




Vegetation Assessment of Hallett Cove Conservation Park, June 2021



T&M Ecologists Pty Ltd

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T&M Ecologists Pty Ltd
8 Strathalbyn Road
Aldgate, South Australia 5154
Telephone: (08) 8185 3225
Tim.milne@tmecologists.com.au

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1. Introduction

Hallett Cove Conservation Park is significant for both its geological features, but also for the diversity of flora and fauna it supports. The Green Adelaide Landscape Board (formerly the Adelaide and Mount Lofty Ranges Natural Resources Management Board) has been documenting the assets of, and threats to, remnant vegetation in coastal sites within the Board area, including Tennyson Dunes, Marino Conservation Park, Southport Dunes, Thompson Beach, Torrens Island, Normanville Dunes and Buckland Park. This assessment, including mapping vegetation and undertaking BushRAT evaluation, provides a baseline of current condition, and can help underpin management planning in the site, such as the Biodiversity Action Plans that have been developed for a number of the aforementioned sites. In addition, it will provide the ability to monitor changes in the longer term. For example, repeat measurements using this method in Tennyson Dunes showed significant improvement in the cover and abundance of a number of weed species (as a result of both contractor and volunteer works), along with significant improvements in species richness, native plant lifeforms and native understorey biomass in areas that have been the focus of management activities¹.

2. Methods

2.1 BushRAT assessments

T&M Ecologists divided the site into zones based largely on the groupings designated by Croft and Croft². In these zones, one or more assessments was undertaken using the “BushRAT” technique developed by the SA Department for Environment, Water and Natural Resources. The assessment incorporates one hectare area surrounding the primary photopoint for the location, or if the zone is less than one hectare, the entirety of the zone. In addition, at least one other photopoint was taken for each assessment. Nineteen areas were assessed on 28th and 29th June 2021, as shown in Figure 1.

The BushRAT technique is derived from the Nature Conservation Society of South Australia’s ‘Bushland Condition Monitoring’ (BCM) methodology, including a Rapid Assessment version (Croft et al, 2005), however it assesses an area of vegetation of one hectare of consistent condition rather than the 30m x 30m quadrats used in the BCM methodology. At least one photopoint was installed in each assessment area, with additional photopoints shown on Figure 1. Details of additional photopoints are provided in Appendix 1.

Three ‘components’ of the biodiversity value of the site are measured and scored:

- vegetation condition;
- conservation value; and
- landscape context.

For the purposes of this study, only vegetation condition has been scored.

¹ Milne, T. (2020). Tennyson Dunes Vegetation Condition Change Evaluation 2014-2020. Unpublished report prepared for Natural Resources Adelaide and Mount Lofty Ranges.

² Croft, S. and Croft, T. (2019). Hallett Cove Conservation Park Land Unit Descriptions, Section 1550, Allotments 20 & 21 of Filed Plan 28675 Hundred of Noarlunga. Unpublished report prepared for the Department for Environment and Water.

Regional flora conservation ratings are those of Gillam and Urban (2014)³, with State fauna and flora conservation ratings from the Schedules of the *National Parks and Wildlife Act 1972*, and National conservation ratings from the *Environment Protection and Biodiversity Conservation Act 1999*.

It should be noted that the DEWNR BushRAT system was updated in 2017, and again in early 2019 and re-named “Native Vegetation Bushland Assessment”⁴. This update includes modifications to the scoring sheet and methodology for calculating vegetation condition, conservation significance and landscape context. However, this report has continued to use the BushRAT system as per DEWNR 2012⁵, to retain compatibility with data that has previously been collected in coastal sites.

2.2 Scoring Components in the BushRAT metric

It is not the intent of this report to provide an extensive overview of the use and application of the BushRAT methodology. A full description of the method and its application can be found within DEWNR (2012)⁶. For this project, only the vegetation condition components of the BushRAT metric were scored (as these are the components that would be expected to change over time with management intervention). The Vegetation Condition Score is from a total of 80 points, or 65 points where the community is a treeless community type (such as coastal shrubland). Table 1 describes the scoring components for Vegetation Condition.

Table 1: Scoring components for the BushRAT metric

Vegetation condition component	Overview description
Native Plant Species Diversity	A count of the number of species present is compared to a “benchmark” value for that vegetation type. This is then allocated a score from 0-15.
Weed Score	The cover and abundance of all weed species present is recorded. The 5 weeds with the highest product of threat rating and cover are summed to provide a score. This is then compared to a “benchmark” value for that vegetation type, and allocated a score from 0-15.
Native Plant Life Forms	The cover of different native plant life forms is compared to a “benchmark” value for that vegetation type. This is then allocated a score from 0-10.
Regeneration	The total number of woody native species in juvenile or seedling form is recorded and compared to a “benchmark” value for that vegetation type. This is then allocated a score from 0-8.
Native:exotic Understorey Biomass	The percentage of the total <i>vegetative biomass</i> of shrubs and groundcover plants < 2m high that is native is noted. This is then allocated a score from 0-10.
Bare Ground	The percentage of the grounds surface that is truly bare is noted and allocated a score from 0-3.
Tree Health	Average overall overstorey canopy health is allocated to a category, and then a score from 0-5. Scored only where trees are an expected component of the vegetation community.

³ Gillam, S. and Urban, R. (2014) Regional Species Conservation Assessment Project, Phase 1 Report: Regional Species Status Assessments, Adelaide and Mount Lofty Ranges NRM Region. Department of Environment, Water and Natural Resources, South Australia.

⁴ Native Vegetation Management Unit (2017). Native Vegetation Council (NVC) Bushland Assessment Manual. Department for Environment, Water and Natural Resources, Adelaide.

⁵ DEWNR (2012) NVBMU BushRAT assessment and scoring Manual. Unpublished document, Department for Environment, Water and Natural Resources, Waite.

⁶ DEWNR (2012) NVBMU BushRAT assessment and scoring Manual. Unpublished document, Department for Environment, Water and Natural Resources, Waite.

Vegetation condition component	Overview description
Tree Hollows	This score relates to the number of small and large tree hollows present, with a rating of 0-5. Scored only where trees are an expected component of the vegetation community.
Fallen timber	This score relates to the amount of branch and trunk sized logs present, with a rating of 0-5. Scored only where trees are an expected component of the vegetation community.
Grazing Evidence	This score relates to evidence of grazing pressure, including pugging, compacting and chewing. The score is from 0-4.

3. Results

3.1 Broad Summary of Vegetation

The vegetation was divided into ten main types, based upon overstorey dominants and landscape context. A total of nineteen assessments were undertaken. Table 1 provides an overview of the assessments undertaken in each site.

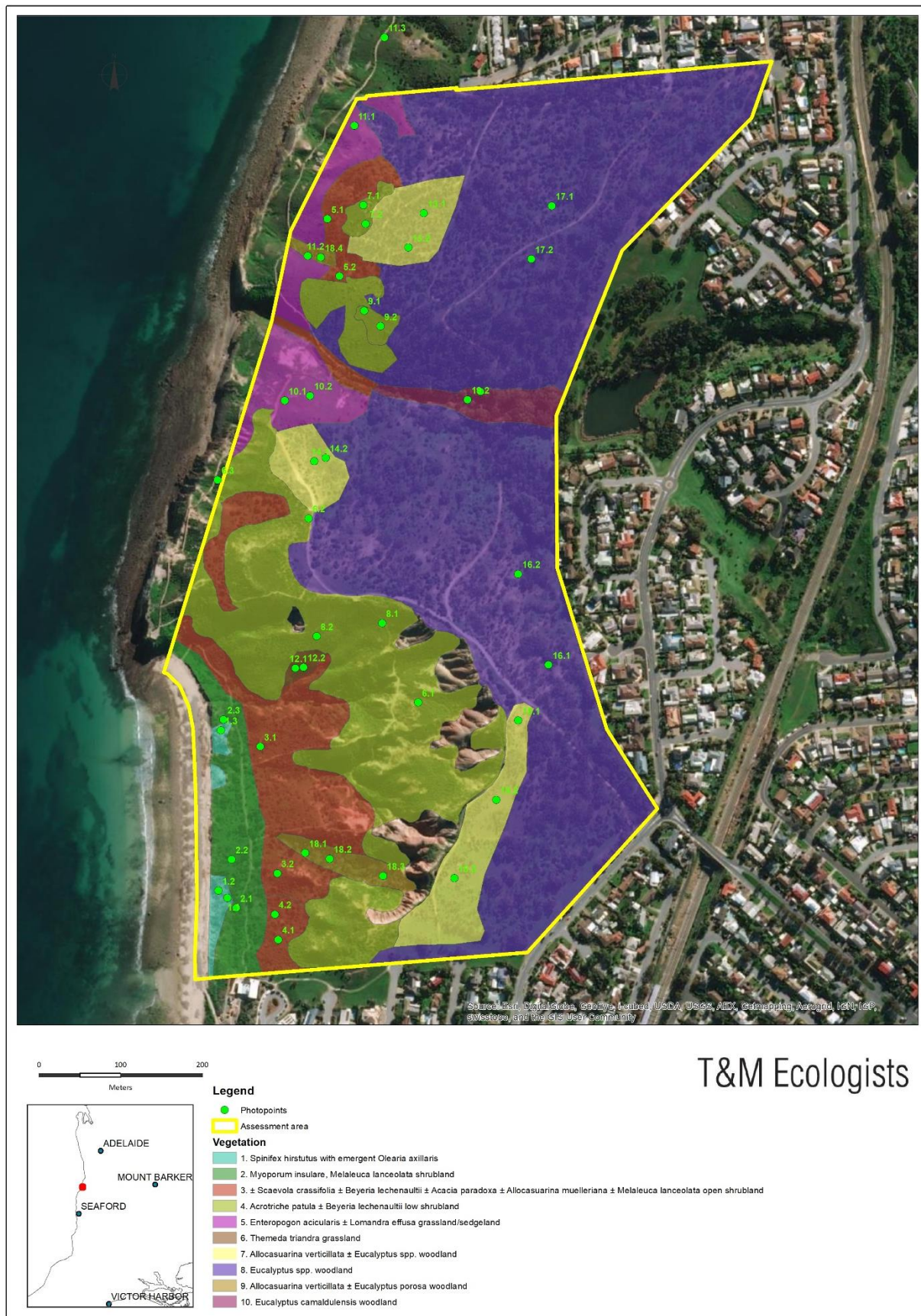


Figure 1: Vegetation types and locations of photopoints

Table 1: Details of vegetation assessments undertaken

Vegetation mapping group	Vegetation Community Description	Assessment number
<i>Spinifex hirsutus</i> grassland with emergent <i>Olearia axillaris</i>	<i>Spinifex hirsutus</i> grassland with emergent <i>Olearia axillaris</i>	1
<i>Myoporum insulare</i> , <i>Melaleuca lanceolata</i> shrubland	<i>Myoporum insulare</i> , <i>Melaleuca lanceolata</i> shrubland	2
± <i>Scaevola crassifolia</i> ± <i>Beyeria lechenaultii</i> ± <i>Acacia paradoxa</i> ± <i>Allocasuarina muelleriana</i> ± <i>Melaleuca lanceolata</i> open shrubland	<i>Scaevola crassifolia</i> , <i>Allocasuarina muelleriana</i> , <i>Melaleuca lanceolata</i> open shrubland	3
	<i>Beyeria lechenaultii</i> shrubland with emergent <i>Melaleuca lanceolata</i> , <i>Allocasuarina muelleriana</i>	4
	<i>Acacia paradoxa</i> , <i>Allocasuarina muelleriana</i> , <i>Melaleuca lanceolata</i> shrubland	5
<i>Acrotriche patula</i> ± <i>Beyeria lechenaultii</i> low shrubland	<i>Beyeria lechenaultii</i> , <i>Acrotriche patula</i> low shrubland with emergent ± <i>Santalum acuminatum</i> , <i>Pittosporum angustifolium</i>	6
	<i>Acrotriche patula</i> low shrubland	7
	<i>Beyeria lechenaultii</i> , <i>Acrotriche patula</i> low shrubland with emergent ± <i>Pittosporum angustifolium</i> , <i>Melaleuca lanceolata</i> , <i>Allocasuarina verticillata</i>	8
	<i>Acrotriche patula</i> low shrubland	9
<i>Enteropogon acicularis</i> ± <i>Lomandra effusa</i> grassland/sedgeland	<i>Enteropogon acicularis</i> , <i>Lomandra effusa</i> grassland/sedgeland	10
	<i>Enteropogon acicularis</i> grassland	11
<i>Themeda triandra</i> grassland	<i>Themeda triandra</i> grassland	12
<i>Allocasuarina verticillata</i> ± <i>Eucalyptus</i> spp. woodland	<i>Allocasuarina verticillata</i> ± <i>Eucalyptus</i> spp. woodland	13
	<i>Allocasuarina verticillata</i> woodland	14
	<i>Allocasuarina verticillata</i> woodland	15
<i>Eucalyptus</i> spp. woodland	<i>Eucalyptus</i> spp. woodland	16
	<i>Eucalyptus</i> spp., <i>Melaleuca lanceolata</i> woodland	17
<i>Allocasuarina verticillata</i> ± <i>Eucalyptus porosa</i> woodland	<i>Allocasuarina verticillata</i> ± <i>Eucalyptus porosa</i> woodland	18
<i>Eucalyptus camaldulensis</i> woodland	<i>Eucalyptus camaldulensis</i> woodland	19

3.2 BushRAT Assessment Data

3.2.1 *Spinifex hirsutus* grassland with emergent *Olearia axillaris*

Description of this Vegetation type: Associated with foredunes along the coast in the northern part of the Park. Contains a good diversity of coastal dune species and lifeforms. There were scattered high threat weeds present, including *Arctotis stoechadifolia* (White Arctotis), *Aizoon pubescens* (Coastal Galenia), *Cynodon dactylon* var. *dactylon* (Couch), *Euphorbia paralias* (Sea Spurge), *Tribulus terrestris* (Caltrop) and *Oxalis pes-caprae* (Soursob). Ongoing weed control by the Friends of Hallett Cove has prevented these highly invasive species from becoming dominant in this area.

Key Management Issues:

- Presence, albeit at generally low levels, of high threat weeds for coastal dune ecosystems

Bushland Assessment Data for assessed sites in this community:

Hallett Cove Conservation Park Assessment Area: 1 **Date:** June 28, 2021

Vegetation Association: *Spinifex hirsutus* grassland with emergent *Olearia axillaris*

Vegetation Mapping Community (Figure 1): *Spinifex hirsutus* with emergent *Olearia axillaris*

Benchmark Vegetation Community: SMLR Co 7.1 - Coastal Tussock Grasslands



Indicative Image of this site (photopoint 1.1, facing S at 271741, 6115470 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 71-80%	Native Understorey Biomass Score (/10):	8
Native Plant species count: 12	Native Plant Species benchmark score (/15):	15
Native Plant Lifeform Cover Score: 13	Native Plant Lifeform benchmark score (/10):	9
Weed abundance and Threat Score: 23	Weed abundance/threat benchmark score (/15):	1
Regeneration score: 1	Regeneration benchmark score (/8)	NA

Grazing Evidence score (/4)	4
Bare Ground Score (/3)	3
TOTAL (/57)	40

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	2	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	2	'Sedges' ≤ 1m	2
Trees < 5m		Herbs		Hummock grass	4
Mallee > 5m		Mat Plants	3	Vines, scramblers	
Mallee ≤ 5m		Grasses >0.2m		Mistletoe	
Shrubs > 2 m		Grasses ≤ 0.2m		Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

3.2.2 *Myoporum insulare*, *Melaleuca lanceolata* shrubland

Description of this Vegetation type: This vegetation type occurs at the back of the foredune in the southern end of the park. The dominant overstorey species are *Myoporum insulare* (Boobialla) and *Melaleuca lanceolata* (Dryland Tea-tree). Some dieback was noted in both of these species. The soils for this vegetation are brownish sandy loams, rather than the white sands of the foredune. There is a good diversity of species and lifeforms present, although the groundcover is generally dominated by introduced grasses and herbs, with *Oxalis pes-caprae* (Soursob) particularly prolific. Other weeds of concern included *Euphorbia terracina* (False Caper), *Euphorbia terracina* (False Caper), *Aizoon pubescens* (Coastal Galenia) and *Cenchrus clandestinus* (Kikuyu).

Key Management Issues:

- Low cover of native understorey grasses and herbs
- Evidence of some shrub dieback
- High threat weeds

Bushland Assessment Data for assessed sites in this community:

Hallett Cove Conservation Park Assessment Area: 2 **Date:** June 28, 2021

Vegetation Association: *Myoporum insulare*, *Melaleuca lanceolata* shrubland

Vegetation Mapping Community (Figure 1): *Myoporum insulare*, *Melaleuca lanceolata* shrubland

Benchmark Vegetation Community: SMLR Co 7.2 - Coastal Shrublands and Tall Shrublands



Indicative Image of this site (photopoint 2.1, facing SE at 271752, 6115458 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 11-20%	Native Understorey Biomass Score (/10):	2
Native Plant species count: 30	Native Plant Species benchmark score (/15):	14
Native Plant Lifeform Cover Score: 15	Native Plant Lifeform benchmark score (/10):	8
Weed abundance and Threat Score: 27	Weed abundance/threat benchmark score (/15):	4
Regeneration score: 0	Regeneration benchmark score (/8)	0
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	1
	TOTAL (/65)	33

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	3	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	2	'Sedges' ≤ 1m	1a
Trees < 5m	1	Herbs		Hummock grass	1a
Mallee > 5m		Mat Plants	1a	Vines, scramblers	1
Mallee ≤ 5m		Grasses >0.2m		Mistletoe	
Shrubs > 2 m	4	Grasses ≤ 0.2m	1a	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

3.2.3 ± *Scaevola crassifolia* ± *Beyeria lechenaultii* ± *Acacia paradoxa* ± *Allocasuarina muelleriana* ± *Melaleuca lanceolata* open shrubland

Description of this Vegetation type: This vegetation type occurred mostly on lower west facing hillslopes. Historical 1949 aerial photography indicates that this area was predominantly cleared at that time, and the species that are now present are the result of both natural regeneration, and judicious planting by the Friends of Hallett Cove. The vegetation community is generally an open shrubland type, but the overstorey species differ, with *Beyeria lechenaultii* (Pale Turpentine Bush) generally dominant at the southern end of the mapped extent of this vegetation type, *Scaevola crassifolia* (Cushion Fanflower), *Rhagodia candolleana* (Sea-berry Saltbush), *Melaleuca lanceolata* (Dryland Tea-tree) and *Allocasuarina muelleriana* ssp. *muelleriana* (Common Oak-bush) dominant in central sections, and *Acacia paradoxa* (Kangaroo Thorn) more prominent at the northern end. The groundcover is mostly introduced grasses and herbs, reflecting the long-term disturbance in this area, although pleasingly native grasses, mat plants and herbs are at moderate levels in some patches. Principal weeds of concern are *Oxalis pes-caprae* (Sour sob), *Asphodelus fistulosus* (Onion Weed), *Carthamus lanatus* (Saffron Thistle), *Scabiosa atropurpurea* (Pincushion), *Chondrilla juncea* (Skeleton Weed), *Cynodon dactylon* var. *dactylon* (Couch) and *Moraea flaccida* (Cape Tulip) (not observed during this project but noted during previous surveys). It is recognised that many of these species have been restrained or reduced by ongoing weed control activities.

Key Management Issues:

- Low cover of native understorey grasses and herbs in some areas
- High cover of grassy and herbaceous weeds
- High threat weeds

Bushland Assessment Data for assessed sites in this community:

Hallett Cove Conservation Park Assessment Area: 3 **Date:** June 28, 2021

Vegetation Association: *Scaevola crassifolia*, *Allocasuarina muelleriana*, *Melaleuca lanceolata* open shrubland

Vegetation Mapping Community (Figure 1): ± *Scaevola crassifolia* ± *Beyeria lechenaultii* ± *Acacia paradoxa* ± *Allocasuarina muelleriana* ± *Melaleuca lanceolata* open shrubland

Benchmark Vegetation Community: SMLR Co 7.4 - Coastal Cliff Low Shrublands, Hummock Grasslands & Very Low Open Woodlands



Indicative Image of this site (photopoint 3.1, facing S at 271781, 6115655 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 21-30%	Native Understorey Biomass Score (/10):	3
Native Plant species count: 27	Native Plant Species benchmark score (/15):	14
Native Plant Lifeform Cover Score: 13	Native Plant Lifeform benchmark score (/10):	8
Weed abundance and Threat Score: 26	Weed abundance/threat benchmark score (/15):	3
Regeneration score: 2	Regeneration benchmark score (/8)	3
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	1
	TOTAL (/65)	36

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	3	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	3	'Sedges' ≤ 1m	1a
Trees < 5m	1	Herbs		Hummock grass	
Mallee > 5m		Mat Plants	1	Vines, scramblers	
Mallee ≤ 5m		Grasses >0.2m		Mistletoe	
Shrubs > 2 m	2	Grasses ≤ 0.2m	2	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

Hallett Cove Conservation Park Assessment Area: 4

Date: June 28, 2021

Vegetation Association: *Beyeria lechenaultii* shrubland with emergent *Melaleuca lanceolata*, *Allocasuarina muelleriana*

Vegetation Mapping Community (Figure 1): ± *Scaevola crassifolia* ± *Beyeria lechenaultii* ± *Acacia paradoxa* ± *Allocasuarina muelleriana* ± *Melaleuca lanceolata* open shrubland

Benchmark Vegetation Community: SMLR Co 7.4 - Coastal Cliff Low Shrublands, Hummock Grasslands & Very Low Open Woodlands



Indicative Image of this site (photopoint 4.1, facing SSE at 271803, 6115419 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 21-30%	Native Understorey Biomass Score (/10):	3
Native Plant species count: 20	Native Plant Species benchmark score (/15):	12
Native Plant Lifeform Cover Score: 11	Native Plant Lifeform benchmark score (/10):	6
Weed abundance and Threat Score: 26	Weed abundance/threat benchmark score (/15):	3
Regeneration score: 1	Regeneration benchmark score (/8)	2
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	1
	TOTAL (/65)	31

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	3	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	2	'Sedges' ≤ 1m	1
Trees < 5m	1	Herbs		Hummock grass	
Mallee > 5m		Mat Plants	1	Vines,scramblers	
Mallee ≤ 5m		Grasses >0.2m		Mistletoe	
Shrubs > 2 m	1	Grasses ≤ 0.2m	1a	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

Hallett Cove Conservation Park Assessment Area: 5

Date: June 29, 2021

Vegetation Association: *Acacia paradoxa*, *Allocasuarina muelleriana*, *Melaleuca lanceolata* shrubland

Vegetation Mapping Community (Figure 1): ± *Scaevola crassifolia* ± *Beyeria lechenaultii* ± *Acacia paradoxa* ± *Allocasuarina muelleriana* ± *Melaleuca lanceolata* open shrubland

Benchmark Vegetation Community: SMLR Co 7.4 - Coastal Cliff Low Shrublands, Hummock Grasslands & Very Low Open Woodlands



Indicative Image of this site (photopoint 5.1, facing SE at 271863, 6116300 on June 29, 2021)

BushRAT assessment data:

Native understorey biomass: 31-40%	Native Understorey Biomass Score (/10):	4
Native Plant species count: 32	Native Plant Species benchmark score (/15):	15
Native Plant Lifeform Cover Score: 10	Native Plant Lifeform benchmark score (/10):	6
Weed abundance and Threat Score: 18	Weed abundance/threat benchmark score (/15):	5
Regeneration score: 1	Regeneration benchmark score (/8)	2
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	1
	TOTAL (/65)	37

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	3	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	2	'Sedges' ≤ 1m	1a
Trees < 5m		Herbs	1a	Hummock grass	
Mallee > 5m		Mat Plants		Vines,scramblers	1
Mallee ≤ 5m		Grasses >0.2m	1a	Mistletoe	
Shrubs > 2 m		Grasses ≤ 0.2m	1a	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

3.2.4 *Acrotriche patula* ± *Beyeria lechenaultii* low shrubland

Description of this Vegetation type: This vegetation type occurred on the mids and upper slopes, and it contained a high diversity of species. On more western sections it contains a moderate introduced grass and herb biomass like 3.2.3, but on very steep slopes and shallow soils weed biomass is very low. Overall condition would be described as good to very good due to the diversity of species and lifeforms present. The overstorey is principally small to medium sized shrubs, with *Acrotriche patula* (Prickly Ground-berry) persistent throughout, and *Beyeria lechenaultii* (Pale Turpentine Bush), *Acacia acinacea* (Wreath Wattle), *Pomaderris paniculosa* ssp. *paniculosa* (Mallee Pomaderris) and *Eutaxia microphylla* (Common Eutaxia) present in most areas, forming a low shrub (<1m) cover of 30-70%. Scattered emergent small trees/large shrubs also occur in this community, with species including *Santalum acuminatum* (Quandong), *Pittosporum angustifolium* (Native Apricot), *Melaleuca lanceolata* (Dryland Tea-tree), *Myoporum insulare* (Common Boobialla) and *Olearia axillaris* (Coast Daisy-bush). Key weeds in this vegetation type include woody weeds *Lycium ferocissimum* (African Boxthorn), *Olea europaea* (African Boxthorn) and the Weed of National Significance *Asparagus asparagoides* (Bridal Creeper), all of which were at low levels at the time assessment was undertaken.

Key Management Issues:

- High threat woody weeds

Bushland Assessment Data for assessed sites in this community:

Hallett Cove Conservation Park Assessment Area: 6 **Date:** June 28, 2021

Vegetation Association: *Beyeria lechenaultii*, *Acrotriche patula* low shrubland with emergent ± *Santalum acuminatum*, *Pittosporum angustifolium*

Vegetation Mapping Community (Figure 1): *Acrotriche patula* ± *Beyeria lechenaultii* low shrubland

Benchmark Vegetation Community: SMLR Co 7.4 - Coastal Cliff Low Shrublands, Hummock Grasslands & Very Low Open Woodlands



Indicative Image of this site (photopoint 6.1, facing SE at 271974, 6115709 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 81-90%	Native Understorey Biomass Score (/10):	9
Native Plant species count: 31	Native Plant Species benchmark score (/15):	15
Native Plant Lifeform Cover Score: 16	Native Plant Lifeform benchmark score (/10):	9
Weed abundance and Threat Score: 13	Weed abundance/threat benchmark score (/15):	7
Regeneration score: 5	Regeneration benchmark score (/8)	7
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	3
	TOTAL (/65)	54

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	4	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	3	'Sedges' ≤ 1m	1a
Trees < 5m		Herbs	1a	Hummock grass	
Mallee > 5m		Mat Plants	1a	Vines,scramblers	1
Mallee ≤ 5m		Grasses >0.2m	1a	Mistletoe	
Shrubs > 2 m	1	Grasses ≤ 0.2m	2	Ferns	1

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

Hallett Cove Conservation Park Assessment Area: 7

Date: June 29, 2021

Vegetation Association: *Acrotriche patula* low shrubland

Vegetation Mapping Community (Figure 1): *Acrotriche patula* ± *Beyeria lechenaultii* low shrubland

Benchmark Vegetation Community: SMLR Co 7.4 - Coastal Cliff Low Shrublands, Hummock Grasslands & Very Low Open Woodlands



Indicative Image of this site (photopoint 7.1, facing SW at 271907, 6116317 on June 29, 2021)

BushRAT assessment data:

Native understorey biomass: 81-90%	Native Understorey Biomass Score (/10):	9
Native Plant species count: 23	Native Plant Species benchmark score (/15):	13
Native Plant Lifeform Cover Score: 17	Native Plant Lifeform benchmark score (/10):	9
Weed abundance and Threat Score: 16	Weed abundance/threat benchmark score (/15):	6
Regeneration score: 8	Regeneration benchmark score (/8)	8
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	3
	TOTAL (/65)	52

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	3	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	4	'Sedges' ≤ 1m	3
Trees < 5m	1	Herbs	1a	Hummock grass	
Mallee > 5m		Mat Plants		Vines, scramblers	1
Mallee ≤ 5m		Grasses >0.2m	3	Mistletoe	
Shrubs > 2 m		Grasses ≤ 0.2m	1a	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

Hallett Cove Conservation Park Assessment Area: 8

Date: June 28, 2021

Vegetation Association: *Beyeria lechenaultii*, *Acrotriche patula* low shrubland with emergent \pm *Pittosporum angustifolium*, *Melaleuca lanceolata*, *Allocasuarina verticillata*

Vegetation Mapping Community (Figure 1): *Acrotriche patula* \pm *Beyeria lechenaultii* low shrubland

Benchmark Vegetation Community: SMLR Co 7.4 - Coastal Cliff Low Shrublands, Hummock Grasslands & Very Low Open Woodlands



Indicative Image of this site (photopoint 8.1, facing W at 271930, 6115806 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 91-100%	Native Understorey Biomass Score (/10):	10
Native Plant species count: 31	Native Plant Species benchmark score (/15):	15
Native Plant Lifeform Cover Score: 17	Native Plant Lifeform benchmark score (/10):	9
Weed abundance and Threat Score: 5	Weed abundance/threat benchmark score (/15):	12
Regeneration score: 2	Regeneration benchmark score (/8)	3
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	3
	TOTAL (/65)	56

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	3	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	3	'Sedges' \leq 1m	3
Trees < 5m	1	Herbs	1a	Hummock grass	
Mallee > 5m		Mat Plants	1	Vines, scramblers	1
Mallee \leq 5m		Grasses >0.2m	1a	Mistletoe	
Shrubs > 2 m	1	Grasses \leq 0.2m	1a	Ferns	1

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

Hallett Cove Conservation Park Assessment Area: 9

Date: June 29, 2021

Vegetation Association: *Acrotriche patula* low shrubland

Vegetation Mapping Community (Figure 1): *Acrotriche patula* ± *Beyeria lechenaultii* low shrubland

Benchmark Vegetation Community: SMLR Co 7.4 - Coastal Cliff Low Shrublands, Hummock Grasslands & Very Low Open Woodlands



Indicative Image of this site (photopoint 9.1, facing SE at 271908, 6116188 on June 29, 2021)

BushRAT assessment data:

Native understorey biomass: 81-90%	Native Understorey Biomass Score (/10):	9
Native Plant species count: 18	Native Plant Species benchmark score (/15):	11
Native Plant Lifeform Cover Score: 16	Native Plant Lifeform benchmark score (/10):	9
Weed abundance and Threat Score: 18	Weed abundance/threat benchmark score (/15):	5
Regeneration score: 3	Regeneration benchmark score (/8)	4
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	3
	TOTAL (/65)	45

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	2	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	4	'Sedges' ≤ 1m	4
Trees < 5m		Herbs	1a	Hummock grass	
Mallee > 5m		Mat Plants		Vines,scramblers	2
Mallee ≤ 5m		Grasses >0.2m	2	Mistletoe	
Shrubs > 2 m		Grasses ≤ 0.2m	1	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

3.2.5 *Enteropogon acicularis* ± *Lomandra effusa* grassland/sedgeland

Description of this Vegetation type: This vegetation type occurred on slopes above the steep slopes and cliffs at the northern end of the Park. *Enteropogon acicularis* (Umbrella Grass) forms a moderate to dense tussock grassland, with *Lomandra effusa* (Scented Mat-rush) becoming a co-dominant species in some areas. It was also notable that the state Endangered *Ptilotus angustifolius* (Yellow-tails) had a significant population in this vegetation type. There was a good diversity of low shrub, grass, forb and sedge lifeforms in this vegetation, although there was also high cover of grassy and herbaceous weeds. Notable high threat weeds for this vegetation type were *Oxalis pes-caprae* (Sour sob), *Carthamus lanatus* (Saffron Thistle), *Gazania linearis* (Gazania) and *Scabiosa atropurpurea* (Pincushion), all of which have the capacity to proliferate and spread rapidly through this type of open grassland community.

Key Management Issues:

- Vulnerability to invasion by herbaceous and forb weeds
- Presence of significant population of the state Endangered *Ptilotus angustifolius* (Yellow-tails)

Bushland Assessment Data for assessed sites in this community:

Hallett Cove Conservation Park Assessment Area: 10 **Date:** June 28, 2021

Vegetation Association: *Enteropogon acicularis*, *Lomandra effusa* grassland/sedgeland

Vegetation Mapping Community (Figure 1): *Enteropogon acicularis* ± *Lomandra effusa* grassland/sedgeland

Benchmark Vegetation Community: SMLR Co 7.4 - Coastal Cliff Low Shrublands, Hummock Grasslands & Very Low Open Woodlands



Indicative Image of this site (photopoint 10.1, facing SE at 271811, 6116078 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 71-80%	Native Understorey Biomass Score (/10):	8
Native Plant species count: 20	Native Plant Species benchmark score (/15):	12
Native Plant Lifeform Cover Score: 11	Native Plant Lifeform benchmark score (/10):	6
Weed abundance and Threat Score: 18	Weed abundance/threat benchmark score (/15):	5
Regeneration score: 1	Regeneration benchmark score (/8)	2
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	3
	TOTAL (/65)	40

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m		'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	0	'Sedges' ≤ 1m	3
Trees < 5m		Herbs	1a	Hummock grass	
Mallee > 5m		Mat Plants	1a	Vines, scramblers	1
Mallee ≤ 5m		Grasses >0.2m		Mistletoe	
Shrubs > 2 m		Grasses ≤ 0.2m	4	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

Hallett Cove Conservation Park Assessment Area: 11 Date: June 29, 2021

Vegetation Association: *Enteropogon acicularis* grassland

Vegetation Mapping Community (Figure 1): *Enteropogon acicularis* ± *Lomandra effusa* grassland/sedgeland

Benchmark Vegetation Community: SMLR Co 7.4 - Coastal Cliff Low Shrublands, Hummock Grasslands & Very Low Open Woodlands



Indicative Image of this site (photopoint 11.1, facing SSE at 271896, 6116414 on June 29, 2021)

BushRAT assessment data:

Native understorey biomass: 61-70%	Native Understorey Biomass Score (/10):	7
Native Plant species count: 25	Native Plant Species benchmark score (/15):	13
Native Plant Lifeform Cover Score: 10	Native Plant Lifeform benchmark score (/10):	6
Weed abundance and Threat Score: 18	Weed abundance/threat benchmark score (/15):	5
Regeneration score: 1	Regeneration benchmark score (/8)	2
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	3
	TOTAL (/65)	40

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m		'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	2	'Sedges' ≤ 1m	1a
Trees < 5m		Herbs	1	Hummock grass	
Mallee > 5m		Mat Plants	1a	Vines,scramblers	
Mallee ≤ 5m		Grasses >0.2m	1	Mistletoe	
Shrubs > 2 m		Grasses ≤ 0.2m	4	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

3.2.6 *Themeda triandra* grassland

Description of this Vegetation type: This vegetation type was a relatively small, but distinct, patch on steep south facing slopes in central areas of the Park. The dominant species was *Themeda triandra* (Kangaroo Grass), with *Lepidosperma congestum* also prominent. *Olearia axillaris* (Coast Daisy-bush) was a scattered emergent shrub species. Species diversity was moderate, principally composed of grasses and sedges. Key weeds of concern were *Oxalis pes-caprae* (Soursob), *Asparagus asparagoides* (Bridal Creeper) and *Scabiosa atropurpurea* (Pincushion).

Key Management Issues:

- High threat weeds

Bushland Assessment Data for assessed sites in this community:

Hallett Cove Conservation Park Assessment Area: 12 **Date:** June 28, 2021

Vegetation Association: *Themeda triandra* grassland

Vegetation Mapping Community (Figure 1): *Themeda triandra* grassland

Benchmark Vegetation Community: SMLR Co 7.4 - Coastal Cliff Low Shrublands, Hummock Grasslands & Very Low Open Woodlands



Indicative Image of this site (photopoint 12.1, facing E at 271824, 6115751 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 41-50%	Native Understorey Biomass Score (/10):	5
Native Plant species count: 13	Native Plant Species benchmark score (/15):	8
Native Plant Lifeform Cover Score: 13	Native Plant Lifeform benchmark score (/10):	8
Weed abundance and Threat Score: 24	Weed abundance/threat benchmark score (/15):	3
Regeneration score: 0	Regeneration benchmark score (/8)	0

Grazing Evidence score (/4)	4
Bare Ground Score (/3)	1
TOTAL (/65)	29

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	1	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	1	'Sedges' ≤ 1m	2
Trees < 5m		Herbs	1	Hummock grass	
Mallee > 5m		Mat Plants	1	Vines,scramblers	2
Mallee ≤ 5m		Grasses >0.2m	4	Mistletoe	
Shrubs > 2 m		Grasses ≤ 0.2m	1a	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

3.2.7 *Allocasuarina verticillata* ± *Eucalyptus* spp. woodland

Description of this Vegetation type: This vegetation type occurred where the steep upper slopes flatten into the upper plateau of the park. A diverse low shrub, sedge and native grass understorey is present in this type, with *Allocasuarina verticillata* (Drooping She-oak) forming the dominant overstorey, with some *Eucalyptus porosa* (Mallee Box) also present. There were very scattered high threat woody weeds observed in this vegetation type, including *Olea europaea* ssp. *europaea* (Olive) and *Rhamnus alaternus* (Italian Buckthorn). Other high threat weeds, currently at low density, include *Asparagus asparagoides* f. (Bridal Creeper), *Asphodelus fistulosus* (Onion Weed), and *Scabiosa atropurpurea* (Pincushion). As with most other sections of the Park, *Oxalis pes-caprae* (Soursob) forms a moderate groundcover. It is important in this vegetation type to ensure that the cover of She-oak (*Allocasuarina verticillata*) does not become too thick, as this would impact the cover and diversity of understorey species. The lack of grazing animal species may be the reason that She-oaks form dense thickets.

Key Management Issues:

- High threat weeds
- Vigilance to ensure Drooping She-oak cover does not become too dense

Bushland Assessment Data for assessed sites in this community:

Hallett Cove Conservation Park Assessment Area: 13 **Date:** June 29, 2021

Vegetation Association: *Allocasuarina verticillata* ± *Eucalyptus* spp. woodland

Vegetation Mapping Community (Figure 1): *Allocasuarina verticillata* ± *Eucalyptus* spp. woodland

Benchmark Vegetation Community: SMLR Co 7.31 - Non-eucalypt Coastal Low Woodlands



Indicative Image of this site (photopoint 13.1, facing S at 271981, 6116307 on June 29, 2021)

BushRAT assessment data:

Native understorey biomass: 61-70%	Native Understorey Biomass Score (/10):	7
Native Plant species count: 25	Native Plant Species benchmark score (/15):	12
Native Plant Lifeform Cover Score: 21	Native Plant Lifeform benchmark score (/10):	10
Weed abundance and Threat Score: 14	Weed abundance/threat benchmark score (/15):	9
Regeneration score: 5	Regeneration benchmark score (/8)	7
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	3
	TOTAL (/80)	57

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	2	'Sedges' > 1m	
Trees 5 – 15 m	1	Shrubs < 0.5 m	2	'Sedges' ≤ 1m	2
Trees < 5m	4	Herbs	1a	Hummock grass	
Mallee > 5m		Mat Plants	1	Vines, scramblers	1
Mallee ≤ 5m		Grasses > 0.2m	3	Mistletoe	
Shrubs > 2 m	2	Grasses ≤ 0.2m	2	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

Hallett Cove Conservation Park Assessment Area: 14 Date: June 28, 2021

Vegetation Association: *Allocasuarina verticillata* woodland

Vegetation Mapping Community (Figure 1): *Allocasuarina verticillata* ± *Eucalyptus* spp. woodland

Benchmark Vegetation Community: SMLR Co 7.31 - Non-eucalypt Coastal Low Woodlands



Indicative Image of this site (photopoint 14.1, facing SE at 271847, 6116004 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 81-90%	Native Understorey Biomass Score (/10):	9
Native Plant species count: 22	Native Plant Species benchmark score (/15):	11
Native Plant Lifeform Cover Score: 16	Native Plant Lifeform benchmark score (/10):	8
Weed abundance and Threat Score: 17	Weed abundance/threat benchmark score (/15):	7
Regeneration score: 4	Regeneration benchmark score (/8)	6
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	3
	TOTAL (/80)	53

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	3	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	3	'Sedges' ≤ 1m	1
Trees < 5m	3	Herbs	1a	Hummock grass	
Mallee > 5m		Mat Plants		Vines,scramblers	1
Mallee ≤ 5m		Grasses >0.2m		Mistletoe	
Shrubs > 2 m	2	Grasses ≤ 0.2m	2	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

Hallett Cove Conservation Park Assessment Area: 15 Date: June 28, 2021

Vegetation Association: *Allocasuarina verticillata* woodland

Vegetation Mapping Community (Figure 1): *Allocasuarina verticillata* ± *Eucalyptus* spp. woodland

Benchmark Vegetation Community: SMLR Co 7.31 - Non-eucalypt Coastal Low Woodlands



Indicative Image of this site (photopoint 15.1, facing S at 272096, 6115687 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 41-50%	Native Understorey Biomass Score (/10):	5
Native Plant species count: 21	Native Plant Species benchmark score (/15):	10
Native Plant Lifeform Cover Score: 14	Native Plant Lifeform benchmark score (/10):	7
Weed abundance and Threat Score: 17	Weed abundance/threat benchmark score (/15):	7
Regeneration score: 3	Regeneration benchmark score (/8)	4
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	2
	TOTAL (/80)	44

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	3	'Sedges' > 1m	
Trees 5 – 15 m		Shrubs < 0.5 m	2	'Sedges' ≤ 1m	1
Trees < 5m	4	Herbs	1a	Hummock grass	
Mallee > 5m		Mat Plants		Vines,scramblers	
Mallee ≤ 5m		Grasses >0.2m		Mistletoe	
Shrubs > 2 m	1	Grasses ≤ 0.2m	2	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

3.2.8 *Eucalyptus* spp. woodland

Description of this Vegetation type: This vegetation type is characteristic of much of the upper plateau in the Park. Aerial photography shows that this area was previously cropped. It has been the focus for long-term revegetation activities, and there is now a good overstorey cover (about 30%) of moderate sized Eucalypts (generally <15m tall). It appears that original plantings were of mixed species, some of which may not be indigenous to the area, but more recent plantings have focussed on Eucalypt species indigenous to the area. There are patches where there is a diverse array of local indigenous understorey shrubs, sedges and grasses, but there are also areas where the cover of understorey is relatively low. There were very scattered small *Olea europaea* (Olives), *Gazania* sp. (Gazania) and *Asparagus asparagoides* (Bridal Creeper) noted, which are considered to be the weed species with highest threat of spread. As with other areas which have had past disturbance, the cover of *Oxalis pes-caprae* (Soursob) was quite high.

Key Management Issues:

- High threat weeds
- Infill planting of understorey species in some areas

Bushland Assessment Data for assessed sites in this community:

Hallett Cove Conservation Park Assessment Area: 16 **Date:** June 28, 2021

Vegetation Association: *Eucalyptus* spp. woodland

Vegetation Mapping Community (Figure 1): *Eucalyptus* spp. woodland

Benchmark Vegetation Community: SMLR Co Community 2 - Forests & Woodlands with an Open Sclerophyll Shrub Understorey



Indicative Image of this site (photopoint 16.1, facing S at 272133, 6115755 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 31-40%	Native Understorey Biomass Score (/10):	4
Native Plant species count: 24	Native Plant Species benchmark score (/15):	10
Native Plant Lifeform Cover Score: 14	Native Plant Lifeform benchmark score (/10):	6
Weed abundance and Threat Score: 23	Weed abundance/threat benchmark score (/15):	6
Regeneration score: 5	Regeneration benchmark score (/8)	5
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	2
	TOTAL (/80)	45

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	2	'Sedges' > 1m	
Trees 5 – 15 m	3	Shrubs < 0.5 m	0	'Sedges' ≤ 1m	1a
Trees < 5m	3	Herbs	1	Hummock grass	
Mallee > 5m		Mat Plants	1	Vines, scramblers	
Mallee ≤ 5m		Grasses >0.2m		Mistletoe	
Shrubs > 2 m	1	Grasses ≤ 0.2m	1a	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

Hallett Cove Conservation Park Assessment Area: 17 **Date:** June 29, 2021

Vegetation Association: *Eucalyptus* spp., *Melaleuca lanceolata* woodland

Vegetation Mapping Community (Figure 1): *Eucalyptus* spp. woodland

Benchmark Vegetation Community: SMLR Co Community 2 - Forests & Woodlands with an Open Sclerophyll Shrub Understorey



Indicative Image of this site (photopoint 17.1, facing S at 272137, 6116316 on June 29, 2021)

BushRAT assessment data:

Native understorey biomass: 11-20%	Native Understorey Biomass Score (/10):	2
Native Plant species count: 29	Native Plant Species benchmark score (/15):	11
Native Plant Lifeform Cover Score: 15	Native Plant Lifeform benchmark score (/10):	6
Weed abundance and Threat Score: 30	Weed abundance/threat benchmark score (/15):	4
Regeneration score: 5	Regeneration benchmark score (/8)	5
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	3
	TOTAL (/80)	44

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	0	'Sedges' > 1m	
Trees 5 – 15 m	3	Shrubs < 0.5 m	0	'Sedges' ≤ 1m	1a
Trees < 5m	3	Herbs	1	Hummock grass	
Mallee > 5m		Mat Plants		Vines,scramblers	1
Mallee ≤ 5m		Grasses >0.2m	1a	Mistletoe	
Shrubs > 2 m	1	Grasses ≤ 0.2m	2	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

3.2.9 *Allocasuarina verticillata* ± *Eucalyptus porosa* woodland

Description of this Vegetation type: This vegetation type was present along a gully towards the southern end of the Park. The overstorey is principally an open woodland (10-30% cover) of *Allocasuarina verticillata* (Drooping She-oak), with some *Eucalyptus porosa* (Mallee Box) also present. The ground layer is generally dominated by introduced grasses and herbs, with only low cover of native forbs, sedges and grasses (which would usually be prominent in this vegetation type). However there is a good cover and diversity of medium shrubs, reflecting planting efforts and weed control that has allowed regeneration in this area. There were scattered *Gazania* sp. (Gazania), *Asphodelus fistulosus* (Onion Weed) and *Asparagus asparagoides* (Bridal Creeper) noted, with moderate cover of a *Malva* sp. (Mallow), and *Oxalis pes-caprae* (Soursob).

Key Management Issues:

- Low cover of native understorey grasses, sedges and herbs
- High cover of grassy and herbaceous weeds
- High threat weeds

Bushland Assessment Data for assessed sites in this community:

Hallett Cove Conservation Park Assessment Area: 18 **Date:** June 28, 2021

Vegetation Association: *Allocasuarina verticillata* ± *Eucalyptus porosa* woodland

Vegetation Mapping Community (Figure 1): *Allocasuarina verticillata* ± *Eucalyptus porosa* woodland

Benchmark Vegetation Community: SMLR Co 7.31 - Non-eucalypt Coastal Low Woodlands



Indicative Image of this site (photopoint 18.1, facing E at 271836, 6115525 on June 28, 2021)

BushRAT assessment data:

Native understorey biomass: 1-10%

Native Understorey Biomass Score (/10):

1

Native Plant species count: 20	Native Plant Species benchmark score (/15):	10
Native Plant Lifeform Cover Score: 14	Native Plant Lifeform benchmark score (/10):	8
Weed abundance and Threat Score: 37	Weed abundance/threat benchmark score (/15):	1
Regeneration score: 4	Regeneration benchmark score (/8)	5
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	3
	TOTAL (/80)	40

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m		Shrubs 0.5–2m	4	'Sedges' > 1m	
Trees 5 – 15 m	1	Shrubs < 0.5 m	0	'Sedges' ≤ 1m	1a
Trees < 5m	3	Herbs		Hummock grass	
Mallee > 5m		Mat Plants	1	Vines, scramblers	1
Mallee ≤ 5m		Grasses > 0.2m		Mistletoe	
Shrubs > 2 m	1	Grasses ≤ 0.2m	1a	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

3.2.10 *Eucalyptus camaldulensis* woodland

Description of this Vegetation type: This vegetation community occurs along Waterfall Creek. *Eucalyptus camaldulensis* (River Red Gum) form the overstorey canopy, of about 40% cover. Most trees are of moderate age, and are not apparent on the 1949 aerial imagery, indicating they have been planted or have naturally regenerated since this time. The trees are generally too young to have well-developed hollows. The groundcover is mostly introduced grasses and herbs, although there is a good diversity of shrub species present, and patches of sedges along the verges of the creek. Key weed species include *Cenchrus clandestinus* (Kikuyu), *Cynara cardunculus ssp. flavescentis* (Artichoke Thistle), *Cynodon dactylon var. dactylon* (Couch), *Euphorbia terracina* (False Caper) and *Oxalis pes-caprae* (Soursob).

Key Management Issues:

- Low cover of native understorey grasses, sedges and herbs
- Lack of tree hollows
- High threat weeds

Bushland Assessment Data for assessed sites in this community:

Hallett Cove Conservation Park Assessment Area: 19 **Date:** June 29, 2021

Vegetation Association: *Eucalyptus camaldulensis* woodland

Vegetation Mapping Community (Figure 1): *Eucalyptus camaldulensis* woodland

Benchmark Vegetation Community: SMLR 5.3 - Deep Channel with Red Gum Woodland



Indicative Image of this site (photopoint 19.1, facing E at 272050, 6116089 on June 29, 2021)

BushRAT assessment data:

Native understorey biomass: 11-20%	Native Understorey Biomass Score (/10):	2
Native Plant species count: 23	Native Plant Species benchmark score (/15):	12
Native Plant Lifeform Cover Score: 16	Native Plant Lifeform benchmark score (/10):	8
Weed abundance and Threat Score: 27	Weed abundance/threat benchmark score (/15):	7
Regeneration score: 2	Regeneration benchmark score (/8)	3
	Grazing Evidence score (/4)	4
	Bare Ground Score (/3)	2
	TOTAL (/80)	47

Structural Diversity Plant Lifeforms data:

Lifeform	Cover	Lifeform	Cover	Lifeform	Cover
Trees >15 m	2	Shrubs 0.5–2m	2	'Sedges' > 1m	
Trees 5 – 15 m	3	Shrubs < 0.5 m	1	'Sedges' ≤ 1m	2
Trees < 5m	2	Herbs	1	Hummock grass	
Mallee > 5m		Mat Plants		Vines,scramblers	
Mallee ≤ 5m		Grasses >0.2m	1	Mistletoe	
Shrubs > 2 m	1	Grasses ≤ 0.2m	1	Ferns	

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%

Appendix 1: Additional Photopoints



Image 1.2, facing S at 271730, 6115479 (WGS 84) on June 28, 2021



Image 1.3, facing S at 271733, 6115675 (WGS 84) on June 28, 2021



Image 2.2, facing SSE at 271746, 6115517 (WGS 84) on June 28, 2021



Image 2.3, facing SE at 271736, 6115688 (WGS 84) on June 28, 2021



Image 3.2, facing SSE at 271802, 6115500 (WGS 84) on June 28, 2021



Image 4.2, facing S at 271799, 6115450 (WGS 84) on June 28, 2021



Image 5.2, facing SE at 271878, 6116230 (WGS 84) on June 29, 2021



Image 6.2, facing SW at 271840, 6115934 (WGS 84) on June 28, 2021



Image 6.3, facing SE at 271729, 6115981 (WGS 84) on June 28, 2021



Image 7.2, facing WSW at 271910, 6116294 (WGS 84) on June 29, 2021



Image 8.2, facing NE at 271850, 6115790 (WGS 84) on June 28, 2021



Image 9.2, facing W at 271928, 6116169 (WGS 84) on June 29, 2021



Image 10.2, facing ESE at 271842, 6116084 (WGS 84) on June 28, 2021



Image 11.2, facing SE at 271839, 6116255 (WGS 84) on June 29, 2021



Image 11.3, facing ESE at 271933, 6116522 (WGS 84) on June 29, 2021



Image 12.2, facing NE at 271834, 6115752 (WGS 84) on June 28, 2021



Image 13.2, facing SSW at 271962, 6116265 (WGS 84) on June 29, 2021



Image 14.2, facing SSE at 271861, 6116008 (WGS 84) on June 28, 2021



Image 15.2, facing SSE at 272069, 6115590 (WGS 84) on June 28, 2021



Image 15.3, facing S at 272018, 6115494 (WGS 84) on June 28, 2021



Image 16.2, facing SSE at 272096, 6115866 (WGS 84) on June 28, 2021



Image 17.2, facing S at 272112, 6116251 (WGS 84) on June 29, 2021



Image 18.2, facing E at 271866, 6115518 (WGS 84) on June 28, 2021



Image 18.3, facing E at 271931, 6115497 (WGS 84) on June 28, 2021



Image 18.4, facing E at 271855, 6116253 (WGS 84) on June 29, 2021



Image 19.2, facing NE at 272034, 6116079 (WGS 84) on June 29, 2021

Appendix 2: Native Plant Species Lists

Species	Common Name	Status			Assessment Area																						
		AUS ⁷	SA ⁸	REG ⁹	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
<i>Acacia acinacea</i>	Wreath Wattle			RA		X	X			X		X	R		X	X	X	U		X	X	X	X				
<i>Acacia cupularis</i>	Cup Wattle			RA		X			R	E				E,R			X	U		X	X	X					
<i>Acacia ligulata</i>	Umbrella Bush			RA							R						X		X	X	R		X				
<i>Acacia paradoxa</i>	Kangaroo Thorn			LC					X		R						R		X	X	X						
<i>Acacia pycnantha</i>	Golden Wattle			LC						R							R		U, R	R	R		X				
<i>Acacia spinescens</i>	Spiny Wattle			LC																	X						
<i>Acacia victoriae ssp. victoriae</i>	Elegant Wattle			VU														X	X	X							
<i>Acrotriche patula</i>	Prickly Ground-berry			RA					U	O, R	O, R	X	O, R				U, R	X									
<i>Adriana quadripartita</i>	Coast Bitter-bush			RA		X																					
<i>Allocasuarina muelleriana ssp. muelleriana</i>	Common Oak-bush			LC			O	X	O					X					X								
<i>Allocasuarina verticillata</i>	Drooping Sheoak			LC		X		X	X		X						R	O, R	O, R	R	R	O, R	X				
<i>Alyxia buxifolia</i>	Sea Box			RA																							
<i>Amphipogon strictus</i>	Spreading Grey-beard Grass			LC		X	X			X				X	X			X									
<i>Aristida behriana</i>	Brush Wire-grass			LC															U								
<i>Arthropodium fimbriatum</i>	Nodding Vanilla-lily			NT																							
<i>Arthropodium strictum</i>	Common Vanilla-lily			LC						X		X		X	X												
<i>Atriplex acutibractea ssp. acutibractea</i>	Pointed Saltbush			EN																							
<i>Atriplex cinerea</i>	Coast Saltbush			LC	X	X	X										X										
<i>Atriplex paludosa ssp. paludosa</i>	Marsh Saltbush			RA	X	X								E													
<i>Atriplex semibaccata</i>	Berry Saltbush			LC																							
<i>Austrostipa densiflora</i>	Fox-tail Spear-grass			RA																							
<i>Austrostipa drummondii</i>	Cottony Spear-grass			NT																							
<i>Austrostipa elegantissima</i>	Feather Spear-grass			LC				X	X	X	X			X			X	X		X							
<i>Austrostipa eremophila</i>	Rusty Spear-grass			LC																							
<i>Austrostipa mollis</i>	Soft Spear-grass			LC								X															
<i>Austrostipa nodosa</i>	Tall Spear-grass			LC						X																	

⁷ Under the *Environment Protection and Biodiversity Conservation Act 1999*

⁸ Under the *National Parks and Wildlife Act 1972*

⁹ As per Gillam, S. and Urban, R. (2014) Regional Species Conservation Assessment Project, Phase 1 Report: Regional Species Status Assessments, Adelaide and Mount Lofty Ranges NRM Region. Department of Environment, Water and Natural Resources, South Australia.

Species	Common Name	Status			Assessment Area																				
		AUS ⁷	SA ⁸	REG ⁹	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
<i>Austrostipa scabra</i> ssp. <i>scabra</i>	Rough Spear-grass			NT																					
<i>Austrostipa</i> sp.						X			U	X	O		X		O	X	X		X	X	X	X			
<i>Banksia marginata</i>	Silver Banksia			LC																					X
<i>Beyeria lechenaultii</i>	Pale Turpentine Bush			NT		X	O, R	O, R		O, R		O					X	R	X	R		U, R			
<i>Boerhavia dominii</i>	Tar-vine			LC																					
<i>Bolboschoenus caldwellii</i>	Salt Club-rush			RA																					
<i>Bursaria spinosa</i> ssp. <i>spinosa</i>	Sweet Bursaria			LC							R								X		X				
<i>Caesia calliantha</i>	Blue Grass-lily			LC						X															
<i>Callitris gracilis</i>	Southern Cypress Pine			LC			X										X					X			
<i>Calostemma purpureum</i>	Pink Garland-lily			LC						X				X	X										
<i>Calytrix tetragona</i>	Common Fringe-myrtle			LC						X		X													
<i>Carpobrotus rossii</i>	Native Pigface			LC	U	X	X	X							X										
<i>Cassytha glabella</i> f. <i>dispar</i>	Slender Dodder-laurel			LC								X	X												
<i>Cheilanthes austrotenuifolia</i>	Annual Rock-fern			LC																					
<i>Chloris truncata</i>	Windmill Grass			LC						X					O						U				
<i>Chrysocephalum apiculatum</i>	Common Everlasting			LC					X																
<i>Chrysocephalum semipapposum</i>	Clustered Everlasting			NT																					
<i>Comesperma volubile</i>	Love Creeper			RA								X													
<i>Convolvulus angustissimus</i> ssp. <i>angustissimus</i>	Australian Bindweed			NT							X			X	X										
<i>Convolvulus remotus</i>	Grassy Bindweed			LC					X								X								
<i>Cymbopogon obtectus</i>	Silky-head Lemon-grass			RA																					
<i>Cyperus gymnocaulos</i>	Spiny Flat-sedge			LC																					X
<i>Dampiera rosmarinifolia</i>	Rosemary Dampiera			NT						X			X												
<i>Dianella brevicaulis</i>	Short-stem Flax-lily			NT	X	X	X		X		X		X		X		U	R	X	U, R	R	R	X		
<i>Dianella revoluta</i> var. <i>revoluta</i>	Black-anther Flax-lily			LC						X	R				X	X						R			
<i>Dichanthium sericeum</i> ssp. <i>sericeum</i>	Silky Blue-grass			VU			X																		X
<i>Disphyma crassifolium</i> ssp. <i>clavellatum</i>	Round-leaf Pigface			LC			X								(X)										
<i>Dissocarpus biflorus</i> var. <i>biflorus</i>	Two-horn Saltbush			RA																					
<i>Distichlis distichophylla</i>	Emu-grass			LC	X		X									X						X			
<i>Dodonaea hexandra</i>	Horned Hop-bush			VU																X	X				
<i>Dodonaea humilis</i>	Dwarf Hop-bush			VU																					
<i>Dodonaea viscosa</i> ssp. <i>spatulata</i>	Sticky Hop-bush			LC		X	X		X					X	X			X			R	X			
<i>Drosera whittakeri</i>				LC								X													
<i>Drosera macrantha</i> ssp. <i>planchonii</i>	Climbing Sundew			LC								X													

Species	Common Name	Status			Assessment Area																				
		AUS ⁷	SA ⁸	REG ⁹	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19		
<i>Einadia nutans ssp. nutans</i>	Climbing Saltbush			LC			X										X								
<i>Enchylaena tomentosa var. tomentosa</i>	Ruby Saltbush			LC	X	X	X	X	X	X				X	X		X	X		X	X	X	X	X	
<i>Enneapogon nigricans</i>	Black-head Grass			LC			X	X	X				X		X		X		X			X	X		
<i>Enteropogon acicularis</i>	Umbrella Grass			RA										U	O		X								
<i>Eucalyptus camaldulensis ssp. camaldulensis</i>	River Red Gum			NT																				O, R	
<i>Eucalyptus fasciculosa</i>	Pink Gum		RA	NT																	X				
<i>Eucalyptus odorata</i>	Peppermint Box			NT																X					
<i>Eucalyptus porosa</i>	Mallee Box			NT		X			X								X			X	X	X			
<i>Euphorbia drummondii</i>				LC																					
<i>Eutaxia microphylla</i>	Common Eutaxia			LC						X	X	X					X			X	X				
<i>Ficinia nodosa</i>	Knobby Club-rush			LC	X	X																			
<i>Gahnia lanigera</i>	Black Grass Saw-sedge			NT					X		X	U	X	X											
<i>Geranium potentilloides var. potentilloides</i>	Downy Geranium			LC								X													
<i>Glycine rubiginosa</i>	Twining Glycine			NT																					
<i>Glycine rubiginosa</i>	Twining Glycine			NT																					
<i>Gonocarpus mezianus</i>	Broad-leaf Raspwort			LC																					
<i>Goodenia albiflora</i>	White Goodenia			VU					X		X														
<i>Goodenia amplexans</i>	Clasping Goodenia			NT			X	X	X													X	X		
<i>Goodenia pinnatifida</i>	Cut-leaf Goodenia			NT								X													
<i>Goodenia pusilliflora</i>	Small-flower Goodenia			RA																					
<i>Grevillea lavandulacea ssp. lavandulacea</i>	Spider-flower			LC					X				X												
<i>Hakea rugosa</i>	Dwarf Hakea			NT		X	X		X	X								X		X					
<i>Hardenbergia violacea</i>	Native Lilac			NT															X						
<i>Helichrysum leucopsidium</i>	Satin Everlasting			NT																					
<i>Juncus sp.</i>																									X
<i>Kennedia prostrata</i>	Scarlet Runner			LC											X	X	X				X				
<i>Kunzea pomifera</i>	Muntries			RA	X	X	X	X														X			
<i>Lepidosperma congestum</i>				RA			X	X				U	X	X		O									
<i>Leptorhynchus squamatus ssp. squamatus</i>	Scaly Buttons			LC								X		X											
<i>Leucophyta brownii</i>	Coast Cushion Bush			NT		X																			
<i>Lomandra collina</i>	Sand Mat-rush			RA							X		X												
<i>Lomandra densiflora</i>	Soft Tussock Mat-rush			LC								X				X									
<i>Lomandra effusa</i>	Scented Mat-rush			NT			X	X	X		X			X	X										
<i>Lomandra micrantha ssp. micrantha</i>	Small-flower Mat-rush			LC																					
<i>Lotus australis</i>	Austral Trefoil			NT																					
<i>Lycium australe</i>	Australian Boxthorn			EN																					X

Species	Common Name	Status			Assessment Area																						
		AUS ⁷	SA ⁸	REG ⁹	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19				
<i>Lysiana exocarpi</i> ssp. <i>exocarpi</i>	Harlequin Mistletoe			LC																							
<i>Maireana aphylla</i>	Cotton-bush			VU											(X)												
<i>Maireana brevifolia</i>	Short-leaf Bluebush			LC		X	X	X	X						R												
<i>Maireana enchylaenoides</i>	Wingless Fissure-plant			LC																							
<i>Melaleuca decussata</i>	Totem-poles			NT		X																					
<i>Melaleuca lanceolata</i>	Dryland Tea-tree			RA		O	E	X	O			E					X	U		X	O		X				
<i>Minuria leptophylla</i>	Minnie Daisy			RA																							
<i>Muehlenbeckia gunnii</i>	Coastal Climbing Lignum			LC		X		X			X	X	X			X	X				X						
<i>Myoporum insulare</i>	Common Boobialla			NT	E	O		X		X	R		E														
<i>Myoporum parvifolium</i>	Creeping Boobialla		RA	VU			X															X	X				
<i>Myoporum petiolatum</i>	Sticky Boobialla			NT					X															U, R			
<i>Nitraria billardieri</i>	Nitre-bush			RA						X	X			E													
<i>Olearia axillaris</i>	Coast Daisy-bush			NT	E,R	X	X		X	R	R	R	E,R	E		E	R	X	R	R	X						
<i>Olearia ramulosa</i>	Twiggy Daisy-bush			LC																							
<i>Opercularia turpis</i>	Twiggy Stinkweed			NT																							
<i>Oxalis perennans</i>	Native Sorrel			LC								X				X		X									
<i>Pelargonium australe</i>	Austral Stork's-bill			RA																							
<i>Pimelea glauca</i>	Smooth Riceflower			NT							X	X						X									
<i>Pimelea micrantha</i>	Silky Riceflower			NT					X			X	X	X	X		X										
<i>Pittosporum angustifolium</i>	Native Apricot			NT		X			X	X		X					X	X	X		X	X					
<i>Plantago varia</i>	Variable Plantain			NT																							
<i>Poa poiformis</i> var. <i>poiformis</i>	Coast Tussock-grass			LC		X																					
<i>Poa</i> sp.																X											
<i>Pogonolepis muelleriana</i>	Stiff Cup-flower			NT																							
<i>Pomaderris paniculosa</i> ssp. <i>paniculosa</i>	Mallee Pomaderris			NT					X		R	R	X														
<i>Portulaca oleracea</i>	Common Purslane			LC																							
<i>Pterostylis</i> sp.										X		X															
<i>Ptilotus angustifolius</i>	Yellow-tails		EN	VU											X												
<i>Ptilotus spathulatus</i>	Pussy-tails			RA																							
<i>Pultenaea tenuifolia</i>	Narrow-leaf Bush-pea			RA																							
<i>Rhagodia candolleana</i> ssp. <i>candolleana</i>	Sea-berry Saltbush			LC	X	X	O, R	X	X		X										X	X	X				
<i>Rhagodia parabolica</i>	Mealy Saltbush			RA		X									X					X				X			
<i>Rhagodia spinescens</i>	Spiny Saltbush			VU				X	X																		
<i>Roepera apiculata</i>	Pointed Twinleaf			RE						X		X					X		X		X						
<i>Roepera glauca</i>	Pale Twinleaf			RA					X										X								

Species	Common Name	Status			Assessment Area																			
		AUS ⁷	SA ⁸	REG ⁹	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	
<i>Rytidosperma caespitosum</i>	Common Wallaby-grass			LC																				
<i>Rytidosperma carphoides</i>	Short Wallaby-grass			RA																				
<i>Rytidosperma sp.</i>							X		X	X	X			U	X		X	X		X	X			
<i>Salsola australis</i>	Buckbush			LC											X									
<i>Santalum acuminatum</i>	Quandong			RA						X		X												
<i>Scaevola crassifolia</i>	Cushion Fanflower			VU		X	O	X							X			R	X		X		X	
<i>Scaevola linearis ssp. confertifolia</i>	Bundled Fanflower			VU																				
<i>Sclerolaena diacantha</i>	Grey Bindyi			RA						X		X										X		
<i>Senecio picridioides</i>	Purple-leaf Groundsel			LC																				
<i>Senecio quadridentatus</i>	Cotton Groundsel			LC																				
<i>Senecio spanomerus</i>				NT																				
<i>Setaria constricta</i>	Knotty-butt Paspalidium			NT				X							X	U				X		X		
<i>Sida corrugata var. angustifolia</i>	Grassland Sida			RA																				
<i>Sida petrophila</i>	Rock Sida			RA																			X	
<i>Spinifex hirsutus</i>	Rolling Spinifex			LC	O	X																		
<i>Stackhousia monogyna</i>	Creamy Candles			NT					X															
<i>Teucrium racemosum</i>	Grey Germander			RA																				
<i>Themeda triandra</i>	Kangaroo Grass			LC												O			X					
<i>Threlkeldia diffusa</i>	Coast Bonefruit			NT								X			X									
<i>Thysanotus patersonii</i>	Twining Fringe-lily			LC						X		X	X											
<i>Tricoryne tenella</i>	Tufted Yellow Rush-lily			RA																				
<i>Typha domingensis</i>	Narrow-leaf Bulrush			LC																			X	
<i>Velleia arguta</i>	Toothed Velleia			RA																				
<i>Vittadinia blackii</i>	Narrow-leaf New Holland Daisy			RA						X							X	X	X	X	X			
<i>Vittadinia cuneata var. cuneata</i>	Fuzzy New Holland Daisy			LC									X		X		X				X			
<i>Vittadinia gracilis</i>	Woolly New Holland Daisy			LC															X					
<i>Vittadinia megacephala</i>	Giant New Holland Daisy			RA																				
<i>Wahlenbergia luteola</i>	Yellow-wash Bluebell			RA																				
<i>Westringia rigida</i>	Stiff Westringia			VU						R														
<i>Wurmbea dioica ssp. dioica</i>	Early Nancy			LC																				

Key to Conservation Status: EN = Endangered, VU = Vulnerable, RA = Rare, NT = Near Threatened, LC = Least Concern, DD = Data Deficient

Key to codes: 1 = present, R = noted to be regenerating, O = overstorey dominant, U = understorey dominant

Appendix 3: Introduced Plant Lists

Species	Common name	Threat ¹⁰	Declared	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
<i>Acacia saligna</i>	Sallow Wattle	2								1												
<i>Arctotis stoechadifolia</i>	White Arctotis	3		1																		
<i>Aira cupaniana</i>	Small Hair-grass	1																				
<i>Aizoon pubescens</i>	Coastal Galenia	2																				
<i>Agave sp.</i>		2																				
<i>Aloe vera</i>	Aloes	2																				
<i>Arctotheca calendula</i>	Capeweed	2							1a													
<i>Asparagus asparagoides f.</i>	Bridal Creeper	5	Y					1		1					1		1				1	
<i>Asphodelus fistulosus</i>	Onion Weed	2													1			1			1	
<i>Atriplex prostrata</i>	Creeping Saltbush	2																				
<i>Avena sp.</i>	Wild Oat	2			1a	2	2	1a	1a	1	1	1a		1a	2	1a		1a		2	2	2
<i>Bouteloua dactyloides</i>	Buffalo Grass																					
<i>Brachypodium distachyon</i>	False Brome	2																				
<i>Brassica tournefortii</i>	Wild Turnip	2						1								1						
<i>Brassicaceae sp.</i>		2						1a													1	
<i>Briza maxima</i>	Large Quaking-grass	2				1a			1a			1a	2		1a						2	
<i>Briza minor</i>	Lesser Quaking-grass	2																				
<i>Bromus diandrus</i>	Great Brome	1														2				1a	1	1a
<i>Bromus rubens</i>	Red Brome	1																				
<i>Cakile maritima ssp. maritima</i>	Two-horned Sea Rocket	2		1																		
<i>Carthamus lanatus</i>	Saffron Thistle	2						1					1									
<i>Cenchrus clandestinus</i>	Kikuyu	3																				1
<i>Cenchrus setaceus</i>	Fountain Grass	4	Y																			
<i>Centaureum sp.</i>	Centaury	2																				
<i>Chondrilla juncea</i>	Skeleton Weed	2	Y																			
<i>Conyza sp.</i>	Fleabane	2																				
<i>Cynara cardunculus ssp. flavescent</i>	Artichoke Thistle	2																				1
<i>Cynodon dactylon var. dactylon</i>	Couch	2		3	1a	1a																1a
<i>Echium plantagineum</i>	Salvation Jane	2	Y																			
<i>Ehrharta longiflora</i>	Annual Veldt Grass	2					1a															
<i>Euphorbia paralias</i>	Sea Spurge	3																				
<i>Euphorbia peplus</i>	Petty Spurge	2																				
<i>Euphorbia terracina</i>	False Caper	3	Y		1																	1

¹⁰ As per Croft, S., Pedler, J. and Milne, T. (2006). Bushland Condition Monitoring Manual Southern Mount Lofty Ranges. Coastal Vegetation Communities of the Southern Mount Lofty Ranges. Nature Conservation Society of South Australia Inc., Adelaide.

Species	Common name	Threat ¹⁰	Declared	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
<i>Freesia alba</i>	Freesia	3																				
<i>Galium aparine</i>	Cleavers	2																				
<i>Gazania sp.</i>	Gazania	3	Y											1					1		1	
<i>Gramineae sp.</i>	Unidentifiable annual grasses	2				3	3	3				2					2			3	4	2
<i>Helminthotheca echioides</i>	Ox-tongue	1																				
<i>Hordeum sp.</i>	Barley-grass	1																				
<i>Hypericum perforatum</i> #	St Johns Wort	3																				
<i>Hypochaeris glabra</i>	Smooth Cat's Ear	1						1					1a									
<i>Lagurus ovatus</i>	Hare's Tail Grass	2		1a	2	2	2	1a						1a		1a				2		
<i>Leontodon rhagadioloides</i>	Cretan Weed	1																				
<i>Limonium companyonis</i>	Sea-lavender	2																				
<i>Linum strictum ssp. strictum</i>	Upright Yellow Flax	1							1a	1a	1a	2	1a	1a		1a	1a					
<i>Lolium sp.</i>	Ryegrass	1																				
<i>Lolium rigidum</i>	Wimmera Ryegrass	1																				
<i>Lycium ferocissimum</i>	African Boxthorn	3	Y						1	1												
<i>Lysimachia arvensis</i>	Pimpernel	1																				
<i>Malvaceae sp.</i>	Mallow	1																			1a	
<i>Medicago polymorpha</i>	Burr-medic	2																				
<i>Medicago sp.</i>	Medic	2																				
<i>Medicago truncatula</i>	Barrel Medic	2																				
<i>Moraea setifolia</i>	Thread Iris	2			1a	1a		1a	1a				1a	1a			1a	1a	1a	1	1	
<i>Moraea flaccida</i>	One-leaf Cape Tulip	3	Y																			
<i>Olea europaea ssp. europaea</i>	Olive	4	Y			1										1				1		
<i>Oxalis pes-caprae</i>	Soursob	4		2	4	2	2		1a	1a		2	2	2	2		1	2	4	3	4	3
<i>Paspalum distichum</i>	Water Couch	3																				
<i>Petrorhagia dubia</i>	Velvet Pink	1														1a						
<i>Piptatherum miliaceum</i>	Rice Millet	2																				1
<i>Plantago lanceolata var. lanceolata</i>	Ribwort	2				1a					1	1a			2						1a	1a
<i>Rapistrum rugosum ssp. rugosum</i>	Turnip Weed	2								1			1			1						
<i>Reichardia tingitana</i>	False Sowthistle	2		1					1					1							1	
<i>Rhamnus alaternus</i>	Italian Buckthorn	3	Y													1						
<i>Romulea sp.</i>	Onion-grass	2				1a			1a								1a	1a				
<i>Rumex sp.</i>	Dock	2																				
<i>Rumex crispus</i>	Curled Dock	1																				
<i>Salvia verbenaca var.</i>	Wild Sage	2						1								1				1a		
<i>Scabiosa atropurpurea</i>	Pincushion	3						1a						1a	1a	1		1				
<i>Silene sp.</i>	Catchfly	1								1a												

Species	Common name	Threat ¹⁰	Declared	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
<i>Sonchus oleraceus</i>	Common Sow-thistle	1																			1a	
<i>Thinopyrum junceiforme</i>	Sea Wheat-grass	4		1a																		
<i>Tragopogon porrifolius</i>	Salsify	2																				
<i>Tribulus terrestris</i>	Caltrop	1	Y																			
<i>Trifolium angustifolium</i>	Narrow-leaf Clover	2			1a	2	2					1	1a				1	1a	1a	2	2	2
<i>Trifolium arvense</i> var. <i>arvense</i>	Hare's-foot Clover	2																				
<i>Trifolium campestre</i>	Hop Clover	2																				
<i>Trifolium scabrum</i>	Rough Clover	2																				
<i>Vicia</i> sp.	Vetch	2			1	1a															2	1
<i>Vulpia</i> sp.	Fescue	2															1a				2	
<i>Yucca gloriosa</i>	Yucca	1																				

Cover categories: 1 = not many, cover <1%, 1a = plentiful but low cover (<1%), 2 = covers 1-5%, 3 = covers 6-25%, 4 = covers 26-50%