

Native Vegetation Clearance

Vineyard: Torbreck Barossa Valley

Data Report

Clearance under Section 28 of the Native Vegetation Act 1991

September 2020

Prepared by Dr Sonia Croft



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1. Application information

Application Details

Applicant:	Torbreck Barossa Valley		
Key contact:	Nigel Blieschke Viticulturist M: 0422 653 142 Email: nigel@torbreck.com		
Landowner:	Torbreck Vintners Pty Ltd		
Site Address:	Hillside Vineyard, 50 Daly Road Lyndoch		
Local Government Area:	The Barossa Council	Hundred:	Barossa
Title ID:	CT/5576/287	Parcel ID	Allotment 1 of D21345 (111.6 ha)

Summary of proposed clearance

Purpose of clearance	Clearance required for expansion of vineyard operations at Hillside Winery																				
Description of the vegetation under application	<p>All vegetation has germinated on land previously grown to grapes.</p> <p>Patch A1 = 0.12 ha of regenerating <i>Eucalyptus camaldulensis</i>, <i>Eucalyptus odorata</i> and <i>Acacia pycnantha</i>, all germinated after 1986.</p> <p>69 Scattered trees (including one clump of 28 trees): - 68 germinated after 1986 and one germinated after 1979</p> <table border="1"> <thead> <tr> <th>Species</th> <th># of trees</th> <th>Details</th> </tr> </thead> <tbody> <tr> <td><i>Eucalyptus camaldulensis</i></td> <td>28</td> <td>11 are in a cluster of 350 m² and 11 are in a cluster of 530 m². Six are scattered trees.</td> </tr> <tr> <td><i>Acacia pycnantha</i></td> <td>5</td> <td>Four are < 2.3 m tall and one is 3.5 m tall.</td> </tr> <tr> <td><i>Allocasuarina verticillata</i></td> <td>2</td> <td>Two trees, each 4 m tall.</td> </tr> <tr> <td><i>Eucalyptus odorata</i></td> <td>31</td> <td>3 scattered and one clump of 28 trees.</td> </tr> <tr> <td><i>Eucalyptus leucoxylon ssp pruinosa</i></td> <td>3</td> <td>These are 7 m, 10 m and 11 m tall.</td> </tr> </tbody> </table>			Species	# of trees	Details	<i>Eucalyptus camaldulensis</i>	28	11 are in a cluster of 350 m ² and 11 are in a cluster of 530 m ² . Six are scattered trees.	<i>Acacia pycnantha</i>	5	Four are < 2.3 m tall and one is 3.5 m tall.	<i>Allocasuarina verticillata</i>	2	Two trees, each 4 m tall.	<i>Eucalyptus odorata</i>	31	3 scattered and one clump of 28 trees.	<i>Eucalyptus leucoxylon ssp pruinosa</i>	3	These are 7 m, 10 m and 11 m tall.
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Total proposed clearance - area (ha) and number of trees	0.12 ha patch and 69 scattered trees are proposed to be cleared.																				
Level of clearance	4 (3 if mitigating factors accepted by NVC)																				
Overlay (Planning and Design Code)	Native Vegetation Overlay (Peri-urban zone Id Z4801)																				

Map of proposed clearance area (red boundary) within Allotment 1



Seriously at variance with the Principles of clearance?

All trees except the five small Golden Wattle, *Acacia pycnantha* trees provide potential habitat for up to eight threatened bird species, hence are seriously at variance with Principle 1(b). Moderating Factors: However, due to the trees being relatively young and surrounded by cleared land, they are not considered to be optimum habitat or critical habitat. The proposed offset is substantially greater than that required.

Substantially intact

Nil.

The patch is 0.12 ha and surrounded by exotic Perennial Veldt Grass, *Ehrharta calycina* grassland. The patch was formerly planted to vines, and currently grazed with the ground cover dominated by Perennial Veldt Grass (Intact guidelines suggest at least 1 ha of contiguous vegetation is required for remnant to be considered intact). Much of the patch is regrowth in last 20 years, prior to which it was cleared land (following removal of grape vines). Seven native species recorded within patch – substantially less than expected for this vegetation prior to European settlement.

All scattered trees have a totally exotic understorey.

The clump of scattered trees has < 1% native groundcover and no shrubs.

Mitigation hierarchy	<p>The proposed vineyard is part of a whole property plan that includes setting aside 45 ha of currently degraded native vegetation for conservation and enhancement. Remaining areas are existing vineyards or grazing land.</p> <p>In 1949, this area proposed for clearance was a vineyard and totally clear of native vegetation. 1979 imagery indicates that the current clearance application area was still either vineyard, or lacking native vegetation.</p> <p>The original vineyard within the current application area was likely grubbed in the 1980s under the vine pull scheme with most of the grapes at the Hillside property used in fortified wines. The decline in demand for fortified wines resulted in the State government paying grape growers to remove non required varieties, under the condition that the land was left bare for at least 5 years before replanting. Hence the vines were removed not because of its suitability but due to lack of demand for the variety of grapes.</p> <p>Since that time the new owners have identified the area proposed for clearance as being suitable for growing grapes for premium wine production. All of the current application area and surrounding cleared land is proposed to be planted to grapes due to the soils in this location being highly suitable for grape growing. Such soils are restricted on the property. These soils are very high-quality vineyard soils due to their depth of soil (up to 4 m of soil in some areas) and water holding ability. The soils comprise either a loamy or sandy topsoil over a slowly permeable clay, generally with carbonate in the B horizon. Due to the south to easterly facing aspect they are also protected to some extent from the hot afternoon sun making it an ideal vineyard location.</p> <p>Further, within the proposed vineyard, removal of all <i>Eucalyptus</i> trees is required to prevent the contamination of Eucalyptus oils (1,8-cineole) into the grape skin, causing an unwanted mint aroma in red wines.</p> <p>Hence clearance within the proposed vineyard cannot be minimised as it would impact significantly on wine quality. The applicant's property plan, however, has no plans for further vegetation clearance. In contrast, the applicants have already commenced a program of enhancing all remaining vegetation on the property.</p>
SEB Offset proposal	14.09 ha on-ground (= 89.25 points of gain which well exceeds the 59.55 SEB points required)

2. Purpose of clearance

2.1 Description

The proposed clearance is for the establishment of a vineyard.

2.2 Background

The Hillside vineyard was one of the first vineyards in the Barossa Valley, with vines planted in 1850 still present on the property. The soil composition (clay soils with carbonate) favours the production of premium wines.

The area proposed for clearance has historically been planted with vines, which were still present in 1949 (Plate 1) and partially present in 1979 (Plate 2). By 1986, of the trees currently proposed for clearance, only one tree (namely tree number 42, a *Eucalyptus odorata*, Peppermint Box) is visible in the aerial imagery (Plate 3). Hence, the trees proposed for clearance have all germinated after 1986 (except for the Peppermint Box which germinated between 1979 and 1986).

The applicant (Torbreck Vintner) purchased the 111 hectare property in 2002, adding to Torbreck's existing vineyards in the Barossa Valley. In the past three years, Torbreck have developed a property plan for Hillside property, that sets aside 45 ha for enhancement of existing native vegetation – approximately 40% of the property. Approximately 30% is currently vineyard, with the balance used for cropping and grazing. The area proposed for clearance has heavier textured soils with carbonate, favoured for premium wine production. There are no plans to further expand vineyard operations on Hillside, beyond the current proposal. The remainder of the non-vegetated and non-vine area of the Hillside property (Allotment 1) will be pulse- grazed by sheep which are an integral part of suppressing under-vine growth. There have been no previous clearance applications on Allotment 1.



Plate 1: Area proposed for clearance was planted with grapes in 1949



Plate 2: Area proposed for clearance was either vineyard or grazing land in 1979, with native vegetation not obvious in grazing area



Plate 3: In 1986, the Peppermint Box tree appears to be the only tree present, of the trees currently proposed for clearance

2.3 Location Maps



Figure 1: Location of proposed clearance area (red boundary) in relation to property boundary (Allotment 1) and areas of native vegetation proposed for conservation management (green boundaries)

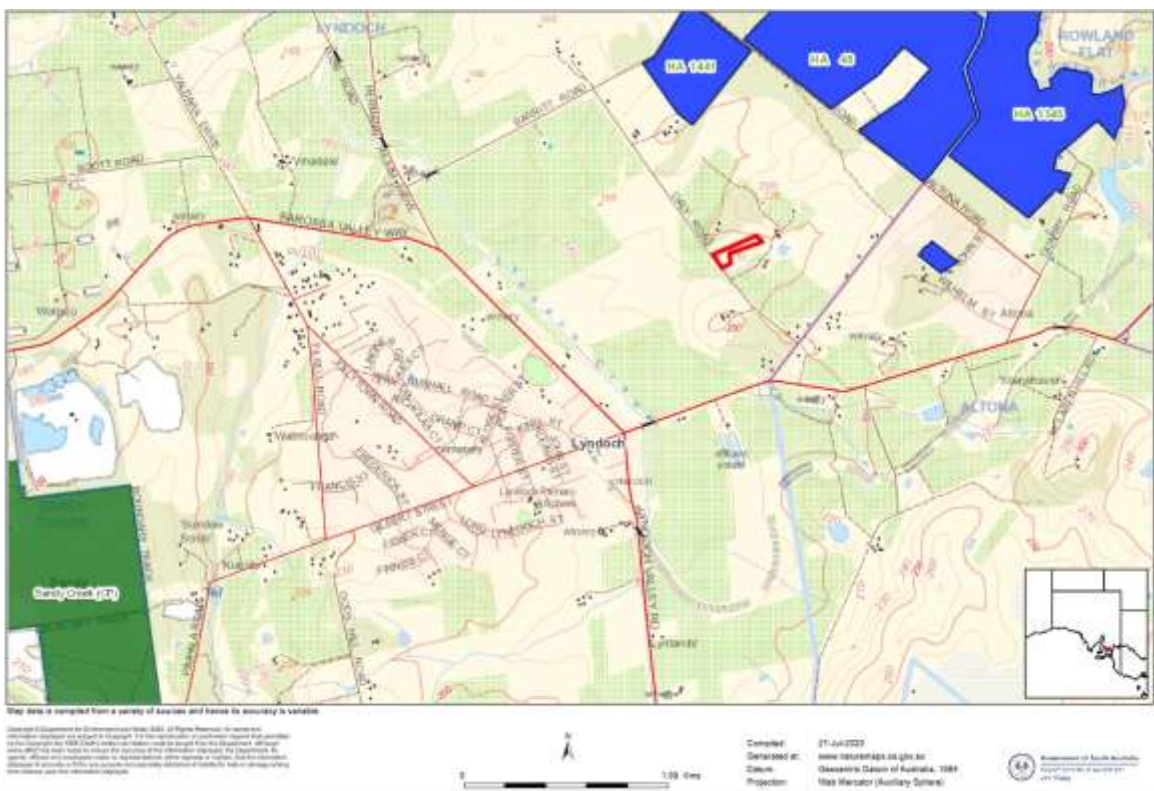


Figure 2: Location of application area (red boundary) in relation to Sandy Creek CP and nearby Heritage Agreement areas (Blue polygons), including HA 1345, Altona CSR Landcare Reserve



Figure 3: Location of clearance area (blue circle) within the Barossa Council area. The application is 1 km NE of Lyndoch

2.4 Details of the proposal

The applicants propose to plant 3.4 ha to vines on an existing vineyard property.

2.5 Approvals required or obtained

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

- **Native Vegetation Act 1991**

No previous clearance applications on this property. The current clearance proposal requires consent under Section 28 of the Native Vegetation Act 1991.

- **Planning, Development and Infrastructure Act 2016 (provide Development Application number/s)**

This act is replacing the *Development Act 1993* and is expected to come into force for urban areas (which includes the Barossa Council) in September 2020.

The applicants have advised that they have approval from Barossa Council to develop the clearance application area.

- **Water Resources Act 1997**

The Hillside property (Allotment 1) currently has a 20 megalitre surface and bore license and also a 45 meg/yr allocation of Barossa Infrastructure water, hence sufficient to water around 65 ha of vineyard at 1meg/ha/yr (current use is 0.5meg/ha/yr or less in wet years)

- **Environment Protection and Biodiversity Conservation Act 1999 (impacts on MNES)**

No Matters of National Environmental Significance (MNES) are impacted

2.6 Development Application information

Overlay = Native Vegetation

Zone = Peri-Urban

Sub-zone - nil

3. Method

3.1 Flora assessment

Prior to the inspection, all flora records held within the Biological Databases of South Australia, recorded within a 5 km radius of the application area were extracted using NatureMaps. A Protected Areas Matters Search was also conducted on a 5 km radius of the application area.

Survey time: The survey was conducted by Sonia Croft.

Monday 20th July 8.30 am to 10 am – overview of application area and application property with agent for the application, Nigel

10 am to 4.30 pm – survey of all scattered trees, and patch

Tuesday 22nd July 2020. On site 8 am to 4 pm.

10 am to 4 pm – survey of potential SEB areas including on site discussion with agent for application area.

3.2 Fauna assessment

Prior to the inspection, all fauna records held within the Biological Databases of South Australia, recorded within a 5 km radius of the application area were extracted using NatureMaps. A Protected Areas Matters Search was also conducted on a 5 km radius of the application area.

No threatened mammals or reptiles have been recorded within a 5 km radius of the application area. The assessment fauna survey therefore focused on searching for threatened bird species that have been recorded within a 5 km radius.

Monday 20th July: Each tree canopy was viewed with binoculars for hollows and presence of fauna, including scratchings and scats. Total time spent assessing scattered trees was 6 hours.

Wednesday 22nd July: Each tree was re-surveyed. Total time spent assessing trees = 2 hours

All birds seen or heard nearby when surveying scattered trees and potential SEB areas were recorded. A total of 24 bird species were recorded during the two days of survey (refer Appendix 1).

4. Assessment Outcomes

4.1 Vegetation Assessment

The vegetation proposed for clearance comprises:

- 4.1.1. Scattered trees, the majority of which are in two clusters of 0.035 ha and 0.053 ha,
- 4.1.2. A clump of scattered trees (0.09 ha)
- 4.1.3. A patch of vegetation (0.12 ha)

As outlined in Background, based on available aerial imagery all but one tree appears to have germinated after 1986 (refer Plate 3). The trees occur on the lower east-facing slope of about 3 degrees, and adjoining flat land. Soils are red clay-loams. **No hollows and no mistletoe were recorded in any of the surveyed trees.**

4.1.1. Scattered Trees

Full details of attributes and photos of each tree are provided in Appendix A. A summary is provided below.

Trees 1 to 11 (*Eucalyptus camaldulensis*) = Cluster of approximately 350 m².

Trees 1 to 11 are in a small cluster within 20 m of the road reserve. These trees are all *Eucalyptus camaldulensis* (Red Gums), and were not present in imagery in 1986 (hence are < 34 years old). They range in height from 4.5 to 11 m (mean height of 8 m). Trunk diameters range from 8 cm to 33 cm, with a mean diameter of 22 cm. Due to the young age of the trees, no hollows were recorded. The trees were in good health with dieback ranging from 0 to 5%. No mistletoe was recorded.

The understorey was entirely exotic, comprising herbs and grasses. At the time of survey, the groundcover comprised *Oxalis pes-caprae*, Soursob (about 50% cover), *Ehrharta calycina*, Perennial Veldt Grass (5 – 25% cover), *Moraea miniata* (Two-leaf Cape Tulip, < 1% cover and *Arctotheca calendula*, Capeweed, < 1% cover. Leaf litter comprised about 25 – 50% groundcover.

Trees 12, 14 and 15 (*Eucalyptus camaldulensis*) = 3 Red Gums all within 1.5 m of the road reserve fence.

These trees are 8.5 m, 11 m and 13 m tall with diameters of 26 cm and 48 cm. Canopy dieback ranged from 0 to 15%. The understorey was sprayed to control exotic species adjoining the boundary fence.

Trees 13 (*Eucalyptus camaldulensis*) = 1 isolated Red Gum

This was one of the larger trees proposed to be cleared, being 11 m tall, a canopy width of 11 m, two-trunks with the largest diameter of 48 cm and with no dieback. The understorey comprised dense *Oxalis pes-caprae*, Soursob and *Ehrharta calycina*, Perennial Veldt Grass with one Olive juvenile. No native understorey or groundcover was present. This tree is also less than 35 years old.

Trees 16, 36, 37, 38 and 40 (*Acacia pycnantha*)

There are five Golden Wattles between 1.2 and 3.5 m tall, near or under the canopy of *Eucalyptus* species. The trunk diameters range from 1 to 5 cm. Hence these trees are likely to be less than 5 – 10 years old.

Trees 17 to 28 (11 *Eucalyptus camaldulensis* and one *Allocasuarina verticillata*) = Cluster of 530 m².

Trees 17 to 28 are in a small cluster within 10 to 35 m of the road reserve, and comprise 11 Red Gums and one Sheoak, the latter is tree 26. These trees were not present in imagery in 1986 (hence are < 34 years old, with some much younger). They range in height from 4 to 14 m (mean height of 10 m). Trunk diameters range from 8 cm to 62

cm, with a mean diameter of 42 cm. Due to the young age of the trees, no hollows were recorded. The trees were in good health with dieback ranging from 0 to 15%. No mistletoe was recorded.

The understorey was entirely exotic. At the time of survey, the groundcover was dominated by *Oxalis pes-caprae*, Soursob, *Asparagus asparagoides*, Bridal Creeper, *Ehrharta calycina*, Perennial Veldt Grass, *Moraea miniata* (Two-leaf Cape Tulip). Three *Rhamnus alaternus* and several *Olea europaea*, Olives were also present.

Trees 29 and 30 (*Eucalyptus camaldulensis*) = Cluster of approximately 530 m².

These are two Red Gums, 13 and 14 m tall, with diameters of 63 and 67 cm and with 0% and 5% dieback.

The understorey was entirely exotic. At the time of survey, the groundcover was dominated by *Oxalis pes-caprae*, Soursob, *Asparagus asparagoides*, Bridal Creeper, *Ehrharta calycina*, Perennial Veldt Grass, and three *Olea europaea*, Olives were also present.

These trees were also absent in 1986. Although they adjoin the patch of vegetation (labelled A1), due to trees 29 and 30 being much larger than trees in the adjoining patch, and with clearly delineated canopies, they have been scored as scattered trees (it should be noted, that if included in the patch, the SEB offset calculation would be much less).

Tree 31 = *Eucalyptus odorata*, Peppermint Box

This tree was 6 m tall with a trunk diameters of 31 cm and no dieback.

Tree 32 = *Eucalyptus leucoxylon ssp pruinosus*, Inland Blue Gum

This tree was 10 m tall with a trunk diameter of 46 cm. No native understorey. This tree was also absent in 1986. Although it adjoins the clump of Peppermint Box trees, it has been scored as a separate isolated tree, due to it being a different species, larger than the Peppermint Box trees, and the canopy can be clearly delineated.

Tree 33 and 34 = *Eucalyptus leucoxylon ssp pruinosus*, Inland Blue Gum

These two Blue gums adjoin fenced remnant vegetation. They are 7 m and 11 m tall with diameters of 34 and 57 cm. No dieback was noted.

Tree 35 = *Allocasuarina verticillata*, Sheoak

This isolated Sheoak was 4 m tall with a trunk diameter of 9 cm, suggesting it is relatively young (perhaps < 10 years old)

Tree 41 = Mature *Eucalyptus odorata*, Peppermint Box

This is a Peppermint Box tree, which is the only tree present in 1986 imagery (although absent in 1979 imagery). This tree has four trunks and is surrounded by dense young Peppermint Box, the latter treated as clump A due to the difficulty in distinguishing individual trees, and the lack of native groundcover. The mature tree has been assessed as an individual scattered tree because of the difference in size and age between this tree and the surrounding trees.

4.1.2. Clump A (28 *Eucalyptus odorata*, Peppermint Box)

Clump A = 28 relatively young *Eucalyptus odorata* surrounding and under the canopy of tree 41

This clump comprised dense younger Peppermint Box, whose trunks average about 10 cm (tree 41 has been assessed as a separate tree) The understorey is largely dense Soursob. One introduced Pine, *Pinus radiata* and a few Olives were also present. The only native understorey was a few tussocks of Wallaby-grass and *Austrostipa* grass, and approximately five severely grazed *Acacia pycnantha* seedlings, all < 0.5 m tall. As the younger Peppermint Box were multi-stemmed and the canopies overlapped, distinguishing individual trees was not possible and hence have been assessed as a clump of approximately 28 Peppermint Box.

This clump covered an area of 0.09 ha, with native groundcover considerably less than 1% cover, hence, within the guidelines for assessing as a clump of scattered trees, rather than a patch. It should be noted that if this was 0.1 ha or more, it could be assessed as a patch, in which case the calculated offset would be considerably less.



Plate 4: Trees 1 – 11 are all relatively young trees within an area of 350 m²



Plate 5: Trees 17 to 28 – cluster of Red Gums



Clump A = One mature *E. odorata* in the center surrounded by 25 younger *E. odorata*.

4.1.3. Patch A1

Vegetation Association = *Eucalyptus camaldulensis* (River Red Gum) – *E. odorata* (Peppermint Box) low open woodland over a lower tree stratum of *Acacia pycnantha* (Golden Wattle).

General Description: An area of 0.12 ha of vegetation has been assessed as a patch. None of the patch was visible in 1986 imagery, and only a few trees were present in 2008, suggesting most of the current vegetation has grown since 2008. The patch is on a gentle south-easterly facing slope (160° aspect, slope = 2°) on red-brown loam to clay-loam (over a clay B horizon). The area is currently grazed by sheep, with severe grazing of juvenile *Acacia pycnantha* plants. With the exception of grazing pressure on *Acacia pycnantha* plants, all trees were in good health, with < 5% canopy dieback.

The majority of the patch contained a dense ground cover of Perennial Veldt Grass. About 25 Olives were recorded. Other prominent exotic species were Soursob, Two-leaved Cape Tulip and Scabiosa.

A total of eight native species were recorded in the patch as follows:

- Five *Eucalyptus camaldulensis* Red gums are present in the patch, ranging from 2 m tall (3 cm trunk diameter) to 5 m tall (trunk diameter = 10 cm), hence all likely to be less than 12 years old.
- Approximately 35 live *Acacia pycnantha* were recorded, including seedlings, juveniles and young adults to about 3 m tall.
- One adult *Callitris gracilis* (6.5 m tall, diameter 27 cm) and 2 juveniles < 1.5 m
- One adult *Eucalyptus odorata* (about 4 m tall) and one juvenile, 2 m tall
- One *Allocasuarina verticillata*, 5 m tall
- *Schoenus apogon*, Common Bog rush, two grazed plants (very small sedge)
- *Juncus subsecundus*, Finger Rush up to 10 sparsely scattered
- *Austrostipa* sp. confined to patch of about 10 m x 10 m

Threatened Fauna of Flora: No threatened flora or fauna species were recorded.

Landscape context score	1.18	Vegetation Condition Score	21.54	Conservation significance score	1.08
Unit biodiversity Score	27.45	Area (ha)	0.12	Total biodiversity Score	3.29



Plate 6: Western half of patch A1 comprising *Acacia pycnantha*, *Eucalyptus odorata* and *Allocasuarina verticillata* over dense Perennial Veldt Grass *Ehrharta calycina*. Photo taken from Easting 307149 Northing 6170147. Photo bearing = 120 degrees



Plate 7: Western half of Patch A1 comprising *Acacia pycnantha*, one young *Eucalyptus camaldulensis* and one young *Callitris gracilis* over dense Perennial Veldt Grass *Ehrharta calycina*. Photo taken from Easting 307149 Northing 6170147. Photo bearing = 200°



Plate 8: The only adult Peppermint Box present in the patch A1, about 4 m tall. Several dead Golden Wattle were present. The ground cover is largely exotic: - particularly Perennial Veldt Grass, *Ehrharta calycina* and Two-leaf Cape Tulip, *Moraea miniata*

Site map showing areas of proposed impact



Figure 4: Scattered trees, scattered tree clump and patch proposed for clearance

4.2 Threatened Species assessment

The PMST results did not contain any threatened species (or their habitat) that are known to occur within the search area.

Table 1: Threatened Species observed on site, or recorded within 5 km of the application area since 1995, or the vegetation is considered to provide suitable habitat

Scientific Name	Common Name	SA	EPBC	Source	Year last record	Species known habitat preferences	Likelihood of use for proposed clearance habitat
<i>Corcorax melanorhamphos</i>	White-winged Chough	R		2	2019	Ground feeder. Taller mallee and woodland	Possible
<i>Coturnix ypsilophora australis</i>	Brown Quail	V		2,3	2012	Dense vegetation, wetter habitats	Unlikely. Open exotic grassland/herbland understorey only present
<i>Falco peregrinus macropus</i>	Peregrine Falcon	R		3	2006	Requires secure nest sites and abundant prey. Most habitats but favours cliffs and rocky habitats. Known to use scattered Red Gums	Possible
<i>Falcunculus frontatus frontatus</i>	Eastern (Crested) Shriketit	R		2	2013	Eucalypt woodlands and forests. Favours Red gum woodland, particularly where young trees occur	Possible. May use clusters of Red Gums
<i>Hieraaetus morphnoides</i>	Little Eagle	V		2	2011	Open forests and woodland remnants	Unlikely. Scattered trees not preferred habitat
<i>Lophoictinia isura</i>	Square-tailed Kite	E		2	2012	Spring-summer breeding visitor to SA, open forest and woodland.	Unlikely. Only one database record
<i>Melanodryas cucullata cucullata</i>	Hooded Robin (YP, MN, AP, MLR, MM, SE)	R		2	2016	Structurally diverse woodlands with an understorey of smaller trees, shrubs and grasses	Unlikely. Area under application lacks structural diversity, inc. shrubs.
<i>Melithreptus gularis</i>	Black-chinned Honeyeater	V		2	2019	Eucalypt woodland of 400 – 700 mm annual rainfall. A mix of mature and regenerating woodland including adjoining scattered trees	Likely
<i>Microeca fascians fascians</i>	Jacky Winter	R		2	2014	Open woodland remnants with an open shrub layer and bare ground. Intolerant of human disturbance and scarce near settled areas.	Unlikely. Areas are highly disturbed and grazed. Lacking a shrub layer.
<i>Myiagra inquieta</i>	Restless Flycatcher	R		2	2017	Open forests and woodlands, often in farmland. In the Mt Lofty Ranges, inhabits Red Gum, Blue Gum and Box Woodland	Likely. Red Gums and Box Woodland are majority of trees applied for clearance.
<i>Neophema elegans elegans</i>	Elegant Parrot	R		2	2011	Wide variety of open habitats. Feeds on the ground on seeds of grasses and herbs	Possible
<i>Oriolus sagittatus sagittatus</i>	Olive-backed Oriole	R		2	2015	Summer migrant to SE Australia. Forests and woodland including well-treed urban areas such as parks and golf courses.	Possible. Very few records.
<i>Petroica boodang boodang</i>	Scarlet Robin	R		2	2019	In the Mt Lofty Ranges, inhabits mostly stringybark forest	Unlikely. Stringybark absent from application area
<i>Stagonopleura guttata</i>	Diamond Firetail	V		2	2019	Woodlands with a grassy understorey. Particularly Sheoak and Red Gums	Likely. Numerous records in this region.

Scientific Name	Common Name	SA	EPBC	Source	Year last record	Species known habitat preferences	Likelihood of use for proposed clearance habitat
<i>Turnix varius varius</i>	Painted Buttonquail	R		3	2012	Eucalypts with litter and shrub cover.	Unlikely. No shrubs present in application area. Groundcover generally exotic herbs and grasses.
<i>Zanda funerea whiteae</i>	Yellow-tailed Black Cockatoo	V		2	2009	Stringybark and adjoining pine forest	Unlikely. Not near Stringybark or pine forests

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

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

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

The above assessment has been confirmed by the Native Vegetation Branch (email from Adam Schutz to Sonia Croft, dated 1/9/2020)

IN SUMMARY, the following species have been excluded from the scattered tree scoresheets

Coturnix ypsilophora australis, Brown Quail
Hieraaetus morphnoides, Little Eagle
Lophoictinia isura, Square-tailed Kite
Melanodryas cucullata cucullata, Hooded Robin
Microeca fascinans, Jacky Winter
Petroica boodang boodang, Scarlet Robin
Turnix varius varius, Painted Buttonquail
Zanda funerea whiteae, Yellow-tailed Black Cockatoo

Additionally, the Native Vegetation Branch confirmed by email from Adam Schutz (1/9/2020) that the five young *Acacia pycnantha* assessed as scattered trees are NOT habitat for any threatened fauna.

IN SUMMARY, the trees under application are considered to provide potentially suitable habitat for

Corcorax melanorhamphos, White-winged Cough **State Rare**
Falco peregrinus Macropus, Peregrine Falcon **State Rare**
Falcunculus frontatus frontatus, Eastern (Crested) Shrike-tit **State Rare**
Melithreptus gularis, Black-chinned Honeyeater **State Vulnerable**
Myiagra inquieta, Restless Flycatcher **State Rare**
Neophema elegans elegans, Elegant Parrot **State Rare**
Oriolus sagittatus sagittatus, Olive-backed Oriole **State Rare**
Stagonopleura guttata, Diamond Firetail **State Vulnerable**

References used

Birds SA website

eBird website

AMLR Threatened species profile fact sheets.

BirdLife Australia species profiles

The application area is within 5 km of Sandy Creek CP, Altona CSR Landcare Reserve, which account for the majority of threatened fauna records. The application area also adjoins two Heritage Agreement Areas.

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

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

4.3 Presence of Substantially Intact Vegetation

If the vegetation is considered to represent a substantially intact stratum, the NVC cannot approve clearance, unless for the purpose of harvesting native vegetation (section 27(3)).

Provide information on whether the native vegetation constitutes a continuous intact stratum.

The NVC's Guide for Applications to Clear Native Vegetation state that for native vegetation to constitute a continuous stratum all of the following (1 – 4) must be satisfied

1. *The plants within the stratum are growing at original (pre-European) density for that community*

Yes, the trees area likely to be of pre-European density, albeit regrowth

2. *It contains a diversity of species similar to original (pre-European) vegetation of that community*

No, the scattered trees contain only an exotic understorey.

The scattered tree clump contains only three understorey species, two species of tree (Peppermint Box and Sheoak) and mistletoe. A total of six native trees is considerably less that what would be expected in pre-European vegetation.

The patch contains a total of only seven native species, considerably less that what would be expected in pre-European vegetation.

3. *It is part of a contiguous area of vegetation consisting of the stratum, including on adjacent properties, that is at least one hectare in area, and for linear patches, greater than 30m in width*

No, the clump is only 0.09 ha and the patch is 0.12 ha and are surrounded by cleared land.

4. *Does not contain introduced perennial species occupying greater than 20% cover within that stratum*

Yes, the tree layer contains less than 20% perennial species.

However, the native ground layer is absent or largely absent (< 5% cover).

The native shrub layer is absent.

Provide information on whether the native vegetation has been subject to degradation within the past 20 years.

The majority of trees are likely to have germinated in the last 20 years. In that time, the vegetation has been grazed and surrounded by cropping land. The area lacks a native shrub and groundcover layer. Almost all juvenile *Acacia pycnantha* are severely grazed.

Provide a key finding on whether any or all of the area of impact could be considered as substantially intact.

Because species diversity has been considerably reduced and the vegetation comprises scattered trees, a scattered tree clump or a patch < 0.12 ha, surrounded by cleared land, the vegetation under application is not considered to be part of a continuous intact stratum and hence **not** substantially intact.

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

If the clearance is seriously at variance with one or more of the principles, the NVC cannot approve clearance, however, the Act provides the NVC with a degree of discretion in certain situations

Principle of Clearance	Considerations
<p>Principle 1a - it comprises a high level of diversity of plant species</p>	<p><u>Relevant information</u> Patch A1: native species diversity = 8; Introduced species diversity = 11</p> <p>Patch A1 Bushland Plant Diversity Score - 10</p> <hr/> <p><u>Assessment against the principles</u></p> <p>= Not at Variance</p> <hr/> <p><u>Moderating factors that may be considered by the NVC</u> = Not applicable</p>
<p>Principle 1b - significance as a habitat for wildlife</p>	<p><u>Relevant information</u> Threatened species that may potentially use the vegetation are: White-winged Chough, Peregrine Falcon, Eastern (Crested) Shriketit, Black-chinned Honeyeater, Restless Flycatcher, Elegant Parrot, Olive-backed Oriole, Diamond Firetail</p> <p>Patch A1 Threatened Fauna Score = 1 Unit biodiversity Score = 27.45</p> <p>Scattered Trees and Scattered Tree Clump Fauna Habitat Score for all trees (excepting <i>Acacia pycnantha</i>) score = 1.4</p> <p>Total Biodiversity Score: all application trees = 56.72</p> <hr/> <p><u>Assessment against the principles</u></p> <p>= Seriously at Variance for Patch and all Scattered Trees (except <i>Acacia pycnantha</i>)</p> <hr/> <p><u>Moderating factors that may be considered by the NVC</u> The vegetation has been assessed as being possible or likely habitat for threatened species, rather than highly likely or known habitat. In all cases, the trees are relatively young and scattered trees. They do not contain hollows and are not part of an intact remnant. The habitat therefore is not optimum habitat. The habitat is not critical to any threatened species. The application area is near extensive areas of intact remnants, including Sandy Creek Conservation Park and Altona CSR Landcare Reserve, from where the majority of threatened bird records within 5 km of the application area, are derived.</p> <p>Further, the proposed offset well exceeds the requirements (89.25 points of gain, well exceeding the 59.55 SEB points required). The proposed offset is providing 14 ha of habitat that contains old mature trees. With active management, the potential for improving these areas is considerable. The Peppermint Box (<i>Eucalyptus odorata</i>) Grassy Woodland currently does not meet criteria for the national Threatened Ecological Community (TEC) but may do with active management. Without active management, the proposed SEB remnants will continue to</p>

	severely degrade with high levels of high threat weeds, notably Olive, Soursob, Perennial Veldt Grass, Bridal Creeper and Two-leaf Cape Tulip.
Principle 1c - plants of a rare, vulnerable or endangered species	<u>Relevant information</u> Nil threatened flora recorded Threatened Flora Score(s) = 0
	<u>Assessment against the principles</u> = Not at Variance
	<u>Moderating factors that may be considered by the NVC</u> = Not applicable
Principle 1d - the vegetation comprises the whole or part of a plant community that is Rare, Vulnerable or endangered:	<u>Relevant information</u> Identify any threatened communities under the EPBC Act or threatened ecosystems under the DEW Provisional list of threatened ecosystems present? Nil (NB: the clump of Peppermint Box is < 0.1 ha, and contains 6 native species (2 grasses and no herbs). It does not meet the criteria for the Threatened Ecological Community "Peppermint Box Grassy Woodland" Threatened Community Score = Nil
	<u>Assessment against the principles</u> = Not at Variance
	<u>Moderating factors that may be considered by the NVC</u> Not applicable
Principle 1e - it is significant as a remnant of vegetation in an area which has been extensively cleared.	<u>Relevant information</u> IBRA Association = 5% IBRA subregion = 15% Total Biodiversity Score for Patch – 3.29
	<u>Assessment against the principles</u> At Variance
	<u>Moderating factors that may be considered by the NVC</u> The patch is not considered to be a remnant patch. It is a small area of regrowth in an area that was historically grape vines and then cropped.
Principle 1f - it is growing in, or in association with, a wetland environment.	<u>Relevant information</u> No
	<u>Assessment against the principles</u> = Not at Variance
	<u>Moderating factors that may be considered by the NVC</u>
Principle 1g - it contributes significantly to the amenity of the area in which it is	<u>Relevant information</u> The trees are relatively young trees and comprise an unsealed road servicing very few houses. Hence there is minimal passing traffic. Further the remnant Red Gums on Daly Road adjoining the application area are considerable larger trees with DBH of 1 – 2 m which provide the main amenity value to road users.
	The trees are not considered to contribute significantly to the amenity of the area.

growing or is situated.	<u>Moderating factors that may be considered by the NVC</u>
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[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.

4.5 Address the Mitigation Hierarchy

The Native Vegetation Council will consider if the applicant has avoided and minimized the clearance of native vegetation as much as practically possible.

a) Avoidance

The area proposed for clearance has historically been a vineyard, and also cropped. In 1949, this area was totally clear of native vegetation. The area proposed for clearance has been identified as suitable for growing grapes for premium wine production. Within the proposed vineyard, removal of all Eucalyptus trees is required to prevent the contamination of Eucalyptus oils (1,8-cineole) into the grape skin, causing an unwanted mint aroma in red wines (red wines are fermented in contact with the grape skin. Airborne transfer of 1,8-cineole occurs up to 20 m of a Eucalypt. A 2012 study concluded to keep 1,8-cineole levels in wine at acceptable levels for consumers, harvesting grapes at about 50 m from Eucalyptus trees would minimise the aromatic effects of eucalyptol on wine (Capone et al 2012)

b) Minimization

The proposed vineyard is in an area of relatively few trees, compared with other areas of suitable soil on the property. All other areas on the property contain remnant vegetation (rather than regrowth), and these other areas will be set aside for conservation.

c) Rehabilitation or restoration

Not applicable for application area.

However, since purchasing the property, the applicants have developed a property plan that sets aside 45 ha for conservation and active enhancement of existing vegetated areas. Since purchasing the property in 2002, the applicants have spent substantial resources in Olive control and fencing in preparation for destocking and restoring remnants. In addition, a degraded gully has been recently fenced in preparation for re-vegetation with locally occurring native species. The property manager has also been working with Barossa Bush Gardens to revegetate a degraded area of sandy heath.

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 proposed offsets satisfy the biodiversity offsetting principles:

- Like for Like – areas of Peppermint Box and Red Gum will be set aside
- Minimum size: All proposed areas are a minimum of 3 ha and greater than 30 m wide for at least 90% of their length.
- Moderate Condition: the areas retain mature trees and some understorey. With active management there is great potential for improving condition.
- Same IBRA region: the offsets will be on the same property/

The proposed vineyard is part of a whole property plan that includes setting aside 45 ha of currently degraded native vegetation for conservation and enhancement. Remaining areas are existing vineyards or grazing land.

In 1949, this area proposed for clearance was a vineyard and totally clear of native vegetation. 1979 imagery indicates that some of the trees under application were in an area still a vineyard, with the remaining current clearance application area lacking native vegetation.

The original vineyard within the current application area was likely grubbed in the 1980's under the State government sponsored vine pull scheme. This was because of declining demand for the grape variety.

Since that time the new owners have identified the area proposed for clearance as being suitable for growing grapes for the premium wine production. All of the paddock within which the vegetation under application is desired to be planted to grapes due to soils in this part of the property being optimal for grape growing.

Within the proposed vineyard, removal of all Eucalyptus trees are required to prevent the contamination of Eucalyptus oils (1,8-cineole) into the grape skin, causing an unwanted mint aroma in red wines.

Hence clearance within the proposed vineyard cannot be minimised as it would impact significantly on wine quality. The applicants however, have demonstrated that clearance elsewhere on the property is not required, and have already commenced a program of enhancing all remaining vegetation on the property.

The original vineyard within the current application area was likely grubbed in the 1980's under the vine pull scheme with most of the grapes at the Hillside property used in fortified wines. The decline in demand for fortified wines resulted in the State government paying grape growers to remove non required varieties, under the condition that the land was left bare for at least 5 years before replanting. Hence the vines were removed not because of its suitability but due to lack of demand for the variety of grapes.

The current owners have identified the area proposed for clearance as being suitable for growing grapes for the premium wine production.

Within the proposed vineyard, removal of all the Eucalyptus trees are required to prevent the contamination of Eucalyptus oils (1,8-cineole) into the grape skin, causing an unwanted mint aroma in red wines.

These soils are very high quality vineyard soils due to their depth of soil (up to 4 m of soil in some areas) and water holding ability. Due to the south to easterly facing aspect they are also protected to some extent from the hot afternoon sun making it an ideal vineyard location.

4.6 Risk Assessment

Determine the level of risk associated with the application

Total clearance	No. of trees	69
	Patch Area (ha)	0.12
	Total biodiversity Score	56.72
Seriously at variance with principle 1(b), 1(c) or 1 (d)	1(b)	
Risk assessment outcome	4 (without moderating factors) 3 (if seriously at variance with Principle 1(b) is moderated to at variance)	

5. Clearance summary

Clearance Area(s) Summary table

Block	Site	Species diversity score	Threatened Ecological community Score	Threatened plant score	Threatened fauna score	UBS	Area (ha)	Total Biodiversity score	Loss factor	Loadings	Reductions	SEB Points required	SEB payment	Admin Fee
A	1	10	1	0	0.08	27.45	0.12	3.29	1			3.46	\$2,428.59	\$133.57
							Total	0.12	3.29			3.46	\$2,428.59	\$133.57

Scattered trees Summary table

The following table is based on all trees (except the five small *Acacia pycnantha*) being potential habitat for 6 State Rate bird species and 2 State Vulnerable or Endangered bird species (as confirmed by the Native Vegetation Branch, email dated 1/9/2020). This requires a total of 56.10 SEB points.

Tree or Cluster ID	Number of trees	Fauna Habitat score	Threatened flora score	Biodiversity score	Loss factor	SEB Points required	SEB Payment	Admin Fee
1	1	1.4	0	1.027883	1	1.08	\$757.83	\$41.68
2	1	1.4	0	0.5327628	1	0.56	\$392.79	\$21.60
3	1	1.4	0	0.3778801	1	0.40	\$278.60	\$15.32
4	1	1.4	0	0.6109683	1	0.64	\$450.45	\$24.77
5	1	1.4	0	0.4475108	1	0.47	\$329.94	\$18.15
6	1	1.4	0	0.4231327	1	0.44	\$311.97	\$17.16
7	1	1.4	0	0.233998	1	0.25	\$172.52	\$9.49
8	1	1.4	0	0.3457212	1	0.36	\$254.89	\$14.02
9	1	1.4	0	0.5641267	1	0.59	\$415.92	\$22.88
10	1	1.4	0	0.3743024	1	0.39	\$275.96	\$15.18
11	1	1.4	0	0.3915828	1	0.41	\$288.71	\$15.88
12	1	1.4	0	1.2906306	1	1.36	\$951.55	\$52.34
13	1	1.4	0	1.3162094	1	1.38	\$970.41	\$53.37
14	1	1.4	0	0.4996297	1	0.52	\$368.37	\$20.26
15	1	1.4	0	0.3657763	1	0.38	\$269.68	\$14.83
16	1	0	0	0.2476479	1	0.26	\$182.59	\$10.04
17	1	1.4	0	0.9851847	1	1.03	\$726.35	\$39.95
18	1	1.4	0	0.6229566	1	0.65	\$459.29	\$25.26
19	1	1.4	0	1.257044	1	1.32	\$926.79	\$50.97
20	1	1.4	0	0.2116392	1	0.22	\$156.04	\$8.58
21	1	1.4	0	1.1704716	1	1.23	\$862.96	\$47.46
22	1	1.4	0	0.5107161	1	0.54	\$376.54	\$20.71
23	1	1.4	0	2.2186371	1	2.33	\$1,635.75	\$89.97
24	1	1.4	0	1.3552078	1	1.42	\$999.16	\$54.95
25	1	1.4	0	1.3842911	1	1.45	\$1,020.61	\$56.13

Tree or Cluster ID	Number of trees	Fauna Habitat score	Threatened flora score	Biodiversity score	Loss factor	SEB Points required	SEB Payment	Admin Fee
26	1	1.4	0	0.2858971	1	0.30	\$210.79	\$11.59
27	1	1.4	0	1.26121	1	1.32	\$929.86	\$51.14
28	1	1.4	0	2.0555698	1	2.16	\$1,515.52	\$83.35
29	1	1.4	0	2.4325351	1	2.55	\$1,793.45	\$98.64
30	1	1.4	0	2.1602898	1	2.27	\$1,592.73	\$87.60
31	1	1.4	0	1.0799517	1	1.13	\$796.22	\$43.79
32	1	1.4	0	2.0620754	1	2.17	\$1,520.32	\$83.62
33	1	1.4	0	2.4499631	1	2.57	\$1,806.30	\$99.35
34	1	1.4	0	1.0255397	1	1.08	\$756.11	\$41.59
35	1	1.4	0	0.355968	1	0.37	\$262.45	\$14.43
36	1	0	0	0.1360888	1	0.14	\$100.34	\$5.52
37	1	0	0	0.0959279	1	0.10	\$70.73	\$3.89
38	1	0	0	0.1360888	1	0.14	\$100.34	\$5.52
39	1	1.4	0	1.018603	1	1.07	\$750.99	\$41.30
40	1	0	0	0.1518557	1	0.16	\$111.96	\$6.16
A	28	1.4	0	15.55995	1	16.34	\$11,472.00	\$630.96
41	1	1.4	0	2.3915884	1	2.51	\$1,763.26	\$96.98
Total	69			53.425014		56.10	\$39,389.04	\$2,166.40

Totals summary table

	Total Biodiversity score	Total SEB points required	SEB Payment	Admin Fee	Total Payment
Application	56.72	59.55	\$41,817.63	\$2,299.97	\$44,117.60

Economies of Scale Factor	0.5
Rainfall (mm)	540

6. Significant Environmental Benefit

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. **Provide information below.**
- 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.

The proposed clearance requires a total of 59.62 SEB points

The SEB is proposed by onground offset areas, as follows:

Summary Table

Block	Site	Vegetation Association	UBS	Gain Score	Area (ha)	SEB Point of Gain
A	1	<i>Eucalyptus odorata</i> +/- <i>Eucalyptus leucoxylon</i> ssp <i>pruinosa</i> open woodland.	34.23	7.45	6.58	49.07
B	1	<i>Eucalyptus camaldulensis</i> +/- <i>Eucalyptus leucoxylon</i> ssp <i>pruinosa</i> open woodland	18.80	5.21	3.18	16.57
C	1	<i>Eucalyptus camaldulensis</i> +/- <i>Eucalyptus leucoxylon</i> ssp <i>pruinosa</i> open woodland	20.75	5.45	4.33	23.61
Total					14.09	89.25

ON-GROUND SEB

Ownership:	Torbreck Vintner		
Site Address:	50 Daly Road Lyndoch SA 5351		
Local Government Area:	The Barossa Council	Hundred:	Barossa
Title ID:	CT/5576/287	Parcel ID	Allotment 1 of D21345 (111.6 ha)

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

The proposed SEB comprises three discrete areas (Figure 5), chosen to meet the SEB policy requirements, including: offsetting vegetation loss with like for like vegetation; vegetation ranging from moderate to degraded condition, requiring limited active revegetation, and minimum size requirements. The offset areas proposed comprise approximately 7.5 ha Red Gum +/- Blue Gum Woodland on loams, on shallow drainage lines and adjoining flats; and approximately 6.6 ha Peppermint Box +/- Blue Gum Open Woodland on clay loams.

The proposed SEB areas are part of a continuous tract of vegetation that includes two Heritage Agreements to the north, including the Altona CSR Landcare Reserve.

Information relating to the relevant land


The land is not under existing formal conservation covenants or other encumbrances. The proposed SEB areas have historically been grazed, including currently. Active management for conservation has only begun in recent years, with fencing under construction to enable future stock exclusion, and commencement of Olive control.

Site map showing areas of the proposed SEB



Figure 5: Proposed SEB areas (A, B and C) for clearance of scattered trees, patch and scattered tree clump

Description of the vegetation

<p>Vegetation Association A1</p>	<p><i>Eucalyptus odorata</i> (Peppermint Box) +/- <i>Eucalyptus leucoxylon ssp pruinosa</i> (Inland SA Blue Gum) +/- <i>Callitris gracilis</i> (Native Pine) open woodland.</p>				
	<p>Plate 9; <i>Eucalyptus odorata</i>, Peppermint Box up to 12 m tall with scattered <i>Callitris gracilis</i>, Native Pine over <i>Olea europaea</i>, Olives and exotic groundcover. Easting 307204 North 6170256. Bearing 140^o</p>				
<p>General description</p>	<p>This area is dominated by <i>Eucalyptus odorata</i>, Peppermint Box of mixed ages, including remnant trees up to 12 m tall. <i>Eucalyptus leucoxylon ssp pruinosa</i>, Blue Gum is largely confined to the southern half of this area (south-east-facing aspect).</p> <p>Landform: Gentle slopes of 2 - 10 degrees. Soils: Red clay loams with dominant aspect varying from south-east to south-west.</p> <p>Understorey is dominated by exotics, with Olives of high density (1000's) and an exotic groundcover of Soursob, Two-leaf Cape Tulip, Capeweed and Storks Bill. Native understorey is sparse, with occasional patches of native herbs, sedges and grasses.</p> <p>Tree Health: The Peppermint Box and to a lesser extent were estimated to have an average of about 30% canopy dieback. The relatively poor health may be due to the abundance of Olives., competing for water. Trees on the edge of the remnant also had a higher Mistletoe load.</p> <p>Native Species Diversity: 11 native plant species were recorded in the Bushland Assessment A1a and 8 were recorded in A1b.</p> <p>With stock exclusion and ongoing intensive weed control, the potential for natural regeneration of natives (trees, shrubs and groundcovers) is considered high.</p>				
<p>Threatened species or community</p>	<p>In good condition, Peppermint Box grassy woodland is a Nationally Threatened Ecological Community (TEC) (> 15 native plant species in a 0.25 ha, including at least 3 herbaceous species and at least 2 grass species.). With active management, the proposed SEB area may improve to qualify as a TEC. Peppermint Box and Blue Gum woodlands are also recognised as a State threatened ecological community (DEH in progress)</p>				
<p>Landscape context score</p>	<p>1.16</p>	<p>Vegetation Condition Score</p>	<p>24.54</p>	<p>Conservation significance score</p>	<p>1.28</p>
<p>Gain Score</p>	<p>7.64</p>	<p>Area (ha)</p>	<p>6.58</p>	<p>SEB Points of Gain</p>	<p>50.27</p>

Vegetation Association B1	<i>Eucalyptus camaldulensis</i> (River Red Gum) +/- <i>Eucalyptus leucoxylon ssp pruinosus</i> (Inland SA Blue gum) open woodland.
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Plate 10 Mixed age Red Gums include a few remnant trees over sparse Olives and dense Perennial Veldt Grass. Easting 307107 Northing 6170788. Bearing 20 degrees

General description	<p>This area is dominated by <i>Eucalyptus camaldulensis</i> of mixed age classes and of various densities. <i>Eucalyptus leucoxylon ssp pruinosus</i>, Blue Gum and <i>Eucalyptus odorata</i>, Peppermint Box occur at the northern end of the proposed offset.</p> <p>Landform: An indistinct drainage line, with a gentle gradient of < 1°.</p> <p>Soils: Brown loam</p> <p>Understorey: The open understorey is almost exclusively exotic, dominated by Perennial Veldt Grass, Large Quaking Grass, Soursob, and Smooth Cats-ear. Scattered Olives are present. Native groundcover was confined to sparse Finger Rush, <i>Juncus subsecundus</i>.</p> <p>Tree Health: The trees were generally in good health, with < 20% dieback. Mistletoe was recorded in several trees, but at low infestation levels per canopy.</p> <p>Native Species Diversity: 7 native plant species were recorded in the Bushland Assessment B1.</p> <p>This area has recently been fenced. With stock exclusion and ongoing intensive weed control, the potential for natural regeneration of native trees is considered high. It is recommended that some supplementary planting occur.</p>
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Threatened species or community	Red Gum is not a threatened ecological community. No threatened flora or fauna species were recorded.				
Landscape context score	1.15	Vegetation Condition Score	15.14	Conservation significance score	1.08
Gain Score	5.21	Area (ha)	3.18	SEB Points of Gain	16.57


Vegetation Association C1	<i>Eucalyptus camaldulensis</i> (River Red Gum) +/- <i>Eucalyptus leucoxylon</i> ssp <i>pruinosa</i> (Inland SA Blue gum) open woodland.				
	<p><i>Plate 11: Red Gums of mixed ages over an open exotic understorey, dominated by Perennial Veldt Grass and Soursob. Easting 307630 Northing 6170279. Bearing 205°</i></p>				
<p>General description</p>	<p>This area is dominated by <i>Eucalyptus camaldulensis</i> of mixed age classes and of various densities. <i>Eucalyptus leucoxylon</i> ssp <i>pruinosa</i>, Blue Gum occupy a small area in the center of the proposed offset. There are also scattered Wirilda, <i>Acacia retinodes</i> scattered throughout, many of which are naturally senescing.</p> <p>Landform: Indistinct drainage lines, with a gentle gradient of < 1°.</p> <p>Soils: Brown loam to clay loam</p> <p>Understorey: The open understorey is almost exclusively exotic, dominated by Perennial Veldt Grass, Large Quaking Grass, Soursob, and in patches, Two-leaf Cape Tulip. Scattered Olives are present. Native groundcover was confined to sparse Finger Rush, <i>Juncus subsecundus</i>. At the northern end of the eastern drainage line, Lupins form a dense groundcover.</p> <p>Tree Health: The trees were generally in good health, with < 20% dieback. Mistletoe was recorded in several trees, but at low infestation levels per canopy.</p> <p>Native Species Diversity: 8 native plant species were recorded in the Bushland Assessment C1.</p> <p>This area has recently been partially fenced. With stock exclusion and ongoing intensive weed control, the potential for natural regeneration of native trees is considered high. It is recommended that some supplementary planting occur.</p>				
<p>Threatened species or community</p>	<p>Red Gum is not a threatened ecological community. No threatened flora or fauna species were recorded.</p>				
<p>Landscape context score</p>	<p>1.15</p>	<p>Vegetation Condition Score</p>	<p>16.71</p>	<p>Conservation significance score</p>	<p>1.08</p>
<p>Gain Score</p>	<p>5.45</p>	<p>Area (ha)</p>	<p>4.33</p>	<p>SEB Points of Gain</p>	<p>23.61</p>

Photo log



Plate 12: Mixed age *Eucalyptus leucoxylon ssp pruinosa* over Olives, Soursob and Two-leaf Cape Tulip. Easting 307275 Northing 6170260 Bearing 60 degrees



Plate 13: *Eucalyptus leucoxylon ssp pruinosa*, Blue Gum over *Allocasuarina verticillata*, Sheoak, *Olea europaea*, Olives, *Oxalis pes-caprae*, Soursob and *Moraea setifolia*, Two-leaf Cape Tulip. Easting 307204 North 6170256. Bearing 150⁰

Fauna and Flora assessment

The proposed offset areas are considered to provide potentially suitable habitat for those species in Table 1 (as per the clusters of trees under application). And additionally, potential habitat for Little Eagle, Hooded Robin and Jacky Winter, due to the proposed restoration of the native understorey in these areas.

Environmental Benefits

The clearance proposal requires 59 points of gain. However, the applicants are willing to offset 89 points of gain. This will enhance approximately 14 ha of existing Red Gum +/- Blue Gum Woodland and Peppermint Box +/- Blue Gum Woodland as an offset for approximately 0.3 ha of clearance. If not actively managed these proposed offset areas will continue to decline due to the abundance of high threat environmental weeds.

The offset areas retain natural or near natural density of overstorey trees with some sparse native understorey. Red Gums and Blue Gums are excellent habitat for supporting a high diversity of bird species. The application area adjoins two Heritage Agreements to the north. These areas include the Altona CSR Landcare Reserve, known for providing habitat for numerous threatened birds. Enhancing the conservation value of the proposed SEB areas will increase habitat for these threatened species, and create corridors for bird movement.

Removal of stock grazing and intensive weed control – particularly Olives, Soursob, Two-leaf Cape Tulip and Perennial Veldt grass is likely to result in significant natural regeneration. Notably, the offset areas contain no recent regeneration of trees, with juveniles of *Eucalyptus* species < 2 m tall absent. Active management is likely to result in an increased number of trees, many times that of the number of trees removed.

The Peppermint Box Woodland has the potential to meet criteria of the Nationally TEC Peppermint Box grassy woodland.

The applicants have demonstrated their commitment to active management by commencing fencing of these areas and beginning Olive control.

Summary Table

Block	Site	Vegetation Association	UBS	Gain Score	Area (ha)	SEB Point of Gain
A*	1	<i>Eucalyptus odorata</i> +/- <i>Eucalyptus leucoxylon</i> ssp <i>pruinosa</i> open woodland.	34.23	7.45	6.58	49.07
B	1	<i>Eucalyptus camaldulensis</i> +/- <i>Eucalyptus leucoxylon</i> ssp <i>pruinosa</i> open woodland	18.80	5.21	3.18	16.57
C	1	<i>Eucalyptus camaldulensis</i> +/- <i>Eucalyptus leucoxylon</i> ssp <i>pruinosa</i> open woodland	20.75	5.45	4.33	23.61
Total					14.09	89.25

*average of A1a and A1b

SEB Management Plan

The Management Plan for the proposed SEB area is attached in the appendices.

7. Appendices

Appendix 1. Bird species recorded during survey (20th and 22nd July 2020)

Scientific name	Common Name	Notes
<i>Gymnorhina tibicen</i>	Australian Magpie	Common, widespread
<i>Anthochaera carunculata</i>	Red Wattlebird	Heard in Driveway trees (planted Sugar Gums)
<i>Coracina novaehollandiae</i>	Black-faced Cuckooshrike	Heard in BAM SEB A1
<i>Corvus mellori</i>	Little Raven	Common, overhead
<i>Cacatua sanguinea sanguinea</i>	Little Corella	Heard, flying over
<i>Dacelo novaeguineae</i>	Laughing Kookaburra	Seen flying through A2
<i>Strepera versicolor melanoptera</i>	Black-winged Currawong (MLR, MM, SE)	Heard A1, adjoining property, in Roadside trees
<i>Eolophus roseicapilla</i>	Galah	Common, widespread
<i>Platycercus elegans</i>	Crimson Rosella	Common, widespread
<i>Egretta novaehollandiae</i>	White-faced Heron	Red gums near dam
<i>Manorina melanocephala</i>	Noisy Miner	Scattered trees
<i>Psephotus haematonotus haematonotus</i>	Red-rumped Parrot (eastern SA except NE)	Flock in Red Gums east of dam
<i>Glossopsitta concinna</i>	Musk Lorikeet	Common in Red Gums on adjoining Road Reserve
<i>Ocyphaps lophotes</i>	Crested Pigeon	Common
<i>Geopelia placida placida</i>	Peaceful Dove	Heard near A5
<i>Rhipidura albiscapa</i>	Grey Fantail	SEB A1
<i>Rhipidura leucophrys leucophrys</i>	Willie Wagtail	Seen in Peppermint Box, SEB A1
<i>Pardalotus striatus substriatus</i>	Striated Pardalote	Scattered Tree No. 26 (Sheoak)
<i>Petroica goodenovii</i>	Red-capped Robin	Sitting in Acacia retinodes
<i>Cacomantis flabelliformis flabelliformis</i>	Fan-tailed Cuckoo	Heard calling in SEB A1
<i>Zosterops lateralis</i>	Silvereye	Seen in A1
<i>Colluricincla harmonica</i>	Grey Shrikethrush	Heard calling in vegetation on western boundary of Allotment 1
<i>Malurus cyaneus leggei</i>	Superb Fairywren (Mainland SA)	Heard in Olives in SEB B1
<i>Hirundo neoxena neoxena</i>	Welcome Swallow	Frequent, flying in open paddock near scattered trees

Appendix 2: Details of Scattered Trees

Tree	Species	# of trees	Height	# of Hollows	Diameter	Dieback	TBS
1	<i>Eucalyptus camaldulensis</i> *	1	11	0	33	1	1.03
2	<i>Eucalyptus camaldulensis</i>	1	8	0	29	0	0.53
3	<i>Eucalyptus camaldulensis</i>	1	7.5	0	17	0	0.38
4	<i>Eucalyptus camaldulensis</i>	1	10	0	30	0	0.61
5	<i>Eucalyptus camaldulensis</i>	1	8	0	24	5	0.45
6	<i>Eucalyptus camaldulensis</i>	1	8	0	20	0	0.42
7	<i>Eucalyptus camaldulensis</i>	1	4.5	0	8	0	0.23
8	<i>Eucalyptus camaldulensis</i>	1	7	0	15	0	0.35
9	<i>Eucalyptus camaldulensis</i>	1	9	0	29	0	0.56
10	<i>Eucalyptus camaldulensis</i>	1	6.5	0	19	0	0.37
11	<i>Eucalyptus camaldulensis</i>	1	8	0	19	5	0.39
12	<i>Eucalyptus camaldulensis</i>	1	13	0	48	15	1.29
13	<i>Eucalyptus camaldulensis</i>	1	11	0	48	0	1.32
14	<i>Eucalyptus camaldulensis</i>	1	8.5	0	26	2	0.50
15	<i>Eucalyptus camaldulensis</i>	1	7	0	17	0	0.37
16	<i>Acacia pycnantha</i>	1	3.5	0	5	0	0.25
17	<i>Eucalyptus camaldulensis</i>	1	8.5	0	37	1	0.99
18	<i>Eucalyptus camaldulensis</i>	1	9.5	0	32	0	0.62
19	<i>Eucalyptus camaldulensis</i>	1	9	0	53	0	1.26
20	<i>Eucalyptus camaldulensis</i>	1	4	0	8	5	0.21
21	<i>Eucalyptus camaldulensis</i>	1	9.5	0	44	0	1.17
22	<i>Eucalyptus camaldulensis</i>	1	8.5	0	28	5	0.51
23	<i>Eucalyptus camaldulensis</i>	1	13	0	62	0	2.22
24	<i>Eucalyptus camaldulensis</i>	1	14	0	48	15	1.36
25	<i>Eucalyptus camaldulensis</i>	1	13	0	51	10	1.38
26	<i>Allocasuarina verticillata</i>	1	4	0	24	60	0.29
27	<i>Eucalyptus camaldulensis</i>	1	12	0	43	5	1.26
28	<i>Eucalyptus camaldulensis</i>	1	14	0	57	10	2.06
29	<i>Eucalyptus camaldulensis</i>	1	14	0	67	0	2.43
30	<i>Eucalyptus camaldulensis</i>	1	13	0	63	5	2.16
31	<i>Eucalyptus odorata</i>	1	6	0	31	0	1.08
32	<i>Eucalyptus leucoxylon ssp pruinosa (see map)</i>	1	10	0	46	0	2.06
33	<i>Eucalyptus leucoxylon ssp pruinosa (see map)</i>	1	11	0	57	0	2.45
34	<i>Eucalyptus leucoxylon ssp pruinosa (see map)</i>	1	7	0	34	0	1.03
35	<i>Allocasuarina verticillata</i>	1	4	0	9	0	0.36
36	<i>Acacia pycnantha</i>	1	2	0	2	0	0.14
37	<i>Acacia pycnantha</i>	1	1.2	0	1	0	0.10
38	<i>Acacia pycnantha</i>	1	2	0	2	0	0.14
39	<i>Eucalyptus odorata</i>	1	7.5	0	21	0	1.02
40	<i>Acacia pycnantha</i>	1	2.2	0	3	0	0.15

Tree	Species	# of trees	Height	# of Hollows	Diameter	Dieback	TBS
41	<i>Eucalyptus odorata</i> **	1	9	0	42	0	2.39
A	<i>Eucalyptus odorata</i> ***	28	8	0	10	0	15.56

*= *Eucalyptus camaldulensis var camaldulensis*

** Older tree in centre of clump assessed as an individual scattered tree

*** Clump of younger trees surrounding tree 41

Appendix 3. Bushland and Scattered Tree Vegetation Assessment Scoresheets associated with the proposed clearance and SEB Area (to be submitted in Excel format)

Appendix 4. Flora Species List – refer Bushland Assessment Excel Files

Appendix 5. SEB Management Plan

Reference

Capone, D.L. Jeffery, D.W and Sefton, M.A. (2012). Vineyard and fermentation studies to elucidate the origin of 1,8-Cineole in Australian red wine. *Journal of Agricultural and Food Chemistry*. 60: 2281-2287

DEH (in progress) Provisional list of State threatened plant associations. Department for Environment and Heritage.