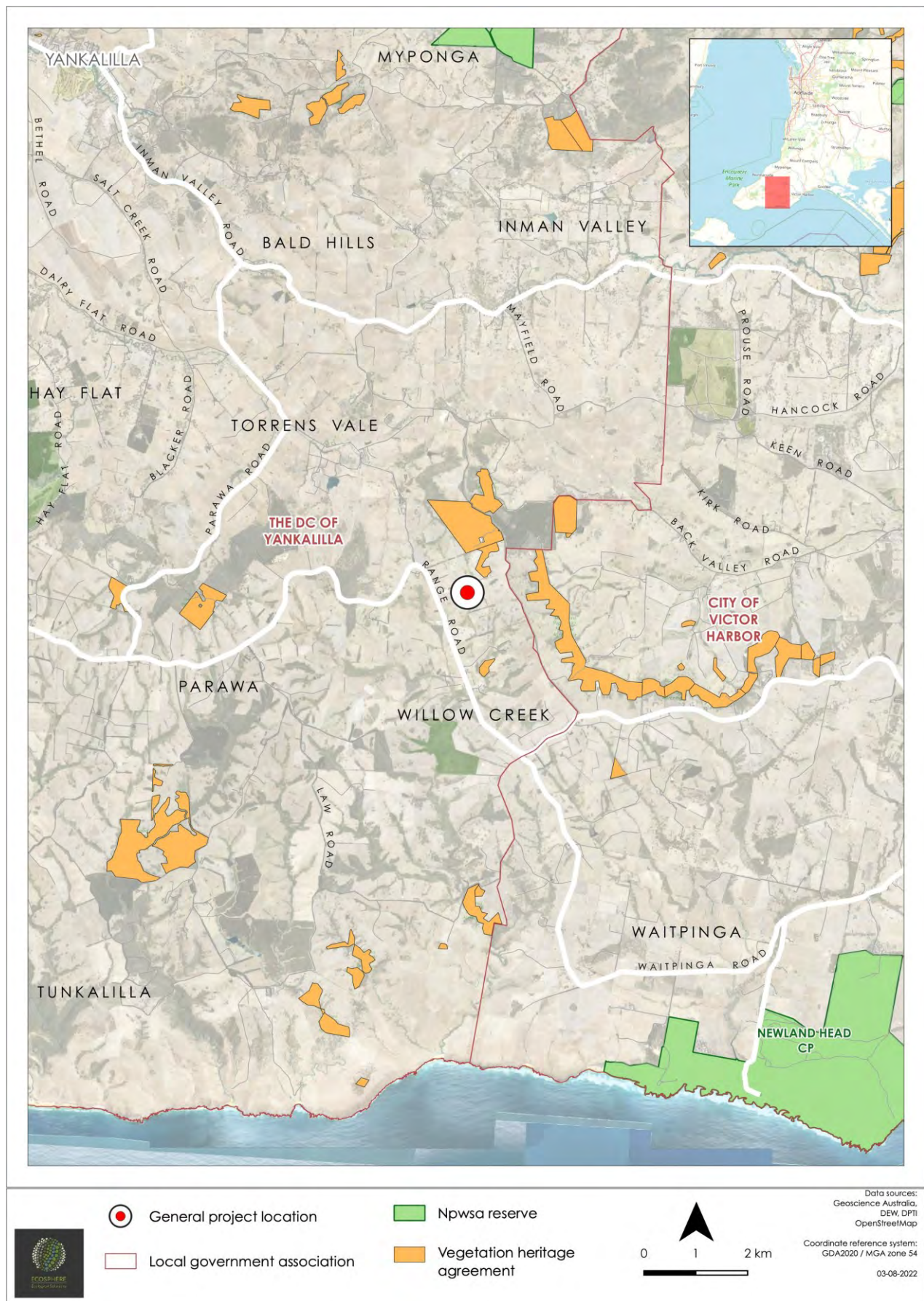


Figure 1. Location of Willow Creek project area on Range Road.



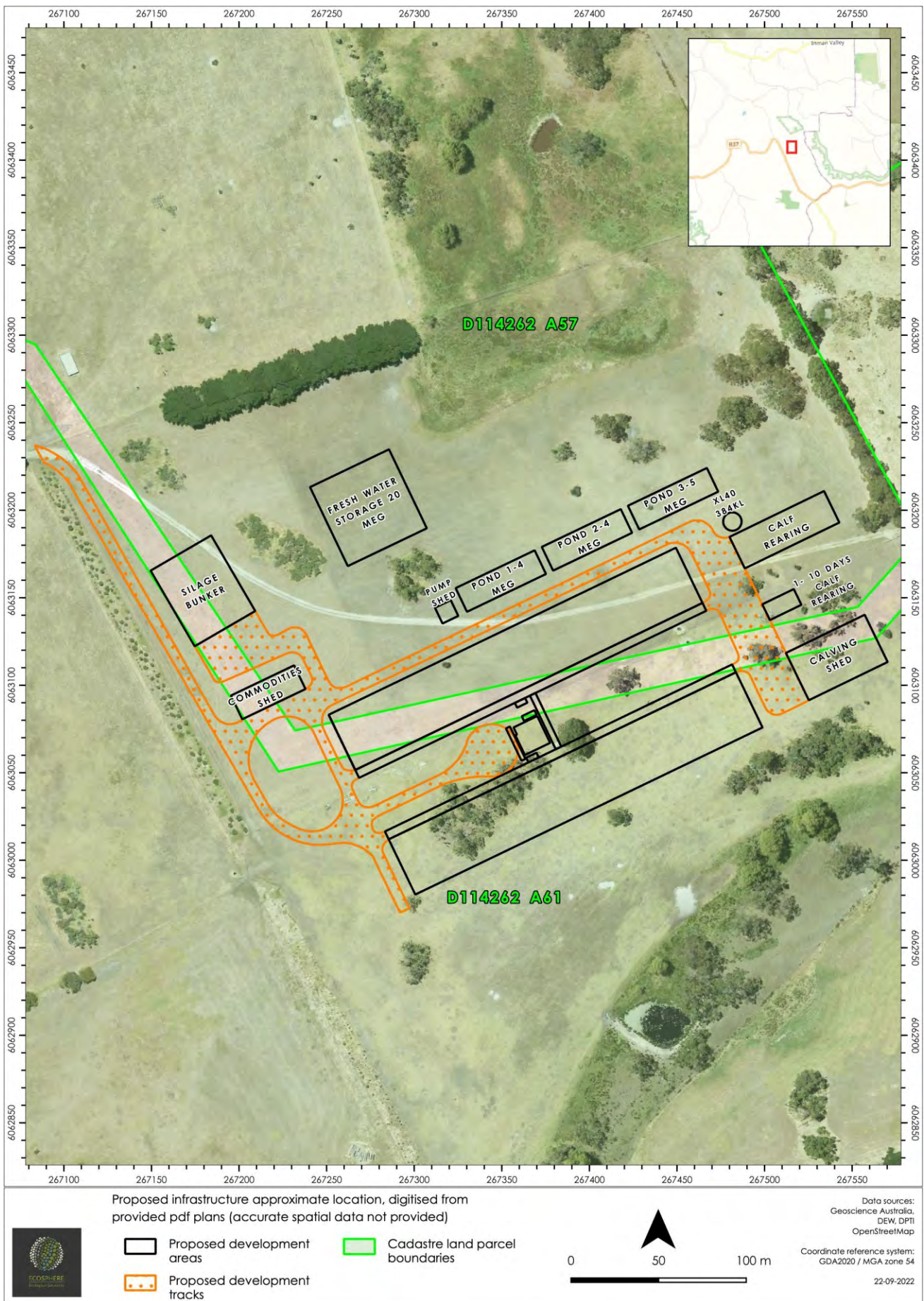


Figure 2. Location of project area footprint within property.



## Details of the proposal

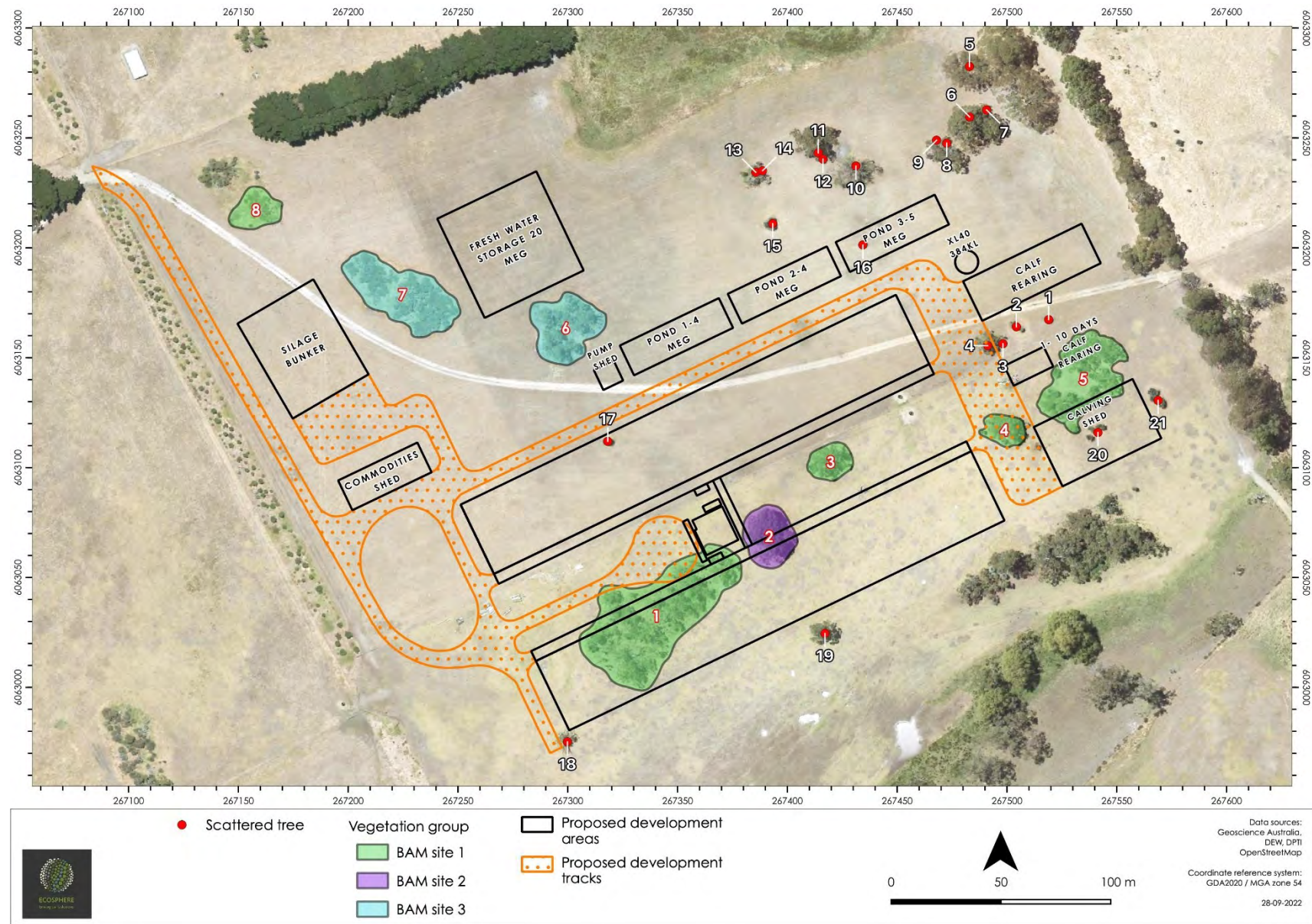


Figure 3. Cow barn project detail.



## **2.5 Approvals required or obtained**

South Australia

- *Native Vegetation Act 1991*, clearance of native vegetation under regulation.
- *Landscape South Australia Act 2019*
- *Planning Development and Infrastructure Act 2016*

## **2.6 Native Vegetation Regulation**

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

## **2.7 Development Application information (if applicable)**

Under the *Planning Development and Infrastructure Act 2016* the site is currently zoned Rural.

Overlays that apply to this allotment include:

- Environment and Food Production Area
- Hazards (Bushfire - High Risk)
- Hazards (Flooding - Evidence Required)
- Limited Land Division
- Native Vegetation
- Prescribed Water Resources Area
- State Significant Native Vegetation
- Water Resources

# 3. Method

## 3.1 Desktop study

### 3.1.1 Protected Matters Search Tool (PMST) – EPBC Act

The online Protected Matters Search Tool was used to determine MNES under the EPBC Act relevant to the Project area (DoEE 2020). The PMST is maintained by the Commonwealth Department of Agriculture Water and the Environment (DAWE) and was used to identify flora and fauna species or ecological communities of national environmental significance that may occur or likely to have suitable habitat within the Project areas. Nationally threatened species potentially occurring within the sites were identified from this source.

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

A Biological Database of South Australian (BDBSA) Supertable search was obtained from the South Australian Department for Environment and Water (DEW) on 02 August 2022 to identify flora and fauna species previously recorded within a 5 km buffer around the Project area (DEW 2020). The BDBSA is comprised of an integrated collection of corporate databases which meet DEWNR standards for data quality, integrity and maintenance. In addition to DEWNR biological data the BDBSA also includes data from partner organisations (Birds Australia, Birds SA, Australasian Wader Study Group, SA Museum, and other State Government Agencies). This data is included under agreement with the partner organisation for ease of distribution, but they remain owners of the data and should be contacted directly for further information.

### 3.1.3 Assessment of the likelihood of occurrence

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

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

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

## 3.2 Field Survey

The field survey was conducted on 01/08/2022 by NVC accredited ecologist Andrew Sinel. The field survey included a vegetation survey and fauna assessment.

### 3.2.1 Vegetation survey

A combination of the bushland assessment method and the scattered tree assessment method was used for this area dependent on the density of trees and the understorey.



Vegetation within the individual associations was surveyed for national, state and regionally significant flora species that occurred within the area. A ramble survey method was adopted (i.e., randomly walking through areas of vegetation, attempting to cover different topography and habitats) to ensure best coverage of the individual associations.

The following information is recorded for any threatened flora observed:

- Location and extent of any populations (hand-held GPS); and
- Vegetation association and additional habitat observations where relevant.

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

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

### **3.2.2 Fauna survey**

A focus of the on-ground fauna assessment was on avian species due to the availability of passive observations and low interference required as well as the overwhelming bias of avian species listed as threatened within the wider area. For more inconspicuous fauna species, opportunistic observations were recorded, or alternatively, the native vegetation within the project area buffer was assessed for fauna habitat value. Therefore, the likelihood of specific species occurring within the project footprint buffer was made based on the presence of suitable habitat and included:

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

# 4. Assessment Outcomes

## 4.1 Vegetation Assessment

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

The project site is located on a rolling hill landform and was a mixed sclerophyll woodland comprised of *Eucalyptus baxteri* (Stringybark), *E. cosmophylla* (Cup Gum) and *E. fasciculosa* (Pink Gum) woodland with the dominant overstorey species dependent on elevation and soil type.

The vegetation was heavily modified due to agricultural use but has extensive areas of remnant vegetation some of which is under heritage agreement within the property.

The project involves several components and is located on a hill with the cow barns positioned on a high point. The level of cut and fill has not been determined through construction drawings at this stage and therefore a 10 metre buffer was added to the footprint to allow for this as well as 10m asset protection buffer for building components.


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

The eight patches within the project area were represented by three vegetation associations. These were largely defined by the overstorey composition and the understory density. They were all in poor health generally, largely due to pugging from cattle. There was a lack of understory except for Yaccas however these were the state rated rare subspecies 'tatei'.


Table 2. Vegetation Associations.

| Assoc # | Description   | Area (ha) | Clearance Area (ha) |
|---------|---|-----------|---------------------|
| 1       | <i>Eucalyptus baxteri</i> over <i>Xanthorrhoea</i> ssp. <i>tateana</i> present as sparsely scattered shrubs | 0.399     | 0.299               |
| 2       | <i>Eucalyptus baxteri</i> / <i>Acacia melanoxylon</i> Woodland over exotic grassland                        | 0.053     | 0.053               |
| 3       | <i>Eucalyptus baxteri</i> over <i>Xanthorrhoea</i> ssp. <i>tateana</i> present as densely scattered shrubs  | 0.19      | 0.000               |
| Total   |   | 0.642     | 0.352               |




|   |  |                            |       |                                 |      |
|---|--|----------------------------|-------|---------------------------------|------|
| Vegetation Association 1  | <i>Eucalyptus baxteri</i> over <i>Xanthorrhoea ssp. tateana</i>  |                            |       |                                 |      |
|  |  |                            |       |                                 |      |
| General description   | Patches of <i>E. baxteri</i> trees of advanced age with Yacca understorey in varying degrees of degradation. Most other understorey dominated by Kikuyu. Some yaccas persisting and others in varying stages of defoliation. |                            |       |                                 |      |
| Threatened species or community   | Not a threatened community but <i>Xanthorrhoea semiplana ssp. tatei</i> Yaccas are rated rare in SA.   |                            |       |                                 |      |
| Landscape context score   | 1.13   | Vegetation Condition Score | 8.73  | Conservation significance score | 1.14 |
| Unit biodiversity Score   | 11.25  | Area (ha)                  | 0.399 | Total biodiversity Score        | 4.49 |



|   |  |   |       |                                 |      |
|---|--|---|-------|---------------------------------|------|
| Vegetation Association<br>2   | <i>Eucalyptus baxteri</i> / <i>Acacia melanoxylon</i> Woodland over exotic grassland |   |       |                                 |      |
| DIRECTION<br>NE (T)   |  | 54s 267412<br>6063025   |       | ACCURACY 32 m<br>DATUM GDA2020  |      |
|  |  |   |       |                                 |      |
| WC021/8/2022  |  |   |       |                                 |      |
| General description   |  | Single patch where mix of Blackwood and Stringybark was remnant within paddock. |       |                                 |      |
| Threatened species or community   |  | Not ta threatened community.  |       |                                 |      |
| Landscape context score   | 1.13   | Vegetation Condition Score  | 8.73  | Conservation significance score | 1.10 |
| Unit biodiversity Score   | 10.85  | Area (ha)   | 0.053 | Total biodiversity Score        | 0.58 |



|   |   |                            |       |                                 |      |
|---|---|----------------------------|-------|---------------------------------|------|
| Vegetation Association 3  | <i>Eucalyptus baxteri</i> over <i>Xanthorrhoea</i> ssp. <i>tateana</i> present as densely scattered shrubs  |                            |       |                                 |      |
|  |   |                            |       |                                 |      |
| General description   | Patches of stringybark woodland where the yaccas were still providing a large [portion of the understory cover. Ground was highly degraded through pugging. |                            |       |                                 |      |
| Threatened species or community   | Not a threatened community.   |                            |       |                                 |      |
| Landscape context score   | 1.13  | Vegetation Condition Score | 10.32 | Conservation significance score | 1.14 |
| Unit biodiversity Score   | 13.29   | Area (ha)                  | 0.19  | Total biodiversity Score        | 2.53 |

### Scattered trees


Sixty-five scattered trees were recorded within the original footprint and following refinement of the layout, this was reduced to 25 scattered trees. The removals are summarised below in Table 3. For maps showing locations of individual patches and scattered trees see Figure 4.


Table 3. Scattered tree assessment summary.

| ID | Species                       | Number of Trees | Subject to NV Act | Height (m) | Diameter (cm) | Dieback (%) | Remove |
|----|-------------------------------|-----------------|-------------------|------------|---------------|-------------|--------|
| 1  | <i>Xanthorrhoea semiplana</i> | 1               | Y                 | 3          | 46            | 0           | N      |
| 2  | <i>Xanthorrhoea semiplana</i> | 4               | Y                 | 3          | 55            | 5           | Y      |
| 3  | <i>Xanthorrhoea semiplana</i> | 1               | Y                 | 2          | 55            | 5           | Y      |
| 4  | <i>Eucalyptus baxteri</i>     | 1               | Y                 | 9          | 92            | 35          | Y      |
| 5  | <i>Eucalyptus fasciculosa</i> | 11              | Y                 | 12         | 40.3          | 5           | N      |


| ID | Species                       | Number of Trees | Subject to NV Act | Height (m) | Diameter (cm) | Dieback (%) | Remove |
|----|-------------------------------|-----------------|-------------------|------------|---------------|-------------|--------|
| 6  | <i>Eucalyptus baxteri</i>     | 1               | Y                 | 13         | 89            | 20          | N      |
| 7  | <i>Xanthorrhoea semiplana</i> | 4               | Y                 | 3          | 55            | 0           | N      |
| 8  | <i>Eucalyptus baxteri</i>     | 1               | Y                 | 8          | 64            | 0           | N      |
| 9  | <i>Xanthorrhoea semiplana</i> | 5               | Y                 | 3          | 50            | 0           | N      |
| 10 | <i>Eucalyptus baxteri</i>     | 1               | Y                 | 13         | 81            | 70          | N      |
| 11 | <i>Eucalyptus baxteri</i>     | 1               | Y                 | 12         | 105           | 0           | N      |
| 12 | <i>Xanthorrhoea semiplana</i> | 2               | Y                 | 3          | 50            | 0           | N      |
| 13 | <i>Eucalyptus baxteri</i>     | 2               | Y                 | 6          | 44            | 70          | N      |
| 14 | <i>Xanthorrhoea semiplana</i> | 5               | Y                 | 3          | 50            | 0           | N      |
| 15 | <i>Xanthorrhoea semiplana</i> | 5               | Y                 | 3          | 50            | 0           | N      |
| 16 | <i>Xanthorrhoea semiplana</i> | 1               | Y                 | 3          | 60            | 0           | Y      |
| 17 | <i>Xanthorrhoea semiplana</i> | 1               | Y                 | 4          | 66            | 0           | Y      |
| 18 | <i>Xanthorrhoea semiplana</i> | 6               | Y                 | 3          | 55            | 5           | Y      |
| 19 | <i>Eucalyptus fasciculosa</i> | 1               | Y                 | 8          | 40            | 5           | N      |
| 20 | <i>Xanthorrhoea semiplana</i> | 5               | Y                 | 3          | 50            | 0           | Y      |
| 21 | <i>Xanthorrhoea semiplana</i> | 6               | Y                 | 3          | 50            | 0           | Y      |
|    | 65                            | 25              |                   |            |               |             | 8      |





|   |  |
|---|--|
| Tree/Cluster ID 1   |  |
| <i>Xanthorrhoea semiplana</i> ssp. <i>tateana</i>           |  |
| Number of trees – 1   |  |
| Height (m) – 3.0  |  |
| Hollows – 0   |  |
| Diameter (cm) – 46  |  |
| Canopy dieback (%) – 0                                      |  |
| Total Biodiversity Score – 0.58                             |  |
| Single yacca, to be retained to south of calf rearing shed. |  |


|  |   |
|--|---|
| Tree/Cluster ID 2  |  |
| <i>Xanthorrhoea semiplana</i> ssp. <i>tateana</i>                              |   |
| Number of trees – 4  |   |
| Height (m) – 3.0   |   |
| Hollows – 0  |   |
| Diameter (cm) – 55   |   |
| Canopy dieback (%) – 5   |   |
| Total Biodiversity Score – 2.48  |   |
| Clump of 4 multi branched yaccas to be retained to south of calf rearing shed. |   |




|  |  |
|--|--|
| Tree/Cluster ID 3  |  |
| <i>Xanthorrhoea semiplana</i> ssp. <i>Tateana</i>  |  |
| Number of trees – 1  |  |
| Height (m) – 2.0   |  |
| Hollows – 0  |  |
| Diameter (cm) – 55   |  |
| Canopy dieback (%) – 5   |  |
| Total Biodiversity Score – 0.51  |  |
| Tree and Yacca proposed to be located on edge of access road pad. Yacca should be fine, tree may not. Offset as part of project. |  |

|   |   |
|---|---|
| Tree/Cluster ID 4   |  |
| <i>Eucalyptus baxteri</i>   |   |
| Number of trees – 1   |   |
| Height (m) – 9.0  |   |
| Hollows – 2 small   |   |
| Diameter (cm) – 92  |   |
| Canopy dieback (%) – 35   |   |
| Total Biodiversity Score – 2.34   |   |
| Tree proposed to be located on edge of access road pad. Will retain this tree however the level of cut and fill is unknown and may cause part burial of trees as part of construction and ongoing health and longevity of tree impact unknown so offset as part of project. |   |


|  |  |
|--|--|
| Tree/Cluster ID 5  |  |
| <i>Eucalyptus fasciculosa</i>  |  |
| Number of trees – 11   |  |
| Height (m) – 12.0  |  |
| Hollows – 0  |  |
| Diameter (cm) – 40.3   |  |
| Canopy dieback (%) – 5   |  |
| Total Biodiversity Score – 15.76   |  |
| Cluster of Pink Gums, previously impacted as part of preliminary layout and now well outside footprint. No clearance required. |  |

|  |   |
|--|---|
| Tree/Cluster ID 6  |  |
| <i>Eucalyptus baxteri</i>  |   |
| Number of trees – 1  |   |
| Height (m) – 13.0  |   |
| Hollows – 0  |   |
| Diameter (cm) – 89   |   |
| Canopy dieback (%) – 20  |   |
| Total Biodiversity Score – 3.51  |   |
| Cluster of E. baxteri. realignment of pond was undertaken to avoid impact. |   |





|   |  |
|---|--|
| Tree/Cluster ID 7                                 |  |
| <i>Xanthorrhoea semiplana</i> ssp. <i>Tateana</i> |  |
| Number of trees – 4                               |  |
| Height (m) – 3.0                                  |  |
| Hollows – 0                                       |  |
| Diameter (cm) – 55                                |  |
| Canopy dieback (%) – 0                            |  |
| Total Biodiversity Score – 3.89                   |  |


Yaccas at base of tree 6, realignment of pond was undertaken to avoid impact.


|  |  |
|--|--|
| Tree/Cluster ID 8  |  |
| <i>Eucalyptus baxteri</i>  |  |
| Number of trees – 1  |  |
| Height (m) – 8.0   |  |
| Hollows – 0  |  |
| Diameter (cm) – 64   |  |
| Canopy dieback (%) – 0   |  |
| Total Biodiversity Score – 1.98  |  |
| Older tree associated with pond alignment, realignment of pond was undertaken to avoid impact. |  |




|   |  |
|---|--|
| Tree/Cluster ID 9                                 |  |
| <i>Xanthorrhoea semiplana</i> ssp. <i>Tateana</i> |  |
| Number of trees – 5                               |  |
| Height (m) – 3.0                                  |  |
| Hollows – 0                                       |  |
| Diameter (cm) – 50                                |  |
| Canopy dieback (%) – 0                            |  |
| Total Biodiversity Score – 3.06                   |  |
| Bunch of yaccas at base of previous tree.         |  |


|   |   |
|---|---|
| Tree/Cluster ID 10  |  |
| <i>Eucalyptus baxteri</i>   |   |
| Number of trees – 1   |   |
| Height (m) – 13.0   |   |
| Hollows – 0   |   |
| Diameter (cm) – 81  |   |
| Canopy dieback (%) – 70   |   |
| Total Biodiversity Score – 1.42   |   |
| Large tree with significant dieback and regeneration from epicormic growth. Poor condition. Outside footprint |   |

|  |  |
|--|--|
| Tree/Cluster ID 11   |  |
| <i>Eucalyptus baxteri</i>  |  |
| Number of trees – 1  |  |
| Height (m) – 12.0  |  |
| Hollows – 0  |  |
| Diameter (cm) – 105  |  |
| Canopy dieback (%) – 0   |  |
| Total Biodiversity Score – 4.06  |  |
| E. baxteri in moderate health. Highly disturbed by cattle impact around root zone. Outside of footprint following realignment. |  |


|  |   |
|--|---|
| Tree/Cluster ID 12   |  |
| <i>Xanthorrhoea semiplana ssp. Tateana</i>   |   |
| Number of trees – 2  |   |
| Height (m) – 3.0   |   |
| Hollows – 0  |   |
| Diameter (cm) – 50   |   |
| Canopy dieback (%) – 0   |   |
| Total Biodiversity Score – 1.22  |   |
| Two <i>Xanthorrhoea semiplana ssp. Tateana</i> beneath <i>Eucalyptus baxteri</i> (tree 16). No impact following realignment. |   |





|   |  |
|---|--|
| Tree/Cluster ID 13  |  |
| <i>Eucalyptus baxteri</i>   |  |
| Number of trees – 2   |  |
| Height (m) – 6.0  |  |
| Hollows – 0   |  |
| Diameter (cm) – 44  |  |
| Canopy dieback (%) – 70   |  |
| Total Biodiversity Score – 0.73   |  |
| E. baxteri in moderate health. Highly disturbed by cattle impact around root zone. No impact following realignment. |  |


|   |   |
|---|---|
| Tree/Cluster ID 14  |  |
| <i>Xanthorrhoea semiplana ssp. Tateana</i>                              |   |
| Number of trees – 5   |   |
| Height (m) – 3.0  |   |
| Hollows – 0   |   |
| Diameter (cm) – 50  |   |
| Canopy dieback (%) – 0  |   |
| Total Biodiversity Score – 3.06   |   |
| Clump of yaccas beneath previous tree. No impact following realignment. |   |




|  |  |
|--|--|
| Tree/Cluster ID 15   |  |
| <i>Xanthorrhoea semiplana ssp. Tateana</i>   |  |
| Number of trees – 5  |  |
| Height (m) – 3.0   |  |
| Hollows – 0  |  |
| Diameter (cm) – 50   |  |
| Canopy dieback (%) – 0   |  |
| Total Biodiversity Score – 3.06  |  |
| Clump of yaccas, highly disturbed but remain semi-intact. No impact following realignment. |  |


|   |  |
|---|--|
| Tree/Cluster ID 16  |  |
| <i>Xanthorrhoea semiplana ssp. Tateana</i>                                      |  |
| Number of trees – 1   |  |
| Height (m) – 3.0  |  |
| Hollows – 0   |  |
| Diameter (cm) – 60  |  |
| Canopy dieback (%) – 0  |  |
| Total Biodiversity Score – 1.03   |  |
| Single yacca paddock tree located within realigned pond location. To be removed |  |


|   |  |
|---|--|
| Tree/Cluster ID 17  |  |
| <i>Xanthorrhoea semiplana</i> ssp. <i>Tateana</i>             |  |
| Number of trees – 1   |  |
| Height (m) – 4.0  |  |
| Hollows – 0   |  |
| Diameter (cm) – 66  |  |
| Canopy dieback (%) – 0  |  |
| Total Biodiversity Score – 1.30                               |  |
| Single Yacca paddock tree, located within cow barn footprint. |  |

|  |  |
|--|--|
| Tree/Cluster ID 18   |  |
| <i>Xanthorrhoea semiplana</i> ssp. <i>Tateana</i>  |  |
| Number of trees – 6  |  |
| Height (m) – 3   |  |
| Hollows – 0  |  |
| Diameter (cm) – 55   |  |
| Canopy dieback (%) – 5   |  |
| Total Biodiversity Score – 3.72  |  |
| Clump of yaccas, highly disturbed but remain semi-intact. Level of cut and fill required for cow barn is unknown at this point however falls within 10m construction buffer so offset. |  |



|   |  |
|---|--|
| Tree/Cluster ID 19  |  |
| <i>Eucalyptus fasciculosa</i>   |  |
| Number of trees – 1   |  |
| Height (m) – 8  |  |
| Hollows – 0   |  |
| Diameter (cm) – 40  |  |
| Canopy dieback (%) – 5  |  |
| Total Biodiversity Score – 1.13   |  |
| <i>E. fasciculosa</i> in moderate health. Disturbed by cattle impact. To be retained and located on edge of building construction buffer. |  |

|  |  |
|--|--|
| Tree/Cluster ID 20   |  |
| <i>Xanthorrhoea semiplana ssp. Tateana</i>   |  |
| Number of trees – 5  |  |
| Height (m) – 3   |  |
| Hollows – 0  |  |
| Diameter (cm) – 50   |  |
| Canopy dieback (%) – 0   |  |
| Total Biodiversity Score – 3.06  |  |
| Clump of yaccas, highly disturbed but remain semi-intact. To be removed under Calf rearing shed footprint. |  |

|  |  |
|--|--|
| Tree/Cluster ID 21   |  |
| <i>Xanthorrhoea semiplana ssp. Tateana</i>   |  |
| Number of trees – 6  |  |
| Height (m) – 3   |  |
| Hollows – 0  |  |
| Diameter (cm) – 50   |  |
| Canopy dieback (%) – 0   |  |
| Total Biodiversity Score – 3.67  |  |
| <p>Clump of yaccas, highly disturbed but remain semi-intact. Likely to be retained however unknown level of cut and fill required for construction of shed. On lower end of hill so potentially fill area and potential retention available.</p> |  |



# Site map showing areas of proposed impact

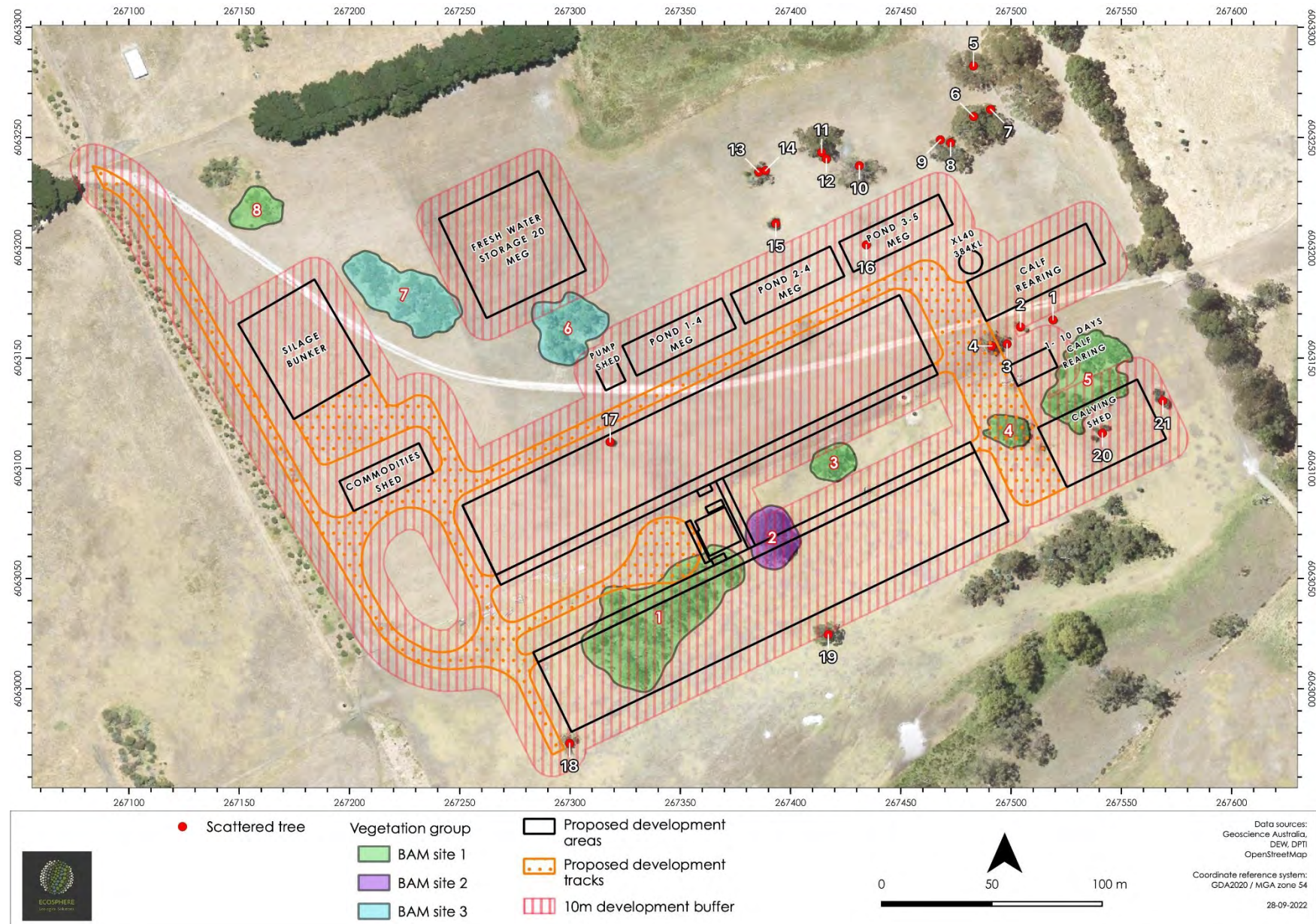


Figure 4. Project footprint overlayed on vegetation present within area.


## 4.2 Threatened Species assessment

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

### 4.2.1 Matters of National Significance

A total of 31 listed threatened species and 14 migratory species were identified by the EPBC Act PMST report as potentially occurring or having suitable habitat potentially occurring within 5 km of the project area (Table 4) (DAWE 2020). The relevant MNES protected under the EPBC Act are discussed in detail below.

Table 4. EPBC Act PMST report results summary.

| Search Area (5km Buffer)   | Matters of National Environmental Significance     | Identified within search area |
|--|--|-------------------------------|
|  | World Heritage Properties                          | 0                             |
|  | National Heritage Places                           | 0                             |
|  | Wetlands of International Importance (RAMSAR)      | 0                             |
|  | Great Barrier Reef Marine Park                     | 0                             |
|  | Commonwealth Marine Area                           | 0                             |
|  | Listed Threatened Ecological Communities           | 1                             |
|  | Listed Threatened Species                          | 31                            |
|  | Listed Migratory Species                           | 14                            |
|  | <b>Other Matters Protected by the EPBC</b>         |                               |
|  | Commonwealth Lands                                 | 0                             |
|  | Commonwealth Heritage Places                       | 0                             |
|  | Listed Marine Species                              | 20                            |
|  | Whales and Other Cetaceans                         | 0                             |
|  | Critical Habitats                                  | 0                             |
|  | Commonwealth Reserves Terrestrial                  | 0                             |
|  | Australian Marine Parks                            | 0                             |
|  | Habitat Critical to the Survival of Marine Turtles | 0                             |
|  | <b>Extra Information</b>                           |                               |
|  | State and Territory Reserves                       | 12                            |
|  | Regional Forest Agreements                         | 0                             |
|  | Nationally Important Wetlands                      | 2                             |
|  | EPBC Act Referrals                                 | 5                             |
|  | Key Ecological Features                            | 0                             |
|  | Biologically Important Areas                       | 0                             |
|  | Bioregional Assessments                            | 0                             |
|  | Geological and Bioregional Assessments             | 0                             |



#### 4.2.2 Threatened ecological communities.

One Threatened Ecological Community (TEC) was found in the PMST as potentially occurring within 5 km of the project area (Table 5). The Swamps of the Fleurieu Peninsula is considered a Critically Endangered community.

Table 5. Threatened Ecological Communities Potentially Occurring within 5km of the Project Area

| Threatened Ecological Community  | EPBC Status           | Likelihood of Occurrence in the Project Area  |
|----------------------------------|-----------------------|---|
| Swamps of the Fleurieu Peninsula | Critically Endangered | Known to occur in the area and watercourses within the project footprint are likely to contribute areas that are the listed community. No swamps within close proximity to the project footprint were recorded. |

#### 4.2.3 Nationally threatened flora

Seventeen flora species listed as threatened under the EPBC Act were identified in the PMST report as potentially occurring or having suitable habitat within the Project area (Table 6). One species of national conservation significance had historical records within 5 km of the Project area, *Eucalyptus paludicola* (Mount Compass Swamp Gum). It is likely that this species occurs within riparian zones within the property. No individuals were recorded within the project footprint.

#### 4.2.4 State threatened flora.

Seventeen flora species of state conservation significance had historical records within 5km of the project site from the BDBSA (Table 6). Two of these species were recorded in the project area, *Xanthorrhoea semiplana* ssp. *tateana* (Tate's Grass-tree) and *Eucalyptus fasciculosa* (Pink Gum).

A list of all flora species with historical records within 5 km of the project area is in shown Appendix 2.

Table 6. Threatened flora species listed under the EPBC Act and NPW Act identified in the PMST (Source 5) and Naturemaps (Source 3) database searches within 5 km of the Project area.

| Scientific Name                                     | Common Name   | EPBC Act | NP&W Act | Data Source | Date of last record | Species known habitat preferences   | Likelihood of use for habitat - |
|---|---|----------|----------|-------------|---------------------|---|---------------------------------|
| <i>Allocasuarina robusta</i>                        | Mount Compass Oak-bush                                    | EN       | E        | 3           | 13/10/2017          | Upland heaths and open woodlands. Low-lying, poorly drained areas or areas bordering swamps.  | Unlikely                        |
| <i>Caladenia ovata</i>                              | Kangaroo Island Spider-orchid                             | VU       | E        | 5           |                     | Intact woodland not previously disturbed.   | Unlikely                        |
| <i>Caladenia tensa</i>                              | Greencomb Spider-orchid, Rigid Spider-orchid              | EN       | E        | 5           |                     | Intact woodland not previously disturbed.   | Unlikely                        |
| <i>Correa calycina</i>                              | Hindmarsh Correa  | VU       | V        | 5           |                     | Rocky banks of upland watercourses and in areas near wet gully swamps.  | Unlikely                        |
| <i>Correa eburnea</i>                               | Deep Creek Correa   | EN       | V        | 5           |                     | Associated with riparian zones and gullies.   | Unlikely                        |
| <i>Dodonaea procumbens</i>                          | Trailing Hop-bush   | VU       | V        | 5           |                     | Hill slopes and grasslands.   | Unlikely                        |
| <i>Eucalyptus fasciculosa</i>                       | Pink Gum  |          | R        | 3           | 19/09/2001          | Well drained soil on hills.   | Known – observed during survey. |
| <i>Eucalyptus paludicola</i>                        | Mount Compass Swamp Gum, Fleurieu Swamp Gum, Marsh Gum    | EN       | E        | 3,5         | 13/09/2013          | Low depressions, broad gullies, hillsides near permanent creeks which are usually high in organic matter and waterlogged in winter. | Unlikely                        |
| <i>Eucalyptus viminalis</i> ssp. <i>viminalis</i>   | Manna Gum   |          | R        | 3           | 19/09/2001          | Wetter or seasonally well-watered areas.  | Unlikely                        |
| <i>Euphrasia collina</i> subsp. <i>osbornii</i>     | Osborn's Eyebright  | EN       | E        | 5           |                     | Intact woodlands.   | Unlikely                        |
| <i>Glycine latrobeana</i>                           | Clover Glycine, Purple Clover                             | VU       | V        | 5           |                     | Variety of woodland habitats.   | Unlikely                        |
| <i>Gonocarpus micranthus</i> ssp. <i>micranthus</i> | Creeping Raspwort   |          | R        | 3           | 21/04/2006          | Peat soils and boggy ground in a range of habitats.   | Unlikely                        |
| <i>Hibbertia tenuis</i>                             |   | CR       | E        | 5           |                     | Associated with the swamps of the Fleurieu Peninsula.   | Unlikely                        |
| <i>Hypericum japonicum</i>                          | Matted St John's Wort                                     |          | R        | 3           | 27/12/2006          | Damp places, including swamps, on the coast and ranges.   | Unlikely                        |
| <i>Hypolepis rugosula</i>                           | Ruddy Ground-fern   |          | R        | 3           | 21/04/2006          | Streambeds, damp gullies, drainage ditches and swampy ground in clearings, forest margins and open areas.                           | Unlikely                        |
| <i>Leucopogon hirsutus</i>                          | Hairy Beard-heath   |          | R        | 3           | 13/10/2017          | Swampy flats, creek edges.  | Unlikely                        |
| <i>Machaerina acuta</i>                             | Pale Twig-rush  |          | R        | 3           | 21/04/2006          | Winter-wet depression, swamps.  | Unlikely                        |
| <i>Machaerina gunnii</i>                            | Slender Twig-rush   |          | R        | 3           | 11/04/2006          | Swamps and water courses.   | Unlikely                        |
| <i>Machaerina laxa</i>                              | Lax Twig-rush   |          | R        | 3           | 21/04/2006          | Swamps and water courses.   | Unlikely                        |
| <i>Myriophyllum amphibium</i>                       | Broad Milfoil   |          | R        | 3           | 21/04/2006          | Swamps and water courses.   | Unlikely                        |
| <i>Olearia pannosa</i> subsp. <i>pannosa</i>        | Silver Daisy-bush, Silver-leaved Daisy, Velvet Daisy-bush | VU       | V        | 5           |                     | Woodlands and mallee.   | Unlikely                        |



| Scientific Name                                       | Common Name                                 | EPBC Act | NP&W Act | Data Source | Date of last record | Species known habitat preferences  | Likelihood of use for habitat - |
|---|---|----------|----------|-------------|---------------------|--|---------------------------------|
| <i>Prasophyllum murfettii</i>                         | Fleurieu Leek Orchid                        | CR       | E        | 5           |                     | Intact woodland not previously disturbed.  | Unlikely                        |
| <i>Prasophyllum pallidum</i>                          | Pale Leek-orchid                            | VU       | R        | 5           |                     | Intact woodland not previously disturbed.  | Unlikely                        |
| <i>Rytidosperma laeve</i>                             | Smooth Wallaby-grass                        |          | R        | 3           | 16/11/1997          | Open woodland and grassland  | Unlikely                        |
| <i>Senecio macrocarpus</i>                            | Large-fruit Fireweed, Large-fruit Groundsel | VU       | V        | 5           |                     | Ephemeral drainage lines and steep gorges.   | Unlikely                        |
| <i>Spyridium coactilifolium</i>                       | Butterfly Spyridium                         | VU       | V        | 5           |                     | Rocky sea cliffs, inland populations occur on gentle to moderate ridges on south-east and south-west facing slopes. Sandy soils. | Unlikely                        |
| <i>Thelymitra epipactoides</i>                        | Metallic Sun-orchid                         | EN       | E        | 5           |                     | Intact woodland not previously disturbed.  | Unlikely                        |
| <i>Thelymitra matthewsii</i>                          | Spiral Sun-orchid                           | VU       | E        | 5           |                     | Intact woodland not previously disturbed.  | Unlikely                        |
| <i>Veronica derwentiana</i> subsp. <i>homalodonta</i> | Mount Lofty Speedwell                       | CR       | E        | 5           |                     | Intact woodland not previously disturbed.  | Unlikely                        |
| <i>Veronica gracilis</i>                              | Slender Speedwell                           |          | V        | 3           | 24/02/2006          | Swampy sites in grassland or eucalypt woodland.  | Unlikely                        |
| <i>Viminaria juncea</i>                               | Native Broom                                |          | R        | 3           | 7/12/1996           | Poorly drained soils.  | Unlikely                        |
| <i>Xanthorrhoea semiplana</i> ssp. <i>Tateana</i>     | Tate's Grass-tree                           |          | R        | 3           | 11/11/1999          | Well drained soil and full sun.  | Known – observed during survey. |
| <i>Xanthosia tasmanica</i>                            | Southern Xanthosia                          |          | R        | 3           | 1/03/2006           | Moist sandy soil in heathland.   | Unlikely                        |

Source; 1- BDBSA, 2 - AoLA, 3 – NatueMaps 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others

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

EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable

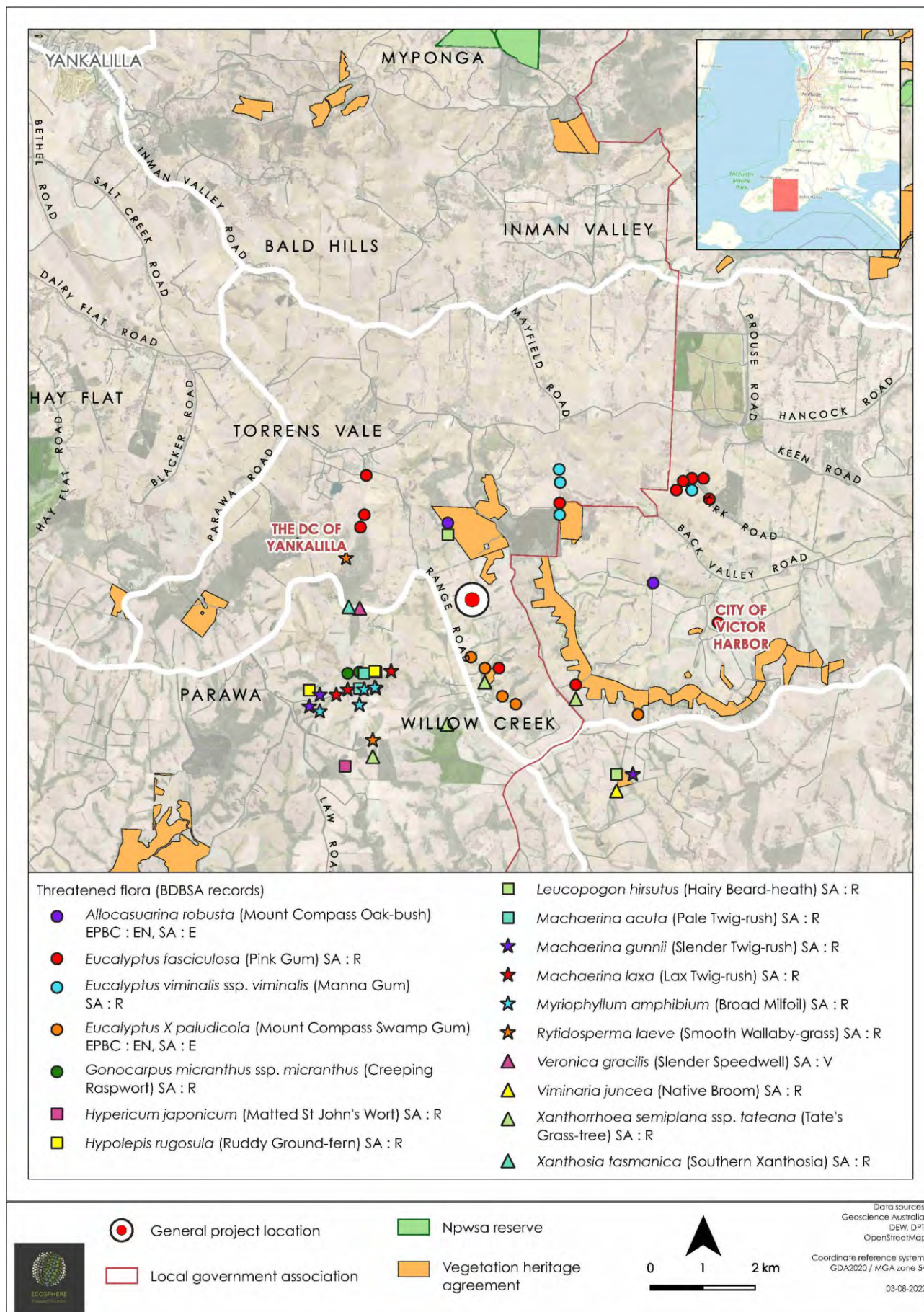


Figure 5. Naturemaps records for all threatened flora species within 5km and since 1995



### **Nationally threatened fauna**

Fourteen fauna species listed as threatened under the EPBC Act were identified in the PMST report as potentially occurring or having suitable habitat within the Project area (Table 7). This included twelve birds and two mammal species. Two species of national conservation significance had historical records within 5 km of the Project area, *Pteropus poliocephalus*, the Grey-headed Fly-fox, and *Zoothra lunulata halmaturina*, the South Australian Bassian Thrush (Figure 6). Neither were considered likely to occur within the project area due to lack of preferred habitat.

#### **4.2.6 Migratory species**

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

#### **4.2.7 State threatened fauna.**

Twelve fauna species of state conservation significance had historical records from the NatureMaps BDBSA search within 5km. These species were not recorded during the field survey and were not considered likely to occur within the project area due to a lack of preferred habitat.

A list of all fauna species with records within 5 km of the Project area is shown in Appendix 3.

Table 7. Threatened fauna species and migratory listed under the EPBC Act and NPW Act identified in the PMST (Source 5) and BDBSA (Source 3) database searches within 5 km of the project area.

| Scientific Name                     | Common Name                                   | EPBC Act | NP&W Act | Data Source | Date of last record | Species known habitat preferences   | Likelihood of use for habitat - comments |
|-------------------------------------|---|----------|----------|-------------|---------------------|---|--|
| <i>Actitis hypoleucos</i>           | Common Sandpiper                              | Mi       | R        | 5           |                     | Shorebird. Coastal and inland wetlands. Saline and freshwater.  | Unlikely                                 |
| <i>Antechinus flavipes</i>          | Yellow-footed Antechinus                      |          | V        | 3           | 18/11/1997          | Commonly inhabit stringy bark forests.  | Unlikely                                 |
| <i>Apus pacificus</i>               | Fork-tailed Swift                             | Mi       |          | 5           |                     | Aerial species.   | Unlikely                                 |
| <i>Botaurus poiciloptilus</i>       | Australasian Bittern                          | EN       | V        | 5           |                     | Freshwater swamps and wetlands. Largely nocturnal.  | Unlikely                                 |
| <i>Calidris acuminata</i>           | Sharp-tailed Sandpiper                        | Mi       |          | 5           |                     | Shorebird. Coastal and inland wetlands. Saline and freshwater.  | Unlikely                                 |
| <i>Calidris canutus</i>             | Red Knot, Knot                                | EN Mi    |          | 5           |                     | Coastal shorebird.  | Unlikely                                 |
| <i>Calidris ferruginea</i>          | Curlew Sandpiper                              | CR Mi    |          | 5           |                     | Shorebird. Intertidal mudflats, beaches, rocky shores as well as lakes, dams and floodwater.  | Unlikely                                 |
| <i>Calidris melanotos</i>           | Pectoral Sandpiper                            | Mi       |          | 5           |                     | Shorebird. Intertidal mudflats, beaches, rocky shores as well as lakes, dams and floodwater.  | Unlikely                                 |
| <i>Eulamprus heatwolei</i>          | Yellow-bellied Water Skink                    |          | V        | 3           | 6/12/1996           | Forest and woodlands. Usually found in close association with wet microhabitats.  | Unlikely                                 |
| <i>Falco hypoleucos</i>             | Grey Falcon                                   | VU       | R        | 5           |                     | Distributed sparsely over Australia's arid and semi-arid zones.   | Unlikely                                 |
| <i>Gallinago hardwickii</i>         | Latham's Snipe, Japanese Snipe                | Mi       | R        | 5           |                     | Freshwater wetlands, saltmarshes and creeks with dense vegetation.  | Unlikely                                 |
| <i>Grantiella picta</i>             | Painted Honeyeater                            | VU       | V        | 5           |                     | Dry open forests and woodlands, remnant vegetation on farmland and urban areas where large eucalypts are present. Associated with mistletoe.  | Unlikely                                 |
| <i>Hirundapus caudacutus</i>        | White-throated Needletail                     | VU Mi    |          | 5           |                     | Aerial species will roost in large trees.   | Unlikely                                 |
| <i>Hylacola pyrrhopygia parkeri</i> | Chestnut-rumped Heathwren (Mt Lofty Ranges)   | EN       | E        | 5           |                     | Dense heath and shrubland.  | Unlikely                                 |
| <i>Isodon obesulus obesulus</i>     | Southern Brown Bandicoot (SA mainland and KI) | EN       | V        | 3           | 31/10/2011          | Areas of dense vegetation such as heathland, shrubland and sedgeland as well as heathy open forest and woodland. Low ground cover and shelter.  | Unlikely                                 |
| <i>Motacilla cinerea</i>            | Grey Wagtail                                  | Mi       |          | 5           |                     | Strong association with water, particularly rocky substrates along water courses but also lakes and marshes. The species is a rare non-breeding summer visitor to northern Australia. | Unlikely                                 |
| <i>Motacilla flava</i>              | Yellow Wagtail                                | Mi       |          | 5           |                     | Regular wet season visitor to northern Australia. The species is considered a vagrant to Victoria, South Australia and southern Western Australia                                     | Unlikely                                 |



| Scientific Name                          | Common Name   | EPBC Act | NP&W Act | Data Source | Date of last record | Species known habitat preferences  | Likelihood of use for habitat - comments |
|--|---|----------|----------|-------------|---------------------|--|--|
| <i>Neophema elegans elegans</i>          | Elegant Parrot  |          | R        | 3           | 17/02/2020          | Occupies woodlands, mallee, grasslands, heathlands, saltmarsh and open shrublands.   | Unlikely                                 |
| <i>Numenius madagascariensis</i>         | Eastern Curlew, Far Eastern Curlew                                  | CR Mi    | V        | 5           |                     | Coastal shorebird.   | Unlikely                                 |
| <i>Pandion haliaetus</i>                 | Osprey  | Mi       | E        | 5           |                     | Coastal areas and terrestrial wetlands.  | Unlikely                                 |
| <i>Petroica boodang boodang</i>          | Scarlet Robin   |          | R        | 3           | 17/02/2020          | Open forests and woodlands as well as grasslands and farmland (particularly in the winter months).   | Possible – not observed on site.         |
| <i>Pseudophryne bibronii</i>             | Brown Toadlet   |          | R        | 3           | 16/05/2009          | Damp areas with cover provided by logs, stones, leaf-litter and grassy-debris. Commonly in forests, heathlands and grasslands.   | Unlikely                                 |
| <i>Pteropus poliocephalus</i>            | Grey-headed Flying-fox  | VU       | R        | 3, 5        | 31/12/2019          | Urban areas, forests and woodlands, intertidal mangroves.  | Unlikely                                 |
| <i>Rattus lutreolus</i>                  | Swamp Rat   |          | R        | 3           | 9/12/1996           | Swamps, thick vegetation along watercourses and coastal areas.   | Unlikely                                 |
| <i>Rhipidura rufifrons</i>               | Rufous Fantail  | Mi       |          | 5           |                     | Mainly inhabits wet sclerophyll forests, often in gullies dominated by eucalypts.  | Unlikely                                 |
| <i>Rostratula australis</i>              | Australian Painted Snipe  | EN       | V        | 5           |                     | Migratory wetlands species likely in adjacent salt pans and saline wetlands.   | Unlikely                                 |
| <i>Sternula nereis nereis</i>            | Australian Fairy Tern   | VU       | E        | 5           |                     | Coastal beaches, sheltered inlets and wetland areas.   | Unlikely                                 |
| <i>Stipiturus malachurus intermedius</i> | Fleurieu Peninsula Southern Emu-wren, Mount Lofty Southern Emu-wren | EN       | E        | 5           |                     | Moist dense scrublands, heaths with grass trees, coastal heathlands, tea-tree vegetation.  | Unlikely                                 |
| <i>Tringa nebularia</i>                  | Common Greenshank, Greenshank                                       | Mi       |          | 5           |                     | Does not breed in Australia. Occurs in all types of wetlands. It occurs in sheltered coastal habitats, typically with large mudflats and saltmarsh, mangroves or seagrass. | Unlikely                                 |
| <i>Varanus rosenbergi</i>                | Heath Goanna  |          | V        | 3           | 26/01/2009          | Heath, wet and dry forest and temperate woodlands usually with sandy soils and termite mounds present.   | Unlikely                                 |
| <i>Zoothera lunulata halmaturina</i>     | South Australian Bassian Thrush (southern FR, MLR, KI)              | EN       | SP       | 3, 5        | 28/05/2021          | Damp and densely forested areas and gullies with a thick canopy and leaf-litter.   | Unlikely                                 |

Source; 1- BDBSA, 2 - AoLA, 3 – NatueMaps 4 – Observed/recorded in the field, 5 - Protected matters search tool, 6 – others

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

EPBC Act; Ex = Extinct, CR = Critically endangered, EN = Endangered; VU = Vulnerable

Mi = Migratory

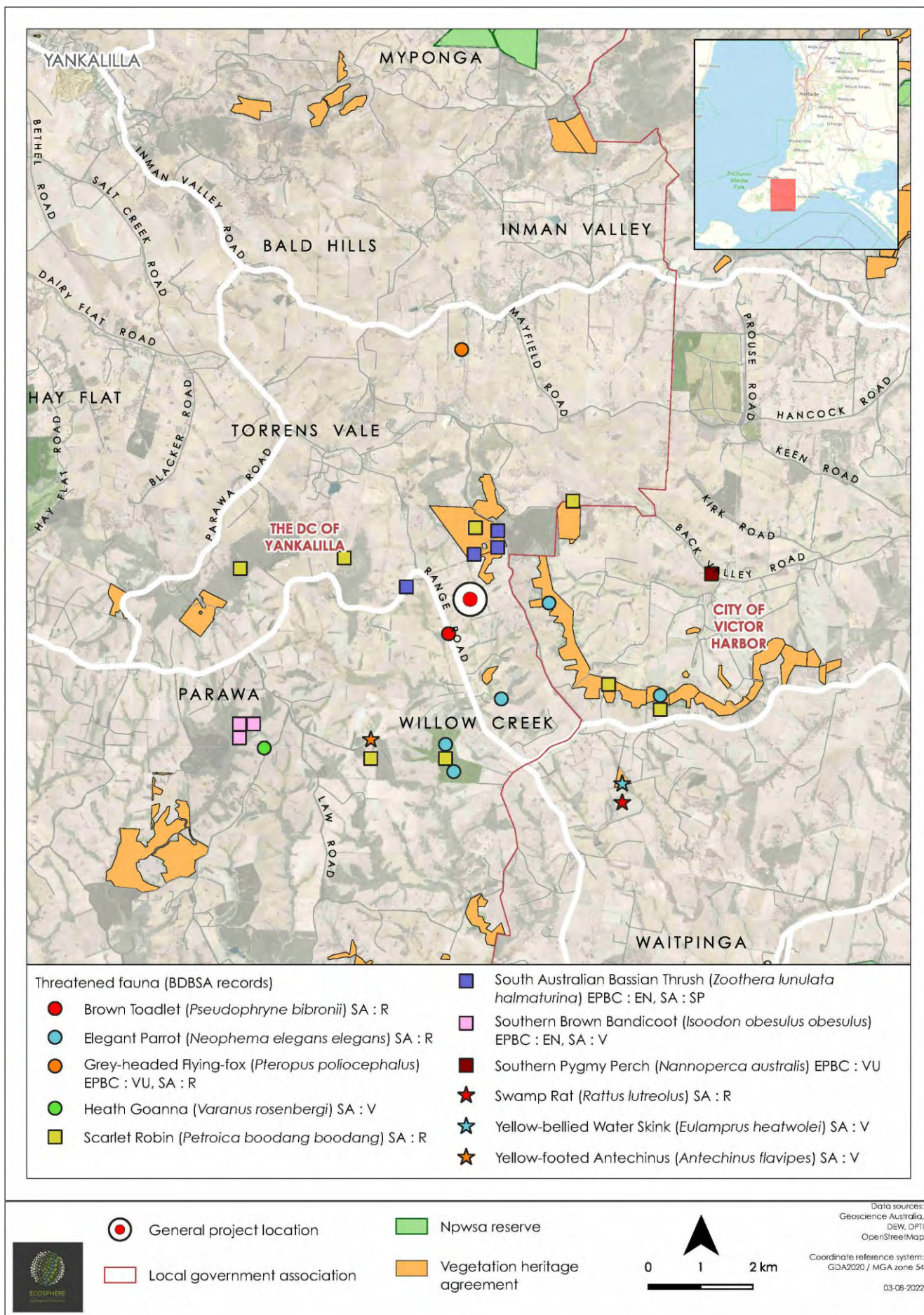


Figure 6. Locations of Naturemaps historical threatened fauna species records since 1995.



## 4.3 Cumulative impact

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

The cumulative impact is likely to be less than under previous management.

## 4.4 Address the Mitigation Hierarchy

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

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

The alignment and layout have been modified to avoid intact patches. The cow barns, ponds, calf rearing area and calving shed have been shifted south to avoid patches of high value trees in the North. The silage bunker, freshwater storage and ponds have been realigned to avoid patches and scattered trees. See Figure 7 and Figure 8 for comparison of the original and modified project footprint.

Other limitations such as watercourse setbacks and visual amenity restrictions mean that moving the entire alignment east was not a feasible option.

The proponent has made a significant effort to realign the project as much as possible without significantly impacting on the management of the barns on a day to day basis. The project relies heavily on positioning of infrastructure to make the project successful in keeping animals happy and managing water movement, waste, feed and animals.

### **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).**

Footprints have been reduced to the smallest sizes possible to minimize impacts associated with cut and fill requirements and associated batters for soil retention.

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

The removal of grazing within areas surrounding the barns will result in a large increase in condition due to removal of impacts such as cows pugging up the ground around watercourses during wet periods and avoids nitrogen leaching (from cattle urine), phosphorus runoff (from cattle faeces) and soil loss into waterways

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

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

The proponent has identified a site to offset the clearance associated with the project. This site has been chosen to integrate with existing heritage agreement areas and enlarge the existing sites, provide enhanced connectivity to other areas and protect species of conservation significance of the same species as those being impacted by the project. The size of this area will offset the required amount plus leave additional credit points.

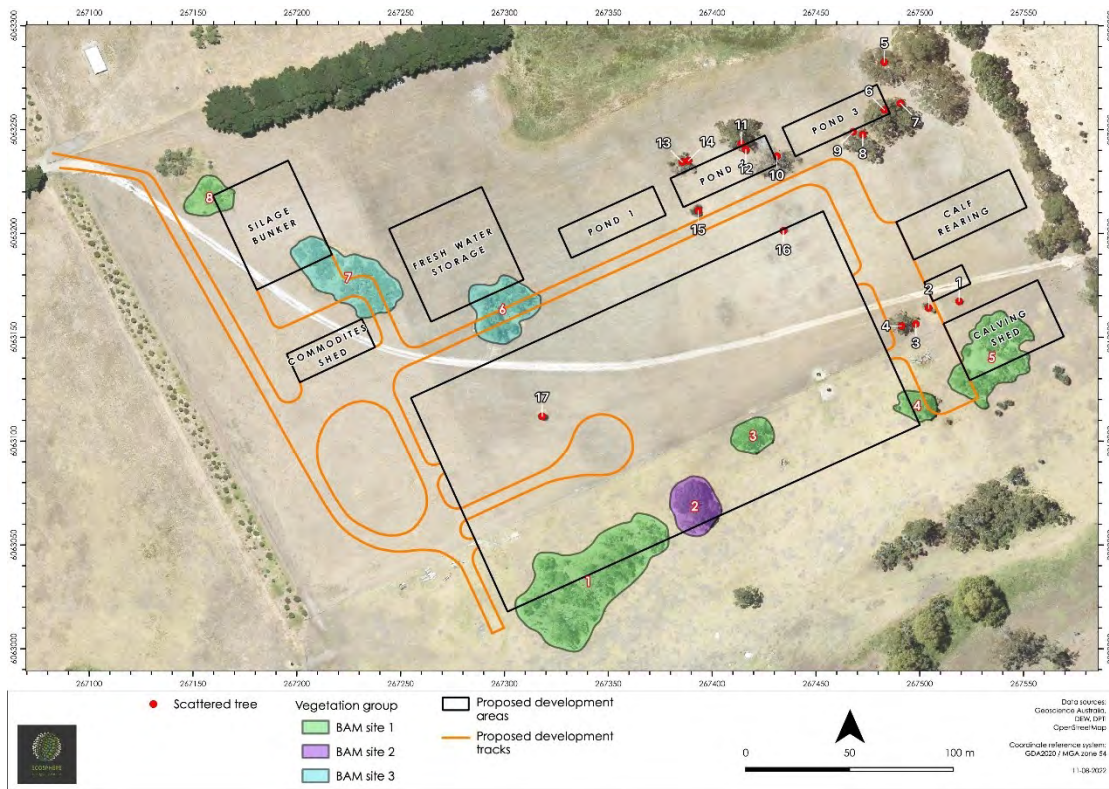


Figure 7. Original project footprint.

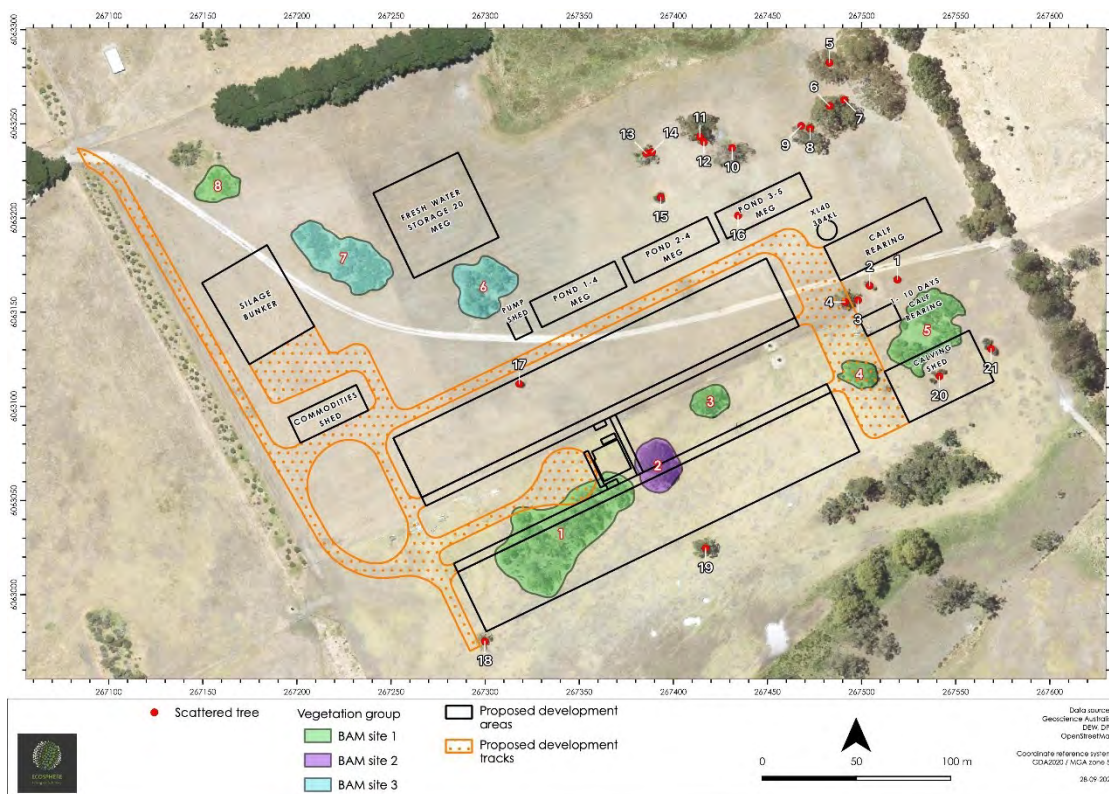


Figure 8. Modified project footprint to avoid high value scattered trees and patches of vegetation.



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

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

| Principle of clearance  | Considerations  |
|---|---|
| <b>Principle 1a - it comprises a high level of diversity of plant species</b> | <p><u>Relevant information</u></p> <p>Only two dominant overstorey species were recorded within each patch. This is exceptionally low and represents a highly degraded community.<br/>Patches;<br/>Bushland Plant Diversity Score - 2</p> <p><u>Assessment against the principles</u></p> <p><u>Not At Variance</u> –</p> <p><u>Moderating factors that may be considered by the NVC</u><br/>N/A</p>  |
| <b>Principle 1b - significance as a habitat for wildlife</b>                  | <p><u>Relevant information</u></p> <p>All associations had values as wildlife habitat despite being so degraded. Elegant Parrot and Scarlet Robin are likely to utilise the site periodically.<br/>All patches had a threatened fauna score of 0.1 and were seriously at variance with this principle<br/><br/>Tree: 4 had a fauna habitat score of 1.4</p> <p><u>Assessment against the principles</u><br/><u>Seriously at Variance</u></p> <p><u>Moderating factors that may be considered by the NVC</u><br/>Given the far higher quality of surrounding vegetation the remnants within this paddock are of low habitat value.</p> |
| <b>Principle 1c - plants of a rare, vulnerable or endangered species</b>      | <p><u>Relevant information</u></p> <p>Pink Gum and Yaccas are rated rare in South Australia.</p> <p><u>Assessment against the principles</u><br/><u>Seriously at Variance</u><br/>Patches 1, 4 and 5 were <u>At Variance</u> –<br/><br/>Trees 2, 3, and 16-21 were seriously at variance with this principle.</p> <p><u>Moderating factors that may be considered by the NVC</u></p>  |
| <b>Principle 1d - the vegetation comprises the whole or</b>                   | <p><u>Relevant information</u></p> <p>Identify any threatened communities under the EPBC Act or threatened ecosystems under the DEW Provisional list of threatened ecosystems present?<br/>No patches observed were threatened communities<br/>Threatened Community Score - 1</p>   |

|  |  |
|--|--|
| <b>part of a plant community that is Rare, Vulnerable or endangered:</b>   | <u>Assessment against the principles</u><br><u>Not at Variance</u>   |
|  | <u>Moderating factors that may be considered by the NVC</u>  |
| <b>Principle 1e - it is significant as a remnant of vegetation in an area which has been extensively cleared.</b>    | <u>Relevant information</u><br>Remnancy figures for IBRA Association was 11% and IBRA Subregion is 12%<br>The health and likely longevity of remnants is very low. |
|  | Total Biodiversity Score – 28.85   |
|  | <u>Assessment against the principles</u><br><u>At Variance</u>   |
|  | <u>Moderating factors that may be considered by the NVC</u>  |
| <b>Principle 1f - it is growing in, or in association with, a wetland environment.</b>                               | <u>Relevant information</u><br>None of the vegetation is associated with a wetland   |
|  | <u>Assessment against the principles</u><br><u>Not At Variance –</u>   |
|  | <u>Moderating factors that may be considered by the NVC</u>  |
| <b>Principle 1g - it contributes significantly to the amenity of the area in which it is growing or is situated.</b> | <u>Relevant information</u><br>The vegetation does not significantly contribute to the amenity of the area as none is visible from neighbouring areas.             |
|  | N/A  |
|  | <u>Moderating factors that may be considered by the NVC</u>  |

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

## 4.6 Risk Assessment

**Determine the level of risk associated with the application**

|   |                          |   |
|---|--------------------------|---|
| <b>Total clearance</b>  | No. of trees             | 25  |
|   | Area (ha)                | 0.352                                     |
|   | Total biodiversity Score | 28.85                                     |
| <b>Seriously at variance with principle 1(b), 1(c) or 1 (d)</b> |                          | Seriously at variance with 1(b) and 1(c). |
| <b>Risk assessment outcome</b>                                  |                          | Level 4                                   |



## 4.7 NVC Guidelines

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

# 5. Clearance summary

**Clearance Area(s) Summary table**

| Block | Site | Native species diversity score | Threatened Ecological community Score | Threatened plant score | Threatened fauna score | UBS          | Area (ha)    | Total Biodiversity score | Loss factor | Loadings | Reductions | SEB Points required | SEB payment       | Admin Fee       |
|-------|------|--------------------------------|---------------------------------------|------------------------|------------------------|--------------|--------------|--------------------------|-------------|----------|------------|---------------------|-------------------|-----------------|
| 1     | 1    | 2                              | 1                                     | 0.04                   | 0.1                    | 11.25        | 0.245        | 2.76                     | 1           |          |            | 2.89                | \$3,185.53        | \$175.20        |
| 1     | 2    | 2                              | 1                                     | 0                      | 0.1                    | 10.85        | 0.053        | 0.58                     | 1           |          |            | 0.60                | \$664.61          | \$36.55         |
| 1     | 4    | 2                              | 1                                     | 0.04                   | 0.1                    | 11.25        | 0.023        | 0.26                     | 1           |          |            | 0.27                | \$299.05          | \$16.45         |
| 1     | 5    | 2                              | 1                                     | 0.04                   | 0.1                    | 11.25        | 0.031        | 0.35                     | 1           |          |            | 0.37                | \$403.07          | \$22.17         |
|       |      |                                |                                       |                        |                        | <b>Total</b> | <b>0.352</b> | <b>3.9388</b>            |             |          |            | <b>4.14</b>         | <b>\$4,552.25</b> | <b>\$250.37</b> |

**Scattered trees Summary table**

| Tree or Cluster ID | Number of trees | Fauna Habitat score | Threatened flora score | Biodiversity score | Loss factor | SEB Points required | SEB Payment        | Admin Fee         |
|--------------------|-----------------|---------------------|------------------------|--------------------|-------------|---------------------|--------------------|-------------------|
| 2                  | 4               | 0                   | 0.3                    | 0.62               | 1           | 2.60                | \$2,866.25         | \$157.64          |
| 3                  | 1               | 0                   | 0.3                    | 0.51               | 1           | 0.54                | \$589.43           | \$32.42           |
| 4                  | 1               | 1.4                 | 0                      | 2.34               | 1           | 2.46                | \$2,704.45         | \$148.74          |
| 16                 | 1               | 0                   | 0.3                    | 1.03               | 1           | 1.08                | \$1,190.42         | \$65.47           |
| 17                 | 1               | 0                   | 0.3                    | 1.3                | 1           | 1.37                | \$1,502.47         | \$82.64           |
| 18                 | 6               | 0                   | 0.3                    | 0.62               | 1           | 3.91                | \$4,299.38         | \$236.47          |
| 20                 | 5               | 0                   | 0.3                    | 0.61               | 1           | 3.20                | \$3,525.03         | \$193.88          |
| 21                 | 6               | 0                   | 0.3                    | 0.61               | 1           | 3.84                | \$4,230.03         | \$232.65          |
| <b>Total</b>       | <b>25</b>       |                     |                        | <b>24.91</b>       |             | <b>18.99</b>        | <b>\$20,907.46</b> | <b>\$1,149.91</b> |

**Totals summary table**

|                    | Total Biodiversity score | Total SEB points required | SEB Payment        | Admin Fee         | Total Payment      |
|--------------------|--------------------------|---------------------------|--------------------|-------------------|--------------------|
| <b>Application</b> | <b>28.85</b>             | <b>23.13</b>              | <b>\$25,459.71</b> | <b>\$1,400.28</b> | <b>\$26,860.00</b> |

|                           |     |
|---------------------------|-----|
| Economies of Scale Factor | 0.5 |
| Rainfall (mm)             | 823 |



# 6. Significant Environmental Benefit

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

## ACHIEVING AN SEB

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

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

## PAYMENT SEB

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

## ON-GROUND SEB

The SEB offset is still awaiting detailed assessment and determination of credit points and ongoing management strategies. This is still underway however the proponent wishes to get the application processed to speed up the process. It is anticipated that a management plan for the SEB will be ready by the time that this application reaches assessment stage.

|                        |  |           |             |
|------------------------|--|-----------|-------------|
| Applicant:             | Wes Hurrell  |           |             |
| Key contact:           | Wes Hurrell<br>E: wesrita@bigpond.com<br>M: 0427 839 330 |           |             |
| Landowner:             | Rockwella Farm Holsteins                                 |           |             |
| Site Address:          | 2381 Range Road, Willow Creek, South Australia, 5211     |           |             |
| Local Government Area: | Yankalilla District Council                              | Hundred:  | Yankalilla, |
| Title ID:              | CT/6194/15   | Parcel ID | D114262 Q64 |

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

The proponent has proposed an on ground SEB on the same property. It has not been formally assessed however a provisional assessment based on known values in the area gives 75 points of gain, which is well over the requirement for the clearance proposal of 25 points. It is likely that a formal assessment will give a higher gain than provisionally indicated. Pending the Native vegetation Councils provisional support of the clearance proposal, a full assessment and management plan will be undertaken in order to provide the required offset onsite.

Provide a general description of the site including the following;

- The site follows a water course alignment and is part of the Fleurieu Wetland (S2409) Catchment; 288ha
- The area is likely to have two to three vegetation associations.
- The site has at least two threatened flora species present.
- The site adjoins HA 1292.

### Information relating to the relevant land

Currently used as farming area for dairy purposes.




## General location map



## Description of the vegetation

The patch covers an area of just under 11 hectares and is largely intact with a moderate level of exotic cover.

|   |  |                            |       |                                 |       |
|---|--|----------------------------|-------|---------------------------------|-------|
| Vegetation Association  | <i>Eucalyptus fasciculosa</i> / <i>E. baxteri</i> Mixed Woodland   |                            |       |                                 |       |
|  |  |                            |       |                                 |       |
| General description   | Not formally assessed but based on photos a provisional assessment has been undertaken to determine potential for offset and approximate value/gain. |                            |       |                                 |       |
| Threatened species or community   | Two threatened species within area, <i>E. fasciculosa</i> and <i>Xanthorrhoea semiplana</i> ssp. <i>tatei</i>  |                            |       |                                 |       |
| Landscape context score   | 1.15   | Vegetation Condition Score | 23.38 | Conservation significance score | 1.18  |
| Gain Score  | 6.86   | Area (ha)                  | 11    | SEB Points of Gain              | 75.45 |



## Photo log















### Fauna and Flora assessment

The flora and fauna threatened species assessment is consistent with the clearance assessment being located within the same property and hundred.

### Environmental Benefits

The benefits of this area will be the formal protection of an area that provides habitat for a number of flora and fauna species.

The patch would add to an already protected heritage agreement on another property.

The patch provides connectivity to other patches and remnant areas.

The patch provides enhanced protection for areas associated with the nationally listed threatened ecological community Swamps of the Fleurieu Peninsula.

### Summary Table

| Block | Site | Vegetation Association | UBS | Gain Score | Area (ha) | SEB Point of Gain |
|-------|------|------------------------|-----|------------|-----------|-------------------|
|       |      |                        |     |            |           |                   |
|       |      |                        |     |            |           |                   |
|       |      |                        |     |            |           |                   |
| Total |      |                        |     |            |           |                   |

### SEB Management Plan

The Management Plan for the proposed SEB area is pending.

A Native Vegetation Management Plan is required as part of the Conditions of Consent for clearance.

The Management Plan should be provided at the time of submitting the application to clear vegetation, however it can be lodged during the assessment process if required, but must be received before a decision can be made by the Native Vegetation Council in relation to the associated clearance. The Management Plan template is found under [Tools for Accredited Consultants](#).



# 7. Appendices

Appendix 1. Scattered Tree Vegetation Assessment Scoresheet associated with the proposed clearance. Bushland Assessment Scoresheet and SEB Area submitted separately.

| Tree No. | Species (description)  | Number of trees in a clump (enter 1 for individual trees) | Height (m) | Diameter at 1m above ground level (cm) | Disback % | Number of Hollows |        |       | Suitability for fauna threatened species |                   |              |  |                  | Threatened sp. Tree species in:<br>R = Rare<br>V = Vulnerable<br>E = Endangered | Remoteness<br>BFA Assess.<br>% wet remaining | Loss Factor            | Species | Fauna habitat score | Threatened flora score | Biodiversity score (Max 15) (Score per tree) | Total biodiversity score | SEB Points Req. | Total SEB Payment \$ | Optional Unique tree ID | Optional Photo No. |  |
|----------|--|---|------------|--|-----------|-------------------|--------|-------|--|-------------------|--------------|--|------------------|---|--|------------------------|---------|---------------------|------------------------|--|--------------------------|-----------------|----------------------|-------------------------|--------------------|--|
|          |  |   |            |  |           | Small             | Medium | Large | Uncounted                                | Number of species |              |  |                  |   |  |                        |         |                     |                        |  |                          |                 |                      |                         |                    |  |
|          |  |   |            |  |           |                   |        |       |  | NAB/Ad. Rare      | NAB/Ad. End. | Endangered or Vulnerable (pending EPBC Data) | EPBC Listed spp. |   |  |                        |         |                     |                        |  |                          |                 |                      |                         |                    |  |
| 1        | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 1   | 3.0        | 45                                     | 0         |                   |        |       |  |                   |              |  | R                | 11  | 0.0  | Banksia marginata      | 0       | 0.3                 | 0.58                   | 0.58   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 2        | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 4   | 3.0        | 55                                     | 3         |                   |        |       |  |                   |              |  | R                | 11  | 1.0  | Banksia marginata      | 0       | 0.3                 | 0.62                   | 2.48   | 2.61                     | \$3,013.10      |                      |                         |                    |  |
| 3        | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 1   | 2.0        | 55                                     | 3         |                   |        |       |  |                   |              |  | R                | 11  | 1.0  | Banksia marginata      | 0       | 0.3                 | 0.51                   | 0.51   | 0.54                     | \$623.70        |                      |                         |                    |  |
| 4        | Eucalyptus baxteri (Mt Lofy Block) as scattered tree   | 1   | 9.0        | 92                                     | 70        | 2                 |        |       | 1  | 1                 |              |  |                  | 11  | 1.0  | Eucalyptus baxteri     | 1.4     | 0                   | 2.34                   | 2.34   | 2.46                     | \$2,842.18      |                      |                         |                    |  |
| 5        | Eucalyptus fasciculosa (taller trees in South East & the true Mt Lofy Range - ie. higher rainfall & better soils - see notes)                  | 11  | 12.0       | 40.3                                   | 3         |                   |        |       | 1  | 1                 |              |  | R                | 11  | 0.0  | Eucalyptus fasciculosa | 1.4     | 0.3                 | 1.43                   | 15.76  | 0.00                     | \$0.00          |                      |                         |                    |  |
| 6        | Eucalyptus baxteri (Mt Lofy Block) as scattered tree   | 1   | 13.0       | 89                                     | 20        |                   |        |       | 1  | 1                 |              |  |                  | 11  | 0.0  | Eucalyptus baxteri     | 1.4     | 0                   | 3.51                   | 3.51   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 7        | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 4   | 3.0        | 55                                     | 0         |                   |        |       |  |                   |              |  | R                | 11  | 0.0  | Banksia marginata      | 0       | 0.3                 | 0.97                   | 3.89   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 8        | Eucalyptus baxteri (Mt Lofy Block) as scattered tree   | 1   | 8.0        | 94                                     | 0         |                   |        |       | 1  | 1                 |              |  |                  | 11  | 0.0  | Eucalyptus baxteri     | 1.4     | 0                   | 1.98                   | 1.98   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 9        | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 3   | 2.0        | 50                                     | 0         |                   |        |       |  |                   |              |  | R                | 11  | 0.0  | Banksia marginata      | 0       | 0.3                 | 0.61                   | 3.06   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 10       | Eucalyptus baxteri (Mt Lofy Block) as scattered tree   | 1   | 13.0       | 81                                     | 70        |                   |        |       | 1  | 1                 |              |  |                  | 11  | 0.0  | Eucalyptus baxteri     | 1.4     | 0                   | 1.42                   | 1.42   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 11       | Eucalyptus baxteri (Mt Lofy Block) as scattered tree   | 1   | 12.0       | 105                                    | 0         |                   |        |       | 1  | 1                 |              |  |                  | 11  | 0.0  | Eucalyptus baxteri     | 1.4     | 0                   | 4.06                   | 4.06   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 12       | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 2   | 3.0        | 50                                     | 3         |                   |        |       |  |                   |              |  | R                | 11  | 0.0  | Banksia marginata      | 0       | 0.3                 | 0.61                   | 1.22   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 13       | Eucalyptus baxteri (Mt Lofy Block) as scattered tree   | 2   | 8.0        | 44                                     | 70        |                   |        |       | 1  | 1                 |              |  |                  | 11  | 0.0  | Eucalyptus baxteri     | 1.4     | 0                   | 0.36                   | 0.73   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 14       | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 5   | 3.0        | 50                                     | 0         |                   |        |       |  |                   |              |  | R                | 11  | 0.0  | Banksia marginata      | 0       | 0.3                 | 0.61                   | 3.06   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 15       | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 5   | 3.0        | 50                                     | 0         |                   |        |       |  |                   |              |  | R                | 11  | 0.0  | Banksia marginata      | 0       | 0.3                 | 0.61                   | 3.06   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 16       | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 1   | 3.0        | 60                                     | 0         |                   |        |       |  |                   |              |  | R                | 11  | 1.0  | Banksia marginata      | 0       | 0.3                 | 1.03                   | 1.03   | 1.08                     | \$1,249.67      |                      |                         |                    |  |
| 17       | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 1   | 4.0        | 55                                     | 0         |                   |        |       |  |                   |              |  | R                | 11  | 1.0  | Banksia marginata      | 0       | 0.3                 | 1.30                   | 1.30   | 1.37                     | \$1,581.28      |                      |                         |                    |  |
| 18       | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 5   | 3.0        | 55                                     | 3         |                   |        |       |  |                   |              |  | R                | 11  | 1.0  | Banksia marginata      | 0       | 0.3                 | 0.62                   | 3.72   | 3.91                     | \$4,519.65      |                      |                         |                    |  |
| 19       | Eucalyptus fasciculosa (taller trees in South East & the true Mt Lofy Range - ie. higher rainfall & better soils - see notes)                  | 1   | 8.0        | 40                                     | 3         |                   |        |       | 1  | 1                 |              |  | R                | 11  | 0.0  | Eucalyptus fasciculosa | 1.4     | 0.3                 | 1.13                   | 1.13   | 0.00                     | \$0.00          |                      |                         |                    |  |
| 20       | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 5   | 3.0        | 50                                     | 0         |                   |        |       |  |                   |              |  | R                | 11  | 1.0  | Banksia marginata      | 0       | 0.3                 | 0.61                   | 3.06   | 3.21                     | \$3,711.52      |                      |                         |                    |  |
| 21       | Banksia marginata (tree-form, higher rainfall, sandy loam flats, as a plant community in its own right or as understorey in eucalypt woodland) | 5   | 3.0        | 50                                     | 0         |                   |        |       |  |                   |              |  | R                | 11  | 1.0  | Banksia marginata      | 0       | 0.3                 | 0.61                   | 3.67   | 3.85                     | \$4,453.82      |                      |                         |                    |  |

## Appendix 2. Flora Species List

| Scientific Name  | Common Name                | Date of last record |
|--|----------------------------|---------------------|
| <i>Acacia longifolia</i> ssp. <i>longifolia</i>          | Sallow Wattle              | 3/1/2006            |
| <i>Acacia longifolia</i> ssp. <i>sophorae</i>            | Coastal Wattle             | 3/1/2006            |
| <i>Acacia melanoxylon</i>                                | Blackwood                  | 2/1/2006            |
| <i>Acacia myrtifolia</i>                                 | Myrtle Wattle              | 3/1/2006            |
| <i>Acacia paradoxa</i>                                   | Kangaroo Thorn             | 3/1/2006            |
| <i>Acacia podalyriifolia</i>                             | Mount Morgan Wattle        | 8/21/1995           |
| <i>Acacia provincialis</i>                               | Swamp Wattle               | 3/1/2006            |
| <i>Acacia pycnantha</i>                                  | Golden Wattle              | 3/1/2006            |
| <i>Acacia retinodes</i>                                  | Wirilda                    | 1/18/2014           |
| <i>Acacia retinodes</i> var. (NC)                        | Silver Wattle              | 9/19/2001           |
| <i>Acacia uncifolia</i>                                  | Coast Silver Wattle        | 1/18/2014           |
| <i>Acacia verticillata</i> ssp. <i>ovoidea</i>           | Prickly Moses              | 4/11/2006           |
| <i>Acaena novae-zelandiae</i>                            | Biddy-biddy                | 3/1/2006            |
| <i>Acaena</i> sp.  | Sheep's Burr               | 9/19/2001           |
| <i>Acianthus caudatus</i>                                | Mayfly Orchid              | 3/1/2006            |
| <i>Acrotriche serrulata</i>                              | Cushion Ground-berry       | 3/1/2006            |
| <i>Adenanthos terminalis</i>                             | Yellow Gland-flower        | 3/1/2006            |
| <i>Adiantum aethiopicum</i>                              | Common Maiden-hair         | 3/1/2006            |
| <i>Aira caryophyllea</i>                                 | Silvery Hair-grass         | 11/11/1999          |
| <i>Aira cupaniana</i>                                    | Small Hair-grass           | 3/1/2006            |
| <i>Allocasuarina muelleriana</i> ssp. <i>muelleriana</i> | Common Oak-bush            | 3/1/2006            |
| <i>Allocasuarina pusilla</i>                             | Dwarf Oak-bush             | 3/1/2006            |
| <i>Allocasuarina robusta</i>                             | Mount Compass Oak-bush     | 10/13/2017          |
| <i>Allocasuarina striata</i>                             | Stalked Oak-bush           | 3/1/2006            |
| <i>Allocasuarina verticillata</i>                        | Drooping Sheoak            | 3/1/2006            |
| <i>Alternanthera denticulata</i>                         | Lesser Joyweed             | 12/11/2020          |
| <i>Amphipogon</i> sp.                                    | Grey-beard Grass           | 11/11/1999          |
| <i>Amphipogon strictus</i>                               | Spreading Grey-beard Grass | 8/21/1995           |
| <i>Anredera cordifolia</i>                               | Madeira Vine               | 4/20/2010           |
| <i>Anthoxanthum odoratum</i>                             | Sweet Vernal Grass         | 4/21/2006           |
| <i>Aphelia pumilio</i>                                   | Dwarf Aphelia              | 9/17/2000           |
| <i>Apodasmia brownii</i>                                 | Coarse Twine-rush          | 8/21/1995           |
| <i>Arctotheca calendula</i>                              | Cape Weed                  | 3/1/2006            |
| <i>Arthropodium strictum</i>                             | Common Vanilla-lily        | 3/1/2006            |
| <i>Asparagus asparagoides</i> (NC)                       | Bridal Creeper             | 9/20/2001           |
| <i>Austrostipa mollis</i>                                | Soft Spear-grass           | 11/16/1997          |
| <i>Austrostipa muelleri</i>                              | Tangled Spear-grass        | 3/1/2006            |
| <i>Austrostipa semibarbata</i>                           | Fibrous Spear-grass        | 3/1/2006            |
| <i>Austrostipa</i> sp.                                   | Spear-grass                | 3/1/2006            |
| <i>Avena barbata</i>                                     | Bearded Oat                | 3/1/2006            |
| <i>Avena</i> sp.   | Oat                        | 9/12/2001           |
| <i>Banksia marginata</i>                                 | Silver Banksia             | 3/1/2006            |
| <i>Banksia ornata</i>                                    | Desert Banksia             | 11/15/1997          |
| <i>Billardiera cymosa</i> (NC)                           | Sweet Apple-berry          | 11/11/1999          |
| <i>Billardiera cymosa</i> ssp.                           | Sweet Apple-berry          | 3/1/2006            |
| <i>Blechnum minus</i>                                    | Soft Water-fern            | 4/21/2006           |
| <i>Brachyloma ericoides</i> ssp. <i>ericoides</i>        | Brush Heath                | 3/1/2006            |
| <i>Brachypodium distachyon</i>                           | False Brome                | 3/1/2006            |
| <i>Briza maxima</i>                                      | Large Quaking-grass        | 3/1/2006            |
| <i>Briza minor</i>                                       | Lesser Quaking-grass       | 11/11/1999          |
| <i>Bromus diandrus</i>                                   | Great Brome                | 3/1/2006            |
| <i>Bromus hordeaceus</i> ssp. <i>hordeaceus</i>          | Soft Brome                 | 11/16/1997          |
| <i>Bromus rubens</i>                                     | Red Brome                  | 11/16/1997          |
| <i>Brunonia australis</i>                                | Blue Pincushion            | 11/11/1999          |



|  |                         |            |
|--|-------------------------|------------|
| <i>Burchardia umbellata</i>                                    | Milkmaids               | 2/1/2006   |
| <i>Bursaria spinosa</i> ssp. <i>spinosa</i>                    | Sweet Bursaria          | 3/1/2006   |
| <i>Caesia calliantha</i>                                       | Blue Grass-lily         | 3/1/2006   |
| <i>Carex appressa</i>  | Tall Sedge              | 3/19/2014  |
| <i>Carex fascicularis</i>                                      | Tassel Sedge            | 4/21/2006  |
| <i>Cassytha glabella</i> f. <i>dispar</i>                      | Slender Dodder-laurel   | 3/1/2006   |
| <i>Cassytha melantha</i>                                       | Coarse Dodder-laurel    | 9/19/2001  |
| <i>Cassytha pubescens</i>                                      | Downy Dodder-laurel     | 3/1/2006   |
| <i>Cenchrus clandestinus</i>                                   | Kikuyu                  | 3/1/2006   |
| <i>Centaurium erythraea</i>                                    | Common Centaury         | 3/1/2006   |
| <i>Centella cordifolia</i>                                     | Native Centella         | 4/21/2006  |
| <i>Centrolepis fascicularis</i>                                | Tufted Centrolepis      | 4/21/2006  |
| <i>Chamaecytisus palmensis</i>                                 | Tree Lucerne            | 12/2/2009  |
| <i>Chamaescilla corymbosa</i> var. <i>corymbosa</i>            | Blue Squill             | 3/1/2006   |
| <i>Cheilanthes austrotenuifolia</i>                            | Annual Rock-fern        | 3/1/2006   |
| <i>Chenopodium album</i>                                       | Fat Hen                 | 2/1/2006   |
| <i>Chrysocephalum apiculatum</i> (NC)                          | Common Everlasting      | 9/19/2001  |
| <i>Chrysocephalum baxteri</i>                                  | White Everlasting       | 8/21/1995  |
| <i>Cirsium vulgare</i>   | Spear Thistle           | 3/1/2006   |
| <i>Clematis microphylla</i>                                    | Old Man's Beard         | 2/1/2006   |
| <i>Clematis microphylla</i> var. <i>microphylla</i> (NC)       | Old Man's Beard         | 8/21/1995  |
| <i>Compositae</i> sp.  | Daisy Family            | 9/20/2001  |
| <i>Convolvulus angustissimus</i> ssp. <i>peninsularum</i> (NC) | Narrow-leaf Bindweed    | 1/18/2014  |
| <i>Coprosma repens</i>   | New Zealand Mirror-bush | 3/1/2006   |
| <i>Coronidium scorpioides</i>                                  | Button Everlasting      | 3/1/2006   |
| <i>Correa reflexa</i> var.                                     |                         | 3/1/2006   |
| <i>Correa reflexa</i> var. <i>reflexa</i> (NC)                 | Common Correa           | 8/21/1995  |
| <i>Corybas diemenicus</i>                                      | Veined Helmet-orchid    | 3/1/2006   |
| <i>Corybas dilatatus</i> (NC)                                  | Common Helmet-orchid    | 8/1/1995   |
| <i>Cotoneaster pannosus</i>                                    | Cotoneaster             | 2/1/2006   |
| <i>Craspedia variabilis</i>                                    | Billy-buttons           | 3/1/2006   |
| <i>Crassula tetragona</i> ssp. <i>robusta</i>                  | Crassula                | 3/1/2006   |
| <i>Cryptandra hispidula</i>                                    | Rough Cryptandra        | 2/1/2006   |
| <i>Cupressus</i> sp.   | Cypress                 | 3/1/2006   |
| <i>Cycnogeton procerum</i>                                     | Water-ribbons           | 4/21/2006  |
| <i>Cydonia oblonga</i>   | Quince                  | 2/23/2000  |
| <i>Cynodon dactylon</i> var.                                   | Couch                   | 3/1/2006   |
| <i>Cynodon</i> sp.   | Couch                   | 9/14/2001  |
| <i>Cynosurus echinatus</i>                                     | Rough Dog's-tail Grass  | 3/1/2006   |
| <i>Dactylis glomerata</i>                                      | Cocksfoot               | 3/1/2006   |
| <i>Danthonia</i> sp. (NC)                                      | Wallaby-grass           | 9/12/2001  |
| <i>Daucus glochidiatus</i>                                     | Native Carrot           | 3/1/2006   |
| <i>Daviesia brevifolia</i>                                     | Leafless Bitter-pea     | 3/1/2006   |
| <i>Daviesia leptophylla</i>                                    | Narrow-leaf Bitter-pea  | 3/1/2006   |
| <i>Daviesia ulicifolia</i> ssp. <i>incarnata</i>               | Gorse Bitter-pea        | 3/1/2006   |
| <i>Dianella brevicaulis</i>                                    | Short-stem Flax-lily    | 3/1/2006   |
| <i>Dianella brevicaulis/revoluta</i> var.                      | Black-anther Flax-lily  | 8/21/1995  |
| <i>Dianella revoluta</i> var. <i>revoluta</i>                  | Black-anther Flax-lily  | 3/1/2006   |
| <i>Dichelachne crinita</i>                                     | Long-hair Plume-grass   | 3/1/2006   |
| <i>Dichondra repens</i>  | Kidney Weed             | 3/1/2006   |
| <i>Dillwynia hispida</i>                                       | Red Parrot-pea          | 3/1/2006   |
| <i>Diplotaxis muralis</i>                                      | Wall Rocket             | 3/1/2006   |
| <i>Diplotaxis tenuifolia</i>                                   | Lincoln Weed            | 12/2/2009  |
| <i>Dipodium roseum</i>   | Pink Hyacinth Orchid    | 11/11/1999 |
| <i>Drosera auriculata</i>                                      | Tall Sundew             | 3/1/2006   |
| <i>Drosera glanduligera</i>                                    | Scarlet Sundew          | 8/21/1995  |
| <i>Drosera macrantha</i> ssp. <i>planchonii</i>                | Climbing Sundew         | 3/1/2006   |

|  |                           |            |
|--|---------------------------|------------|
| <i>Drosera peltata</i> (NC)                                  | Pale Sundew               | 8/21/1995  |
| <i>Drosera whittakeri</i>                                    | Scented Sundew            | 3/1/2006   |
| <i>Dysphania pumilio</i>                                     | Small Crumbweed           | 3/1/2006   |
| <i>Echinochloa crus-galli</i>                                | Common Barnyard Grass     | 3/1/2006   |
| <i>Echinochloa esculenta</i>                                 | Japanese Millet           | 4/8/2012   |
| <i>Ehrharta calycina</i>                                     | Perennial Veldt Grass     | 3/1/2006   |
| <i>Ehrharta longiflora</i>                                   | Annual Veldt Grass        | 2/1/2006   |
| <i>Ehrharta</i> sp.  | Veldt Grass               | 9/19/2001  |
| <i>Eleocharis gracilis</i>                                   | Slender Spike-rush        | 4/21/2006  |
| <i>Eleocharis sphacelata</i>                                 | Tall Spike-rush           | 12/27/2006 |
| <i>Empodisma minus</i>                                       | Tangled Rope-rush         | 4/21/2006  |
| <i>Epacris impressa</i>                                      | Common Heath              | 3/1/2006   |
| <i>Epilobium billardierianum</i> ssp.                        | Robust Willow-herb        | 8/1/1995   |
| <i>Epilobium billardierianum</i> ssp. <i>billardierianum</i> | Robust Willow-herb        | 4/20/2006  |
| <i>Epilobium billardierianum</i> ssp. <i>X intermedium</i>   | Variable Willow-herb      | 3/19/2014  |
| <i>Epilobium hirtigerum</i>                                  | Hairy Willow-herb         | 3/1/2006   |
| <i>Epilobium pallidiflorum</i>                               | Showy Willow-herb         | 4/21/2006  |
| <i>Eragrostis cilianensis</i>                                | Stink Grass               | 3/1/2006   |
| <i>Eucalyptus baxteri</i>                                    | Brown Stringybark         | 3/1/2006   |
| <i>Eucalyptus camaldulensis</i> ssp.                         | River Red Gum             | 9/20/2001  |
| <i>Eucalyptus cosmophylla</i>                                | Cup Gum                   | 3/1/2006   |
| <i>Eucalyptus fasciculosa</i>                                | Pink Gum                  | 9/19/2001  |
| <i>Eucalyptus leucoxylon</i> ssp.                            | South Australian Blue Gum | 9/20/2001  |
| <i>Eucalyptus leucoxylon</i> ssp. <i>leucoxylon</i>          | South Australian Blue Gum | 8/21/1995  |
| <i>Eucalyptus obliqua</i>                                    | Messmate Stringybark      | 3/1/2006   |
| <i>Eucalyptus ovata</i> (NC)                                 | Swamp Gum                 | 8/21/1995  |
| <i>Eucalyptus ovata</i> ssp.                                 | Swamp Gum                 | 3/1/2006   |
| <i>Eucalyptus</i> sp.  |                           | 9/12/2001  |
| <i>Eucalyptus viminalis</i> ssp. <i>cygnetensis</i>          | Rough-bark Manna Gum      | 3/1/2006   |
| <i>Eucalyptus viminalis</i> ssp. <i>viminalis</i>            | Manna Gum                 | 9/19/2001  |
| <i>Eucalyptus X paludicola</i>                               | Mount Compass Swamp Gum   | 9/13/2013  |
| <i>Euchiton collinus</i>                                     | Creeping Cudweed          | 11/14/1997 |
| <i>Euphorbia maculata</i>                                    | Eyebane                   | 12/2/2009  |
| <i>Euphorbia peplus</i>                                      | Petty Spurge              | 3/1/2006   |
| <i>Euryomyrtus ramosissima</i> ssp. <i>ramosissima</i>       | Rosy Baeckea              | 3/1/2006   |
| <i>Exocarpos cupressiformis</i>                              | Native Cherry             | 3/1/2006   |
| <i>Ficinia nodosa</i>  | Knobby Club-rush          | 9/19/2001  |
| <i>Foeniculum vulgare</i>                                    | Fennel                    | 9/19/2001  |
| <i>Fraxinus angustifolia</i> ssp. <i>angustifolia</i>        | Narrow-leaved Ash         | 3/1/2006   |
| <i>Freesia leichtlinii</i>                                   | Freesia                   | 9/19/2001  |
| <i>Gahnia sieberiana</i>                                     | Red-fruit Cutting-grass   | 4/11/2006  |
| <i>Genista monspessulana</i>                                 | Montpellier Broom         | 3/1/2006   |
| <i>Genoplesium rufum</i>                                     | Red Midge-orchid          | 8/21/1995  |
| <i>Geranium solanderi</i>                                    | Austral Geranium          | 2/1/2006   |
| <i>Geranium</i> sp.  | Geranium                  | 9/20/2001  |
| <i>Glossodia major</i>                                       | Purple Cockatoo           | 9/20/2001  |
| <i>Gompholobium ecostatum</i>                                | Dwarf Wedge-pea           | 3/1/2006   |
| <i>Gonocarpus mezianus</i>                                   | Broad-leaf Raspwort       | 3/1/2006   |
| <i>Gonocarpus micranthus</i> ssp. <i>micranthus</i>          | Creeping Raspwort         | 4/21/2006  |
| <i>Gonocarpus tetragynus</i>                                 | Small-leaf Raspwort       | 3/1/2006   |
| <i>Goodenia blackiana</i>                                    | Native Primrose           | 3/1/2006   |
| <i>Goodenia ovata</i>  | Hop Goodenia              | 3/1/2006   |
| <i>Gramineae</i> sp.   | Grass Family              | 9/20/2001  |
| <i>Gratiola peruviana</i>                                    | Austral Brooklime         | 4/21/2006  |
| <i>Grevillea lavandulacea</i> ssp. <i>lavandulacea</i>       | Spider-flower             | 10/1/2016  |
| <i>Grevillea lavandulacea</i> var. <i>sericea</i> (NC)       | Spider-flower             | 8/21/1995  |
| <i>Hakea carinata</i>  | Erect Hakea               | 3/1/2006   |



|   |                          |            |
|---|--------------------------|------------|
| <i>Hakea rostrata</i>                             | Beaked Hakea             | 3/1/2006   |
| <i>Hedera helix</i> (NC)                          | Ivy                      | 3/1/2006   |
| <i>Helichrysum scorpioides</i> (NC)               | Button Everlasting       | 11/11/1999 |
| <i>Helminthotheca echioides</i>                   | Ox-tongue                | 2/1/2006   |
| <i>Hibbertia empetrifolia</i> ssp. <i>radians</i> | Scrambling Guinea-flower | 3/1/2006   |
| <i>Hibbertia riparia</i>                          | Bristly Guinea-flower    | 3/1/2006   |
| <i>Hibbertia riparia</i> (NC)                     | Guinea-flower            | 11/11/1999 |
| <i>Hibbertia</i> sp.                              | Guinea-flower            | 9/20/2001  |
| <i>Holcus lanatus</i>                             | Yorkshire Fog            | 4/21/2006  |
| <i>Hydrocotyle pterocarpa</i>                     | Wing Pennywort           | 4/21/2006  |
| <i>Hypericum gramineum</i>                        | Small St John's Wort     | 3/1/2006   |
| <i>Hypericum japonicum</i>                        | Matted St John's Wort    | 12/27/2006 |
| <i>Hypericum perforatum</i> ssp. <i>veronense</i> | St John's Wort           | 3/1/2006   |
| <i>Hypochaeris glabra</i>                         | Smooth Cat's Ear         | 11/11/1999 |
| <i>Hypochaeris radicata</i>                       | Rough Cat's Ear          | 4/21/2006  |
| <i>Hypochaeris</i> sp.                            | Cat's Ear                | 3/1/2006   |
| <i>Hypolaena fastigiata</i>                       | Tassel Rope-rush         | 3/1/2006   |
| <i>Hypolepis rugosula</i>                         | Ruddy Ground-fern        | 4/21/2006  |
| <i>Isolepis cernua</i>                            | Nodding Club-rush        | 4/11/2006  |
| <i>Isolepis inundata</i>                          | Swamp Club-rush          | 4/21/2006  |
| <i>Isopogon ceratophyllus</i>                     | Horny Cone-bush          | 3/1/2006   |
| <i>Ixodia achillaeoides</i> ssp. <i>alata</i>     | Hills Daisy              | 11/11/1999 |
| <i>Juncus articulatus</i>                         | Jointed Rush             | 4/20/2006  |
| <i>Juncus caespiticius</i>                        | Grassy Rush              | 4/21/2006  |
| <i>Juncus effusus</i>                             | Soft Rush                | 12/27/2006 |
| <i>Juncus holoschoenus</i>                        | Joint-leaf Rush          | 3/19/2014  |
| <i>Juncus pallidus</i>                            | Pale Rush                | 4/20/2006  |
| <i>Juncus pauciflorus</i>                         | Loose-flower Rush        | 4/21/2006  |
| <i>Juncus planifolius</i>                         | Broad-leaf Rush          | 4/21/2006  |
| <i>Juncus sarophorus</i>                          |                          | 4/21/2006  |
| <i>Juncus</i> sp.                                 | Rush                     | 9/19/2001  |
| <i>Juncus subnodulosus</i>                        | Blunt-flowered Rush      | 9/23/2000  |
| <i>Juncus subsecundus</i>                         | Finger Rush              | 3/1/2006   |
| <i>Kennedia prostrata</i>                         | Scarlet Runner           | 3/1/2006   |
| <i>Lachnagrostis aemula</i>                       | Blown-grass              | 2/1/2006   |
| <i>Lactuca serriola</i> f.                        | Prickly Lettuce          | 3/1/2006   |
| <i>Laxmannia orientalis</i>                       | Dwarf Wire-lily          | 3/1/2006   |
| <i>Leontodon saxatilis</i>                        | Lesser Hawkbit           | 4/21/2006  |
| <i>Lepidobolus drapetocoleus</i>                  | Scale Shedder            | 11/15/1997 |
| <i>Lepidosperma carphoides</i>                    | Black Rapier-sedge       | 3/1/2006   |
| <i>Lepidosperma concavum</i> (NC)                 | Spreading Sword-sedge    | 11/15/1997 |
| <i>Lepidosperma curtisiae</i>                     | Little Sword-sedge       | 1/18/2014  |
| <i>Lepidosperma laterale</i>                      | Tall Sword-sedge         | 8/21/1995  |
| <i>Lepidosperma longitudinale</i>                 | Pithy Sword-sedge        | 4/21/2006  |
| <i>Lepidosperma semiteres</i>                     | Wire Rapier-sedge        | 3/1/2006   |
| <i>Lepidosperma</i> sp.                           | Sword-sedge/Rapier-sedge | 9/19/2001  |
| <i>Lepidosperma viscidum</i>                      | Sticky Sword-sedge       | 3/1/2006   |
| <i>Leptospermum continentale</i>                  | Prickly Tea-tree         | 4/11/2006  |
| <i>Leptospermum lanigerum</i>                     | Silky Tea-tree           | 4/21/2006  |
| <i>Leptospermum myrsinoides</i>                   | Heath Tea-tree           | 3/1/2006   |
| <i>Leucanthemum</i> sp.                           |                          | 3/1/2006   |
| <i>Leucopogon affinis</i>                         | Lance Beard-heath        | 2/1/2006   |
| <i>Leucopogon concurrens</i>                      | Scrambling Beard-heath   | 3/1/2006   |
| <i>Leucopogon hirsutus</i>                        | Hairy Beard-heath        | 10/13/2017 |
| <i>Leucopogon</i> sp.                             | Beard-heath              | 11/11/1999 |
| <i>Leucopogon virgatus</i> var. <i>virgatus</i>   | Common Beard-heath       | 2/1/2006   |
| <i>Lichen</i> sp.                                 |                          | 11/14/1997 |

|  |                             |            |
|--|-----------------------------|------------|
| <i>Lobelia anceps</i>                      | Angled Lobelia              | 4/21/2006  |
| <i>Logania recurva</i>                     | Recurved Logania            | 2/1/2006   |
| <i>Lolium multiflorum</i>                  | Italian Ryegrass            | 11/16/1997 |
| <i>Lolium sp.</i>                          | Ryegrass                    | 3/1/2006   |
| <i>Lomandra fibrata</i>                    | Mount Lofty Mat-rush        | 3/1/2006   |
| <i>Lomandra micrantha ssp.</i>             | Small-flower Mat-rush       | 3/1/2006   |
| <i>Lomandra micrantha ssp. tuberculata</i> | Small-flower Mat-rush       | 11/11/1999 |
| <i>Lomandra multiflora ssp. dura</i>       | Hard Mat-rush               | 3/1/2006   |
| <i>Lophosiphonia prostrata</i>             |                             | 3/9/2005   |
| <i>Lotus subbiflorus</i>                   | Hairy Bird's-foot Trefoil   | 4/11/2006  |
| <i>Lotus uliginosus</i>                    | Greater Bird's-foot Trefoil | 4/21/2006  |
| <i>Luzula densiflora</i>                   | Dense Wood-rush             | 11/16/1997 |
| <i>Lysimachia arvensis</i>                 | Pimpernel                   | 3/1/2006   |
| <i>Lythrum hyssopifolia</i>                | Lesser Loosestrife          | 3/1/2006   |
| <i>Lythrum junceum</i>                     | Mediterranean Loosestrife   | 12/27/2006 |
| <i>Machaerina acuta</i>                    | Pale Twig-rush              | 4/21/2006  |
| <i>Machaerina gunnii</i>                   | Slender Twig-rush           | 4/11/2006  |
| <i>Machaerina juncea</i>                   | Bare Twig-rush              | 3/1/2006   |
| <i>Machaerina laxa</i>                     | Lax Twig-rush               | 4/21/2006  |
| <i>Machaerina rubiginosa</i>               | Soft Twig-rush              | 4/11/2006  |
| <i>Machaerina tetragona</i>                | Square Twig-rush            | 4/21/2006  |
| <i>Marianthus bignoniaceus</i>             | Orange Bell-climber         | 3/1/2006   |
| <i>Melaleuca decussata</i>                 | Totem-poles                 | 3/1/2006   |
| <i>Micrantheum demissum</i>                | Dwarf Micrantheum           | 3/1/2006   |
| <i>Microlaena stipoides var. stipoides</i> | Weeping Rice-grass          | 3/1/2006   |
| <i>Moraea setifolia</i>                    | Thread Iris                 | 9/19/2001  |
| <i>Moss sp.</i>                            |                             | 4/21/2006  |
| <i>Myriophyllum amphibium</i>              | Broad Milfoil               | 4/21/2006  |
| <i>Olea europaea ssp. europaea</i>         | Olive                       | 2/1/2006   |
| <i>Olearia axillaris</i>                   | Coast Daisy-bush            | 9/19/2001  |
| <i>Olearia ciliata var. ciliata</i>        | Fringed Daisy-bush          | 8/21/1995  |
| <i>Olearia grandiflora</i>                 | Mount Lofty Daisy-bush      | 3/1/2006   |
| <i>Olearia ramulosa</i>                    | Twiggy Daisy-bush           | 3/1/2006   |
| <i>Olearia teretifolia</i>                 | Cypress Daisy-bush          | 2/1/2006   |
| <i>Opercularia ovata</i>                   | Broad-leaf Stinkweed        | 3/1/2006   |
| <i>Opercularia turpis</i>                  | Twiggy Stinkweed            | 3/1/2006   |
| <i>Opercularia varia</i>                   | Variable Stinkweed          | 3/1/2006   |
| <i>Ornduffia umbricola var. umbricola</i>  | Lax Marsh-flower            | 4/21/2006  |
| <i>Oxalis perennans (NC)</i>               | Native Sorrel               | 9/19/2001  |
| <i>Oxalis perennans/exilis</i>             | Native Oxalis               | 3/1/2006   |
| <i>Oxalis pes-caprae</i>                   | Soursob                     | 9/19/2001  |
| <i>Paspalum dilatatum</i>                  | Paspalum                    | 3/1/2006   |
| <i>Patersonia fragilis</i>                 | Short Purple-flag           | 11/15/1997 |
| <i>Patersonia occidentalis</i>             | Long Purple-flag            | 3/1/2006   |
| <i>Pauridia glabella var. glabella</i>     | Tiny Star                   | 11/11/1999 |
| <i>Persicaria decipiens</i>                | Slender Knotweed            | 12/2/2009  |
| <i>Persicaria praetermissa</i>             | Spotted Knotweed            | 12/27/2006 |
| <i>Persoonia juniperina</i>                | Prickly Geebung             | 2/1/2006   |
| <i>Phalaris aquatica</i>                   | Phalaris                    | 3/1/2006   |
| <i>Phalaris minor</i>                      | Lesser Canary-grass         | 11/15/1997 |
| <i>Phalaris sp.</i>                        | Canary Grass                | 9/19/2001  |
| <i>Pheladenia deformis</i>                 | Bluebeard Orchid            | 8/20/2000  |
| <i>Phragmites australis</i>                | Common Reed                 | 4/21/2006  |
| <i>Phyllanthus striaticaulis</i>           | Southern Spurge             | 9/13/2013  |
| <i>Pimelea glauca</i>                      | Smooth Riceflower           | 3/1/2006   |
| <i>Pimelea humilis</i>                     | Low Riceflower              | 11/11/1999 |
| <i>Pimelea octophylla</i>                  | Woolly Riceflower           | 3/1/2006   |



|  |                            |            |
|--|----------------------------|------------|
| <i>Pimelea phyllicoides</i>                            | Heath Riceflower           | 11/14/1997 |
| <i>Pimelea serpyllifolia</i> ssp. <i>serpyllifolia</i> | Thyme Riceflower           | 8/21/1995  |
| <i>Pinus halepensis</i>                                | Aleppo Pine                | 3/1/2006   |
| <i>Pinus radiata</i>                                   | Radiata Pine               | 3/1/2006   |
| <i>Pinus</i> sp.                                       | Pine                       | 9/12/2001  |
| <i>Piptatherum miliaceum</i>                           | Rice Millet                | 3/1/2006   |
| <i>Plantago coronopus</i> ssp. <i>coronopus</i>        | Bucks-horn Plantain        | 3/1/2006   |
| <i>Plantago gaudichaudii</i>                           | Narrow-leaf Plantain       | 9/19/2000  |
| <i>Plantago lanceolata</i> var. <i>dubia</i>           | Ribwort                    | 2/1/2006   |
| <i>Plantago lanceolata</i> var. <i>lanceolata</i>      | Ribwort                    | 3/1/2006   |
| <i>Platylobium obtusangulum</i>                        | Holly Flat-pea             | 3/1/2006   |
| <i>Platysace heterophylla</i> var. <i>heterophylla</i> | Slender Platysace          | 3/1/2006   |
| <i>Poa clelandii</i>                                   | Matted Tussock-grass       | 3/1/2006   |
| <i>Poa labillardieri</i> var. <i>labillardieri</i>     | Common Tussock-grass       | 12/11/2020 |
| <i>Polypogon monspeliensis</i>                         | Annual Beard-grass         | 3/1/2006   |
| <i>Populus</i> sp.                                     | Poplar                     | 3/1/2006   |
| <i>Poranthera microphylla</i>                          | Small Poranthera           | 3/1/2006   |
| <i>Poranthera microphylla</i> (NC)                     | Small Poranthera           | 11/16/1997 |
| <i>Prunus</i> sp.                                      | Plum                       | 9/20/2001  |
| <i>Pteridium esculentum</i> ssp. <i>esculentum</i>     | Bracken Fern               | 4/20/2006  |
| <i>Pterostylis nana</i>                                | Dwarf Greenhood            | 3/1/2006   |
| <i>Pterostylis nutans</i>                              | Nodding Greenhood          | 3/1/2006   |
| <i>Pterostylis pedunculata</i>                         | Maroon-hood                | 3/1/2006   |
| <i>Pultenaea acerosa</i>                               | Bristly Bush-pea           | 8/21/1995  |
| <i>Pultenaea canaliculata</i>                          | Soft Bush-pea              | 3/1/2006   |
| <i>Pultenaea daphnoides</i>                            | Large-leaf Bush Pea        | 3/1/2006   |
| <i>Pultenaea involucrata</i>                           | Mount Lofty Bush-pea       | 2/1/2006   |
| <i>Pultenaea largiflorens</i>                          | Twiggy Bush-pea            | 9/20/2001  |
| <i>Pultenaea laxiflora</i>                             | Loose-flower Bush-pea      | 8/21/1995  |
| <i>Pultenaea trinervis</i>                             | Three-nerve Bush-pea       | 3/1/2006   |
| <i>Pultenaea viscidula</i>                             | Dark Bush-pea              | 3/12/2010  |
| <i>Quinetia urvillei</i>                               | Quinetia                   | 9/17/2000  |
| <i>Ranunculus amphitrichus</i>                         | Small River Buttercup      | 4/20/2006  |
| <i>Ranunculus lappaceus</i>                            | Native Buttercup           | 3/1/2006   |
| <i>Ranunculus trilobus</i>                             | Three-lobed Buttercup      | 12/11/2020 |
| <i>Romulea minutiflora</i>                             | Small-flower Onion-grass   | 11/16/1997 |
| <i>Romulea</i> sp.                                     | Onion-grass                | 2/1/2006   |
| <i>Rosa canina</i>                                     | Dog Rose                   | 3/1/2006   |
| <i>Rosa rubiginosa</i>                                 | Sweet Briar                | 3/1/2006   |
| <i>Rosa</i> sp.  | Wild Rose/Briar            | 9/20/2001  |
| <i>Rubus anglocandicans</i>                            |                            | 12/2/2009  |
| <i>Rubus leucostachys</i>                              | Blackberry                 | 12/2/2009  |
| <i>Rubus</i> sp.                                       | Blackberry                 | 3/1/2006   |
| <i>Rumex acetosella</i>                                | Sorrel                     | 3/1/2006   |
| <i>Rumex conglomeratus</i>                             | Clustered Dock             | 12/2/2009  |
| <i>Rytidosperma erianthum</i>                          | Hill Wallaby-grass         | 11/11/1999 |
| <i>Rytidosperma fulvum</i>                             | Leafy Wallaby-grass        | 12/11/2020 |
| <i>Rytidosperma geniculatum</i>                        | Kneed Wallaby-grass        | 3/1/2006   |
| <i>Rytidosperma laeve</i>                              | Smooth Wallaby-grass       | 11/16/1997 |
| <i>Rytidosperma pilosum</i>                            | Velvet Wallaby-grass       | 3/1/2006   |
| <i>Rytidosperma racemosum</i> var. <i>racemosum</i>    | Slender Wallaby-grass      | 3/1/2006   |
| <i>Rytidosperma setaceum</i>                           | Small-flower Wallaby-grass | 11/11/1999 |
| <i>Rytidosperma</i> sp.                                | Wallaby-grass              | 3/1/2006   |
| <i>Salvia verbenaca</i> var.                           | Wild Sage                  | 3/1/2006   |
| <i>Scabiosa atropurpurea</i>                           | Pincushion                 | 3/1/2006   |
| <i>Scaevola albida</i>                                 | Pale Fanflower             | 3/1/2006   |
| <i>Schoenus apogon</i>                                 | Common Bog-rush            | 3/1/2006   |

|   |                         |            |
|---|-------------------------|------------|
| <i>Schoenus breviculmis</i>   | Matted Bog-rush         | 3/1/2006   |
| <i>Schoenus maschalinus</i>   | Leafy Bog-rush          | 4/21/2006  |
| <i>Senecio hispidulus</i>   | Rough Groundsel         | 2/1/2006   |
| <i>Senecio odoratus</i>   | Scented Groundsel       | 3/1/2006   |
| <i>Senecio phelleus</i>   | Woodland Groundsel      | 3/1/2006   |
| <i>Senecio pterophorus</i>  | African Daisy           | 3/1/2006   |
| <i>Senecio quadridentatus</i>   | Cotton Groundsel        | 3/1/2006   |
| <i>Senecio squarrosus</i>   | Squarrose Groundsel     | 11/11/1999 |
| <i>Solanum nigrum</i>   | Black Nightshade        | 3/1/2006   |
| <i>Sonchus asper ssp. glaucescens</i>   | Rough Sow-thistle       | 2/1/2006   |
| <i>Sonchus oleraceus</i>  | Common Sow-thistle      | 3/1/2006   |
| <i>Spyridium thymifolium</i>  | Thyme-leaf Spyridium    | 3/1/2006   |
| <i>Stackhousia aspericocca ssp.</i>   | Bushy Candles           | 3/1/2006   |
| <i>Stackhousia aspericocca ssp. Cylindrical inflorescence (W.R.Barker 1418)</i> | Bushy Candles           | 11/14/1997 |
| <i>Stackhousia sp.</i>  | Candles                 | 11/11/1999 |
| <i>Stellaria angustifolia ssp. angustifolia</i>                                 | Swamp Starwort          | 11/11/1999 |
| <i>Stenanthra conostephioides</i>   | Flame Heath             | 3/1/2006   |
| <i>Stylidium graminifolium</i>  | Grass Trigger-plant     | 3/1/2006   |
| <i>Stylidium graminifolium (NC)</i>   | Grass Trigger-plant     | 11/11/1999 |
| <i>Styphelia exarrhena</i>  | Desert Heath            | 8/21/1995  |
| <i>Styphelia humifusa</i>   | Cranberry Heath         | 3/1/2006   |
| <i>Symphyotrichum subulatum</i>   | Aster-weed              | 2/1/2006   |
| <i>Tetratheca pilosa</i>  | Hairy Pink-bells        | 3/1/2006   |
| <i>Thelymitra antennifera</i>   | Lemon Sun-orchid        | 8/21/1995  |
| <i>Thelymitra azurea</i>  | Azure Sun-orchid        | 4/11/2006  |
| <i>Thelymitra pauciflora (NC)</i>   | Slender Sun-orchid      | 11/14/1997 |
| <i>Thelymitra sp.</i>   | Sun-orchid              | 3/1/2006   |
| <i>Themeda triandra</i>   | Kangaroo Grass          | 3/1/2006   |
| <i>Thysanotus patersonii</i>  | Twining Fringe-lily     | 3/1/2006   |
| <i>Thysanotus racemoides</i>  | Rush Fringe-lily        | 2/1/2006   |
| <i>Tricoryne tenella</i>  | Tufted Yellow Rush-lily | 3/1/2006   |
| <i>Trifolium angustifolium</i>  | Narrow-leaf Clover      | 3/1/2006   |
| <i>Trifolium campestre</i>  | Hop Clover              | 3/1/2006   |
| <i>Trifolium fragiferum var. fragiferum</i>                                     | Strawberry Clover       | 3/1/2006   |
| <i>Trifolium glomeratum</i>   | Cluster Clover          | 11/16/1997 |
| <i>Trifolium sp.</i>  | Clover                  | 9/20/2001  |
| <i>Trifolium subterraneum</i>   | Subterranean Clover     | 11/16/1997 |
| <i>Triglochin striata</i>   | Streaked Arrowgrass     | 4/21/2006  |
| <i>Typha domingensis</i>  | Narrow-leaf Bulrush     | 4/21/2006  |
| <i>Ulex europaeus</i>   | Gorse                   | 12/1/2007  |
| <i>Veronica gracilis</i>  | Slender Speedwell       | 2/24/2006  |
| <i>Viminaria juncea</i>   | Native Broom            | 12/7/1996  |
| <i>Viola odorata</i>  | Common Violet           | 2/1/2006   |
| <i>Viola sieberiana</i>   | Tiny Violet             | 3/1/2006   |
| <i>Vulpia bromoides</i>   | Squirrel-tail Fescue    | 11/11/1999 |
| <i>Vulpia myuros f. megalura</i>  | Fox-tail Fescue         | 11/14/1997 |
| <i>Vulpia sp.</i>   | Fescue                  | 3/1/2006   |
| <i>Wahlenbergia gracilis</i>  | Sprawling Bluebell      | 2/1/2006   |
| <i>Wahlenbergia stricta ssp. stricta</i>  | Tall Bluebell           | 3/1/2006   |
| <i>Xanthorrhoea semiplana ssp.</i>  | Yacca                   | 3/1/2006   |
| <i>Xanthorrhoea semiplana ssp. tateana</i>                                      | Tate's Grass-tree       | 11/11/1999 |
| <i>Xanthosia huegelii</i>   | Hairy Xanthosia         | 3/1/2006   |
| <i>Xanthosia tasmanica</i>  | Southern Xanthosia      | 3/1/2006   |



### Appendix 3. Fauna Species List

| Scientific Name                                  | Common Name                                   | Date of last record |
|--|---|---------------------|
| <i>Acanthiza chrysorrhoa</i>                     | Yellow-rumped Thornbill                       | 2/17/2020           |
| <i>Acanthiza lineata clelandi</i>                | Striated Thornbill (MLR, SE)                  | 2/16/2020           |
| <i>Acanthiza pusilla samueli</i>                 | Brown Thornbill (MLR)                         | 2/17/2020           |
| <i>Acanthiza reguloides australis</i>            | Buff-rumped Thornbill                         | 11/13/2019          |
| <i>Acanthorhynchus tenuirostris halmaturinus</i> | Eastern Spinebill (KI, MLR, southern FR)      | 2/17/2020           |
| <i>Accipiter fasciatus fasciatus</i>             | Brown Goshawk                                 | 2/17/2020           |
| <i>Acrocephalus australis australis</i>          | Australian Reed Warbler                       | 12/13/2019          |
| <i>Aegotheles cristatus cristatus</i>            | Australian Owlet-nightjar                     | 2/17/2020           |
| <i>Alauda arvensis arvensis</i>                  | Eurasian Skylark                              | 12/13/2019          |
| <i>Anas gracilis gracilis</i>                    | Grey Teal                                     | 12/13/2019          |
| <i>Antechinus flavipes</i>                       | Yellow-footed Antechinus                      | 11/18/1997          |
| <i>Anthochaera carunculata</i>                   | Red Wattlebird                                | 2/17/2020           |
| <i>Anthus australis</i>                          | Australian Pipit                              | 12/13/2019          |
| <i>Aquila audax audax</i>                        | Wedge-tailed Eagle                            | 12/13/2019          |
| <i>Artamus cyanopterus</i>                       | Dusky Woodswallow                             | 2/17/2020           |
| <i>Cacatua galerita</i>                          | Sulphur-crested Cockatoo                      | 11/18/2019          |
| <i>Cacatua sanguinea gymnopsis</i>               | Little Corella                                | 12/13/2019          |
| <i>Caligavis chrysops samueli</i>                | Yellow-faced Honeyeater (MLR, southern FR)    | 2/17/2020           |
| <i>Carduelis carduelis britannica</i>            | European Goldfinch                            | 2/17/2020           |
| <i>Cercartetus concinnus</i>                     | Western Pygmy-possum                          | 12/14/1999          |
| <i>Chalcites basalis</i>                         | Horsfield's Bronze Cuckoo                     | 11/10/2019          |
| <i>Chalcites lucidus plagosus</i>                | Shining Bronze Cuckoo                         | 11/28/2019          |
| <i>Chenonetta jubata</i>                         | Maned Duck                                    | 2/17/2020           |
| <i>Christinus marmoratus</i>                     | Marbled Gecko                                 | 11/16/1997          |
| <i>Cisticola exilis exilis</i>                   | Golden-headed Cisticola                       | 12/13/2019          |
| <i>Colluricincla harmonica</i>                   | Grey Shrikethrush                             | 2/17/2020           |
| <i>Colluricincla sp.</i>                         |   | 11/17/1997          |
| <i>Coracina novaehollandiae</i>                  | Black-faced Cuckooshrike                      | 12/13/2019          |
| <i>Cormobates leucophaea grisescens</i>          | White-throated Treecreeper (MLR)              | 12/13/2019          |
| <i>Corvus mellori</i>                            | Little Raven                                  | 2/17/2020           |
| <i>Coturnix pectoralis</i>                       | Stubble Quail                                 | 2/17/2020           |
| <i>Crinia signifera</i>                          | Common Froglet                                | 5/16/2009           |
| <i>Dacelo novaeguineae novaeguineae</i>          | Laughing Kookaburra                           | 2/17/2020           |
| <i>Daphoenositta chrysoptera pileata</i>         | Black-capped Sittella                         | 11/10/2019          |
| <i>Dicaeum hirundinaceum hirundinaceum</i>       | Mistletoebird                                 | 12/13/2019          |
| <i>Egretta novaehollandiae</i>                   | White-faced Heron                             | 12/13/2019          |
| <i>Eolophus roseicapilla</i>                     | Galah   | 2/17/2020           |
| <i>Epthianura albifrons</i>                      | White-fronted Chat                            | 2/17/2020           |
| <i>Eulamprus heatwolei</i>                       | Yellow-bellied Water Skink                    | 12/6/1996           |
| <i>Galaxias brevipinnis</i>                      | Climbing Galaxias                             | 11/21/2003          |
| <i>Galaxias olidus (NC)</i>                      | Mountain Galaxias                             | 2/28/2008           |
| <i>Glossopsitta concinna</i>                     | Musk Lorikeet                                 | 2/17/2020           |
| <i>Grallina cyanoleuca cyanoleuca</i>            | Magpielark                                    | 2/17/2020           |
| <i>Gymnorhina tibicen</i>                        | Australian Magpie                             | 2/17/2020           |
| <i>Hemiergis decresiensis</i>                    | Three-toed Earless Skink                      | 11/16/1997          |
| <i>Hirundo neoxena neoxena</i>                   | Welcome Swallow                               | 11/28/2019          |
| <i>Hypseleotris spp. (complex)</i>               | n/a   | 11/21/2003          |
| <i>Isoodon obesulus obesulus</i>                 | Southern Brown Bandicoot (SA mainland and KI) | 10/31/2011          |
| <i>Lalage tricolor</i>                           | White-winged Triller                          | 11/10/2019          |
| <i>Lampropholis guichenoti</i>                   | Garden Skink                                  | 11/16/1997          |
| <i>Limnodynastes dumerilii</i>                   | Banjo Frog                                    | 9/7/2005            |
| <i>Limnodynastes tasmaniensis</i>                | Spotted Marsh Frog                            | 9/18/2004           |
| <i>Liopholis whitii</i>                          | White's Skink                                 | 1/17/2020           |
| <i>Litoria ewingii</i>                           | Brown Tree Frog                               | 9/7/2005            |

|   |  |            |
|---|--|------------|
| <i>Macropus fuliginosus</i>                         | Western Grey Kangaroo                                  | 10/14/2019 |
| <i>Malurus cyaneus leggei</i>                       | Superb Fairywren (Mainland SA)                         | 2/17/2020  |
| <i>Melithreptus brevirostris</i>                    | Brown-headed Honeyeater                                | 2/17/2020  |
| <i>Melithreptus lunatus</i>                         | White-naped Honeyeater                                 | 12/13/2019 |
| <i>Microcarbo melanoleucos melanoleucos</i>         | Little Pied Cormorant                                  | 12/13/2019 |
| <i>Mus musculus</i>                                 | House Mouse  | 11/17/1997 |
| <i>Nannoperca australis</i>                         | Southern Pygmy Perch                                   | 12/19/2001 |
| <i>Neochmia temporalis temporalis</i>               | Red-browed Finch                                       | 2/17/2020  |
| <i>Neophema elegans elegans</i>                     | Elegant Parrot   | 2/17/2020  |
| <i>Neophema sp.</i>                                 | Neophema parrots                                       | 12/6/1996  |
| <i>Pachycephala fuliginosa fuliginosa</i>           | Western Whistler                                       | 2/17/2020  |
| <i>Pardalotus striatus substriatus</i>              | Striated Pardalote                                     | 2/17/2020  |
| <i>Parvipsitta porphyrocephala</i>                  | Purple-crowned Lorikeet                                | 2/17/2020  |
| <i>Petrochelidon nigricans</i>                      | Tree Martin  | 2/17/2020  |
| <i>Petroica boodang boodang</i>                     | Scarlet Robin  | 2/17/2020  |
| <i>Phaps chalcoptera</i>                            | Common Bronzewing                                      | 2/16/2020  |
| <i>Phaps elegans elegans</i>                        | Brush Bronzewing                                       | 11/10/2019 |
| <i>Phylidonyris novaehollandiae</i>                 | New Holland Honeyeater                                 | 2/17/2020  |
| <i>Phylidonyris novaehollandiae novaehollandiae</i> | New Holland Honeyeater (mainland SA)                   | 12/7/1996  |
| <i>Phylidonyris pyrrhopterus halmaturinus</i>       | Crescent Honeyeater (KI and MLR)                       | 2/17/2020  |
| <i>Platycercus elegans</i>                          | Crimson Rosella  | 2/17/2020  |
| <i>Podargus strigoides</i>                          | Tawny Frogmouth  | 2/16/2020  |
| <i>Poodytes gramineus goulburni</i>                 | Little Grassbird                                       | 12/13/2019 |
| <i>Pseudophryne bibronii</i>                        | Brown Toadlet  | 5/16/2009  |
| <i>Pteropus poliocephalus</i>                       | Grey-headed Flying-fox                                 | 12/31/2019 |
| <i>Rattus fuscipes</i>                              | Bush Rat   | 11/17/1997 |
| <i>Rattus lutreolus</i>                             | Swamp Rat  | 12/9/1996  |
| <i>Rhipidura albiscapa</i>                          | Grey Fantail   | 2/17/2020  |
| <i>Rhipidura leucophrys leucophrys</i>              | Willie Wagtail   | 2/17/2020  |
| <i>Sericornis frontalis</i>                         | White-browed Scrubwren                                 | 2/17/2020  |
| <i>Sericornis frontalis (NC)</i>                    | White-browed Scrubwren                                 | 11/17/1997 |
| <i>Strepera versicolor</i>                          | Grey Currawong   | 2/17/2020  |
| <i>Strepera versicolor melanoptera</i>              | Black-winged Currawong (MLR, MM, SE)                   | 12/6/1996  |
| <i>Sturnus vulgaris vulgaris</i>                    | Common Starling  | 2/17/2020  |
| <i>Tachyglossus aculeatus</i>                       | Short-beaked Echidna                                   | 2/16/2020  |
| <i>Threskiornis spinicollis</i>                     | Straw-necked Ibis                                      | 2/17/2020  |
| <i>Tiliqua rugosa</i>                               | Sleepy Lizard  | 1/19/2000  |
| <i>Trichoglossus moluccanus moluccanus</i>          | Rainbow Lorikeet                                       | 2/17/2020  |
| <i>Turdus merula merula</i>                         | Common Blackbird                                       | 2/17/2020  |
| <i>Varanus rosenbergi</i>                           | Heath Goanna   | 1/26/2009  |
| <i>Varanus sp.</i>                                  | goannas  | 8/18/2018  |
| <i>Vulpes vulpes</i>                                | Fox (Red Fox)  | 2/29/2000  |
| <i>Zoothera lunulata halmaturina</i>                | South Australian Bassian Thrush (southern FR, MLR, KI) | 5/28/2021  |
| <i>Zosterops lateralis</i>                          | Silvereye  | 2/17/2020  |

Appendix 4. SEB Management Plan

Appendix 5. Copies of associated approvals