327-335 Burley Road Horsley Park VMP - Implementation Progress Report 2022

CSR Building Products Ltd

ecological AUSTRALIA
A TETRA TECH COMPANY

1300 646 131
www.ecoaus.com.au

DOCUMENT TRACKING

Project Name	327-335 Burley Road Horsley Park VMP - Implementation Progress Report 2022
Project Number	17HAR-8944
Project Manager	Andrew Norvill
Prepared by	Andrew Norvill
Reviewed by	Andrew Whitford
Approved by	Andrew Whitford
Status	**Final**
Version Number	**V1**
Last saved on	**2 February 2023**

This report should be cited as 'Eco Logical Australia 2022. *327-335 Burley Road Horsley Park VMP - Implementation Progress Report 2022*. Prepared for CSR Building Products Ltd.'

ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd

Template 2.8.1

Contents

List of Figures

List of Tables

Abbreviations

Abbreviation	Description
APZ	Asset Protection Zone
BC Act	NSW *Biodiversity and Conservation Act 2016*
BIZ	Bushland Interface Zone
BoM	Bureau of Meteorology
CEEC	Critically Endangered Ecological Community
CPLS	Cumberland Plain Land Snail
CPW	Cumberland Plain Woodland
DA	Development Application
ELA	Eco Logical Australia
EPBC Act	Commonwealth *Environmental Protection and Biodiversity Act 1999*
SEPP	State Environmental Planning Policy
VMP	Vegetation Management Plan

1. Introduction

1.1. Background

A Vegetation Management Plan (VMP) was prepared by Travers bushfire & ecology (Travers 2017) on behalf of CSR Building Products Ltd (CSR) as part of Development Application (DA) 893.1/2013 for the three-staged subdivision of CSR's site at 327-335 Burley Road, Horsley Park. The VMP pertains to Lot 205 which has been zoned as E2 Environmental Conservation lands under the State Environmental Planning Policy (Western Sydney Employment Area) 2009 (SEPP).

Lot 205 encompasses approximately 11.51 hectares (ha) of Cumberland Plain Woodland (CPW) which is listed as a critically endangered ecological community (CEEC) under both the Commonwealth *Environmental Protection and Biodiversity Act 1999* (EPBC Act) and the NSW *Biodiversity and Conservation Act 2016* (BC Act).

The NSW Land and Environment (L&E) Court provided deferred approval conditions as follows:

- Creation of a Positive Covenant of the site including Lot 205;
- Lot 205 shall be managed in accordance with a VMP in line with recommendations made by Travers bushfire & ecology in their Flora and Fauna Assessment Report, 10 March 2014

1.2. Management works

CSR has engaged Eco Logical Australia (ELA) to undertake works on-site for Lot 205 as per the VMP (Travers 2017). ELA has been undertaking the vegetation management works on-site since March 2018.

As per the VMP (Travers 2017), implementation progress reports are to be produced every six months for the first three years with annual progress reports for the remaining seven years of the maintenance program.

ELA has prepared the following reports:

- Year 1: March 2018 to September 2018 (ELA 2018),
- Year 1: September 2018 to February 2019 (ELA 2019a),
- Year 2: March 2019 to August 2019 (ELA 2019b),
- Year 2: September 2019 to February 2020 (ELA 2020a),
- Year 3: March 2020 to December 2020 (ELA 2020b)
- Year 4: January 2020 to December 2021 (ELA 2021)

Note that Year 3 was extended to allow for additional required planting. This annual report covers Year 5 of management for the period from January – December 2022.

1.1 Performance criteria

This report describes how the works undertaken to date comply with the performance targets listed in the VMP (Travers 2017). This satisfies the requirements of the VMP and helps to fulfil CSR's statutory obligations.

Performance targets listed in the VMP are shown in Table 1.

Table 1: Performance targets listed in the VMP (Travers 2017)

Performance Criteria
1. A permanent, five-strand, plain wire protective fence is to be installed to the west of the site as located on Schedule 1 - Vegetation Management Works. Two gates will be installed for maintenance access as located on Schedule 1 – Vegetation Management Works. Existing fences to west and south to be repaired and upgraded.
2. Weed control and revegetation works are to be carried out by a qualified bushland regenerator to achieve the following weed control targets. The presence, abundance and cover of noxious and environmental weed species (maximum 10% weed coverage at the end of Year 1, progressively reducing to less than 1% at the end of Year 10).
3. A target 60% native vegetation cover applies at the end of Year 1, 75% native vegetation cover at the end of Year 3, and 95% native vegetation cover at the end of Year 10.
4. All highly invasive weed species are to be continuously suppressed and, if possible, eradicated from the restoration area in accordance with noxious weed control guidelines and permits issued by NSW Office of Water.
5. A 20 m wide Bushland Interface Zone will be established as shown on Schedule 1 – Vegetation Management Works. Enrichment planting of shrub species only will be planted to create a dense shrub layer to minimise weeds. A minimum of seven (7) shrub species for revegetation will be selected from Table 4 Revegetation Species List, however, may be supplemented from species which typically occur in Cumberland Plain Woodland. Shrub planting densities are to on average, establish one (1) shrub every 12 m^2
6. Revegetation will also be undertaken in disturbed areas as indicated in Schedule 1. A minimum of three (3) tree species, seven (7) shrub species and 14 groundcover species for revegetation will be selected from Table 4 Revegetation Species List, however, may be supplemented from species which typically occur in Cumberland Plain Woodland. Plantings will achieve the following densities: Trees – one (1) tree every 50 m^2 Shrubs – one (1) shrub every 12 m^2 Groundcovers – three (3) groundcover every 1 m^2
7. Habitat enhancement for the Cumberland Plain Land Snail completed including: • Placement of a minimum of 30 x 3 m length hardwood logs harvested from the adjoining affected vegetation remnants; and • Search, removal and euthanasia of exotic snails (minimum 4 searches per year)
8. A search for Cumberland Plain Land Snail and relocation into the CPW Reserve is to be undertaken two weeks prior to bulk earthworks at the reserve interface within any CPW remnants outside of the CPW reserve.
9. Monitoring will be undertaken every two (2) years. A condition assessment and review of works will be undertaken every 12 months and a report will be produced by the site bush regeneration contractors. A site restoration audit will be undertaken every two (2) years until the completion of the 10-year maintenance period by an independent project ecologist assessing achievements and recommended mitigation measures.
10. A compliance statement is to be issued by the project ecologist at the completion of all fencing and primary revegetation works and upon completion of the maintenance period.
11. No greater than 25% of the Cumberland Plain Woodland reverse is burnt in any one year and all snails within the proposed burn areas to be relocated into refuge shelters within the site.

2. Works undertaken

2.1 Weed control

Works throughout 2022 continued to focus on maintenance weed control throughout the VMP area. Primary weed control was completed Year 1 (March 2018 to February 2019) and secondary weed control was completed in Year 2 (March 2019 to February 2020). Maintenance weed control has been undertaken since.

In Year 5, The maintenance weed control has concentrated on the regrowth of weeds. All weeds have been controlled as per the techniques and specifications included in the VMP (Travers 2017).

Woody weeds

Primary woody weed removal, especially *Olea europaea subsp. cuspidata* (African Olive), *Lycium ferocissimum* (African Boxthorn) and *Lantana camara* (Lantana) were largely undertaken onsite during Year 1. Woody weeds were treated using the cut and paint method. All adult specimens have been treated across the site.

Since then, any remaining adult specimens and emergent woody weeds were treated by brush cutter followed by painting of stumps with neat roundup® or by spot spraying seedlings using a selective herbicide. The only remaining woody weeds on site are juvenile individuals.

Vines

Vine species target on site include *Araujia sericifera* (Moth Plant) and *Asparagus asparagoides* (Bridal Creeper). Vines have been largely controlled on site. All vines entering the canopy or climbing on fallen trees were targeted during Year 1. Each vine was skirted and sprayed with a selective herbicide once on the ground, where they were piled around the base of native trees to help minimise the amount of vine in the canopy and shrub layer. Since then, any emerging vines have been treated by hand removal or by spot spraying with a selective herbicide to prevent them from re-entering the canopy.

Groundcovers

Initially, large patches of *Eragrostis curvula* (African Lovegrass), *Cenchrus clandestinum* (Kikuyu) and other exotic grasses were brushcut and sprayed as part of the primary weed control. Since then, any reshooting *Eragrostis curvula* are spot sprayed prior to setting seed.

Broad leaf weeds such as *Bidens pilosa* (Cobbler's Pegs), *Senecio madagascariensis* (Fireweed) and *Sida rhombifolia* (Paddy's Lucerne) have been continually targeted since implementation works commenced.

Other emerging herbaceous weeds, particularly coloniser / fast growing weeds have been targeted prior to setting seed to minimise the amount of weed seed present in the soil bank.

A cumulative list of the main weeds treated since the beginning of the implementation phase is provided in **Table 2**.

Management treatments have included hand weeding (HW), skirting (SK), spot spraying (SP), brush cutting (BC), cutting and painting (CP) and scrape and painting (ScP).

Table 2: Weed treatment table

Species	Common name	Weed control
Woody Weeds		
Grevillea robusta	Silky Oak	CP
*Lantana camara**	Lantana	BC, SP, HW
Ligustrum lucidum	Large Leaved Privet	CP, SP, HW
Ligustrum sinense	Small Leaved Privet	CP, SP, HW
*Lycium ferocissimum**	African Boxthorn	CP, SP
Ochna serrulata	Ochna	ScP
Olea europaea subsp. cuspidata	African Olive	CP, SP
Ricinus communis	Castor Oil Plant	BC, SP
Rosa rubiginosa	Sweet Briar	CP
Vine Weeds		
Araujia sericifera	Moth Plant	SK, SP, HW
Asparagus asparagoides	Bridal Creeper	SP, HW
Herbaceous weeds / Groundcovers		
Anagallis arvensis	Scarlett Pimpernel	SP
Bidens pilosa	Cobblers Pegs	BC, SP
Brassica oleracea	Wild Cabbage	HW, SP
Bromus catharticus	Prairie Grass	HW, SP
Cenchrus clandestinum	Kikuyu	BC, SP
Chloris gayana	Rhodes Grass	BC, SP
Cirsium vulgare	Spear Thistle	SP
Conyza bonariensis	Fleabane	BC, SP
Ehrharta erecta	Panic Veldt Grass	SP
Eragrostis curvula	African Lovegrass	BC, SP
Hypochaeris radicata	Flatweed	SP
Juncus acutus	Sharp Rush	BC, SP
Lolium perenne	Rye Grass	HW, SP
Paspalum dilatatum	Caterpillar Grass	SP
Plantago lanceolata	Plantain	SP
*Senecio madagascariensis**	Fireweed	HW, SP
Senecio pterophorus	African Daisy	SP
Setaria pumila subsp. *pumila*	Pigeon Grass	SP
Sida rhombifolia	Paddy's Lucerne	HW, SP
Solanum nigrum	Blackberry Nightshade	HW, SP
Solanum pseudocapsicum	Madeira Winter Cherry	HW, SP

Species	Common name	Weed control
Solanum sisymbriifolium	Viscid Nightshade	BC, SP
Sonchus oleraceus	Common Sowthistle	HW, SP
Verbena bonariensis	Purpletop	BC, SP

*Priority weeds

2.2 Revegetation

A total of 41,428 plants were installed between 3 and 10 June 2020. All plantings consisted of suitable CPW species grown from local provenance seed, installed as tubes and *hiko* cells and irrigated thoroughly upon installation. All shrubs were also installed with tree guards to protect against herbivory and frost until the plants became established.

Planting species and numbers installed to date have been provided below in **Table 3**.

Table 3: Revegetation species and numbers

Species	Common Name	BIZ	Dam	Reveg Areas	Total
Trees					
Acacia implexa	Hickory Wattle			40	40
Eucalyptus crebra	Narrow Leaved Ironbark			40	40
Eucalyptus eugenioides	Thin leaved Stringybark			40	40
Eucalyptus moluccana	Grey Box			48	48
Eucalyptus tereticornis	Forest Red Gum			40	40
Total Trees		**0**	**0**	**208**	**208**
Shrubs					
Acacia decurrens	Black Wattle	360		120	480
Acacia falcata	Sickle Wattle	160		40	200
Acacia parramattensis	Parramatta Wattle	400		100	500
Bursaria spinosa	Black Thorn	320		80	400
Daviesia ulicifolia	Gorse Bitter Pea	120		80	200
Dillwynia sieberi	Prickly Parrot Pea			80	80
Dodonaea viscosa	Sticky Hop-Bush	552		167	720
Indigofera australis	Australian Indigo	80		40	120
Melaleuca nodosa	Ball Honey Myrtle	560		160	720
Total Shrubs		**2,553**	**0**	**867**	**3,420**
Sedges / Grasses					
Baumea articulata	Jointed Twig-Rush		1,100		1,100
Bothriochloa macra	Redleg Grass			400	400
Carex appressa	Tall Sedge		1,380		1,380

Species	Common Name	BIZ	Dam	Reveg Areas	Total
Chloris truncata	Windmill Grass			1,160	1,160
Chloris ventricosa	Windmill Grass			400	400
Cymbopogon refractus	Barbed Wire Grass			1,200	1,200
Dichelachne micrantha	Shorthair Plumegrass			200	200
Echinopogon caespitosus	Hedgehog Grass			1,200	1,200
Eleocharis sphacelata	Tall Spike Rush		360		360
Entolasia stricta	Wiry Panic			120	120
Eragrostis brownii	Brown's Lovegrass			120	120
Eragrostis leptostachya	Paddock Lovegrass			200	200
Juncus usitatus	Common Rush		1,900		1,900
Microlaena stipoides	Weeping Grass			2,400	2,400
Oplismenus aemulus	Basket Grass			1,600	1,600
Philydrum lanuginosum	Frogsmouth		560		560
Poa labillardieri	Tussock Grass			2,404	2,404
Rytidosperma racemosum	Wallaby Grass			200	200
Schoenoplectus validus	Softstem Bulrush		1,300		1,300
Themeda australis	Kangaroo Grass			400	400
Total Sedges / Grasses		**0**	**6,600**	**12,004**	**18,604**
Herbs / Scramblers					
Arthropodium milleflorum	Vanilla Lily			80	80
Brunoniella australis	Blue Trumpet			1,200	1,200
Calotis cuneifolia				880	880
Centella asiatica	Indian Pennywort			800	800
Clematis glycinoides	Old Man's Beard			320	320
Commelina cyanea	Scurvy Weed			1,600	1,600
Desmodium varians	Slender Tick-Trefoil			120	120
Dianella longifolia	Blueberry Lily			600	600
Dichondra repens	Kidney Weed			2,400	2,400
Einadia hastata	Berry Saltbush			600	600
Glycine tabacina	Variable Glycine			320	320
Goodenia hederacea	Forest Goodenia			1,200	1,200
Hardenbergia violacea	Purple Coral Pea			3,000	3,000
Lomandra filiformis	Wattle Mat-Rush			320	320
Lomandra longifolia	Mat Rush			1,600	1,600
Phyllanthus virgatus	-			10	10

Species	Common Name	BIZ	Dam	Reveg Areas	Total
Pratia purpurascens	Whiteroot			2,200	2,200
Stackhousia viminea	Slender Stackhousia			100	100
Wahlenbergia gracilis	Australian Bluebell			1,846	1,846
Total Herbs / Scramblers		**0**	**0**	**19,196**	**19,196**
Grand Total		**2,553**	**6,600**	**32,275**	**41,428**

2.3 Monitoring methods

The site was assessed on 16 December 2022 by ELA Restoration Ecologist Andrew Norvill, using general observations and floristic data collected using nine survey plots, which were established in the first monitoring period (March-August 2018). General observations, as per the VMP (Travers 2017), were made during a site walk-over with the following being recorded:

- Weed presence / absence
- Bushland floristic diversity
- Structural integrity of the bushland
- Condition of installed revegetation
- Condition of fencing

2.3.1 Vegetation quadrats and transects

Nine survey plots were used to assess achievement against the performance targets listed in **Table 1**. **Figure 1** shows the location of the survey plots within the VMP area. The position of these plots was determined as per Schedule 1 of the VMP (Travers 2017) with each plot consisting of a 20x20 m quadrat.

In each quadrat the percentage cover and abundance for all native and exotic overstorey, midstorey and ground cover species present was recorded.

2.3.2 Cumberland Plain Land Snail search

Throughout this reporting period the site was assessed for Cumberland Plain Land Snails (CPLS) on two occasions, 19 May 2022 and 13 October 2022 by ELA Restoration Ecologist Andrew Norvill and ELA Bush Regenerators Nick Arends, Amanda Coleman, Sandra Conceicao and Claire Plunkett. Assessments were focused on areas where CPLS would likely occur. This included:

- Leaf litter and bark situated at the base of Eucalyptus trees.
- Depressions and damp areas.
- Fallen logs and other debris
- Hardwood logs that were placed throughout the site as habitat enhancement.

Each CPLS was photographed, and the location recorded using a handheld Global Position System (GPS) and placed back amongst the leaf litter where it was initially found. The number of snails found at each location was recorded.

2.3.3 Weather during site monitoring

The weather on site during the CPLS surveys can be found in **Table 4**.

Table 4: Weather during CPLS surveys

Date	Max. temperature	Rainfall
19 May 2022	18.3°C	0.0mm
13 October 2022	20.6°C	0.0mm

2.4 Photo point monitoring

Eighteen fixed photo monitoring points were established during the first reporting period (ELA 2018). They can be found at the beginning and end points of each transect (see **Figure 1**). Comparative photos were taken from the same locations during this reporting period. The photos from each monitoring point, are included in **Appendix A**.

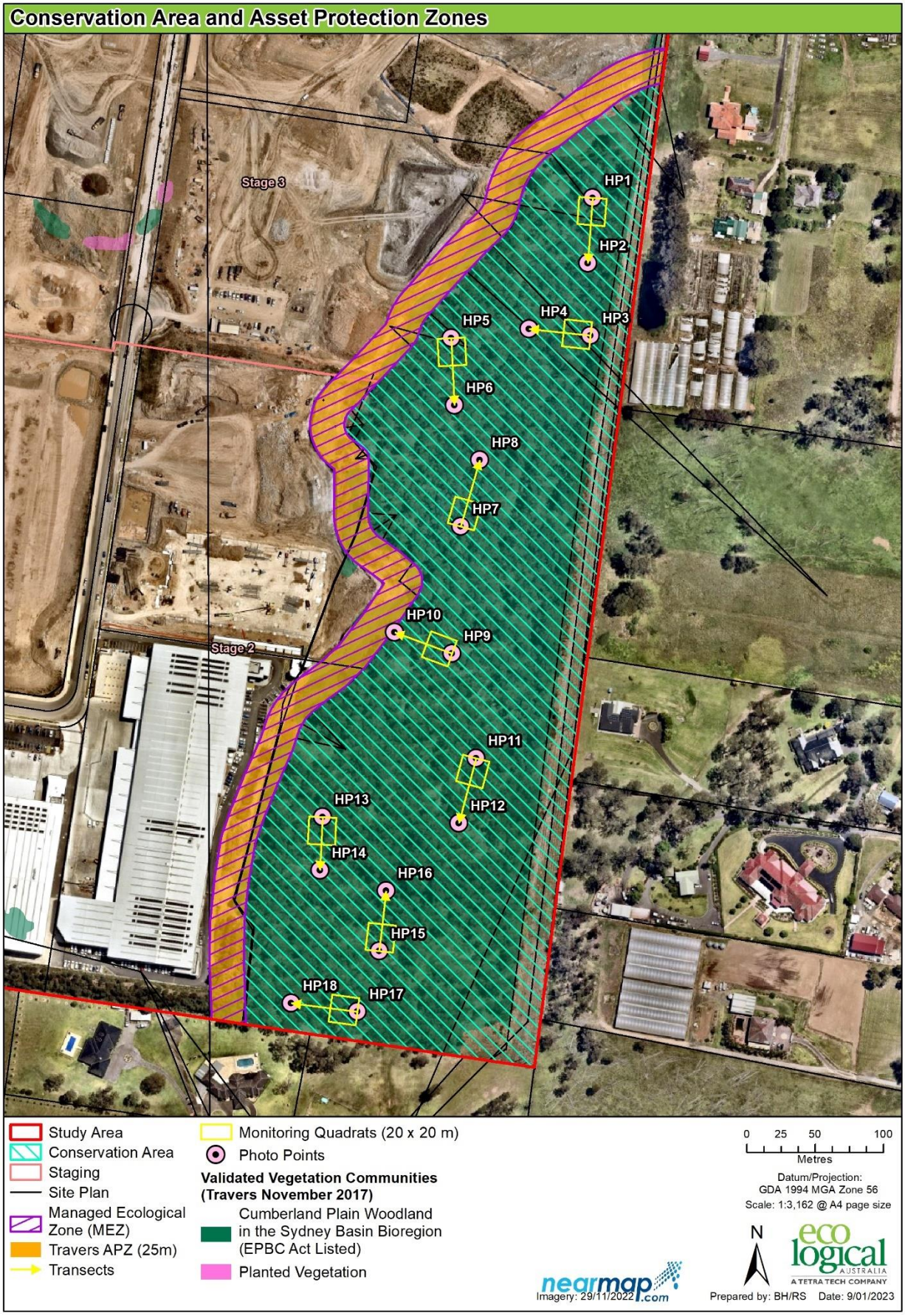

Figure 1: Vegetation quadrats and photo monitoring points

3. Results

3.1 Vegetation monitoring results

A summary of results from the monitoring of vegetation quadrats and transects is provided below. All monitoring data collected from ELA in 2018-21, is provided in **Appendix B.**

1. Species richness (**Figure 2**)

    - An increase in native species richness within the quadrats from 38 in August 2018, to 56 in December 2022.
    - No change in weed species richness from 17 in August 2018 and December 2022.

2. Mean ground layer and mid storey cover abundance (**Figure 3** and **Figure 4**)

    - An increase in native ground layer abundance from 75% in August 2018 to 93% in December 2022.
    - A reduction in exotic ground layer abundance from 8% in August 2018 to 2% in December 2022.
    - A decrease in native mid storey abundance from 62% in August 2018, to 58% in December 2022.
    - A decrease in exotic mid storey abundance from 3% in August 2018 to 1% in December 2022.

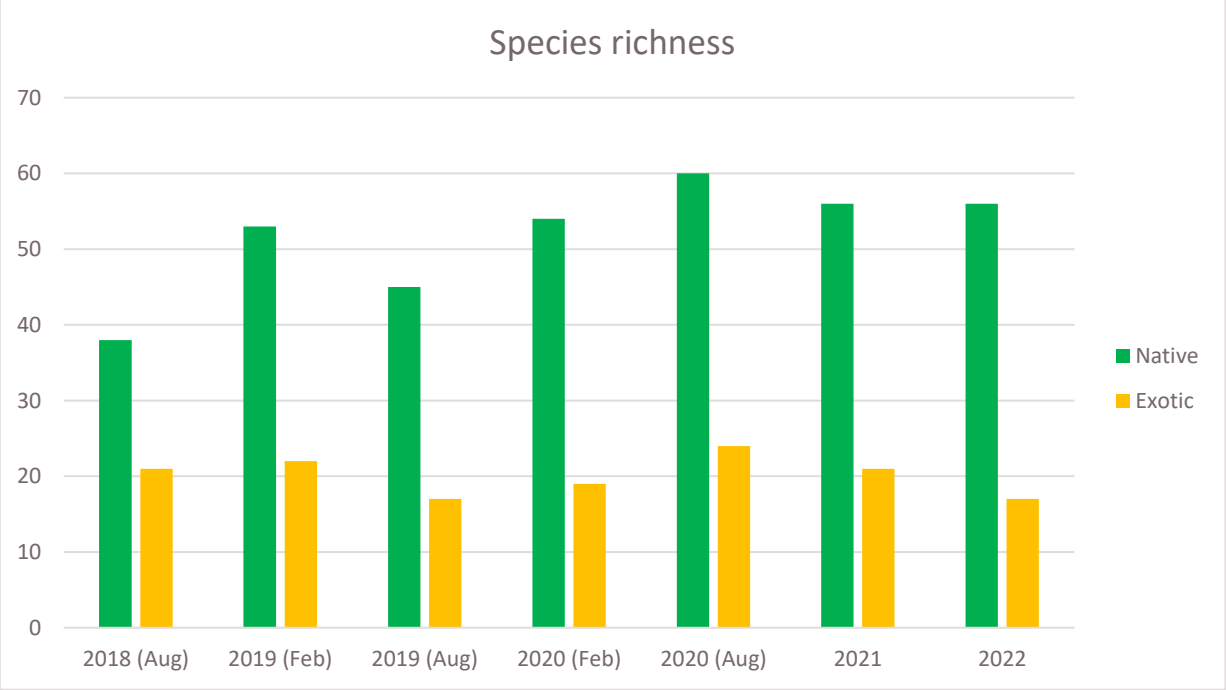

Figure 2: Species richness across all quadrats

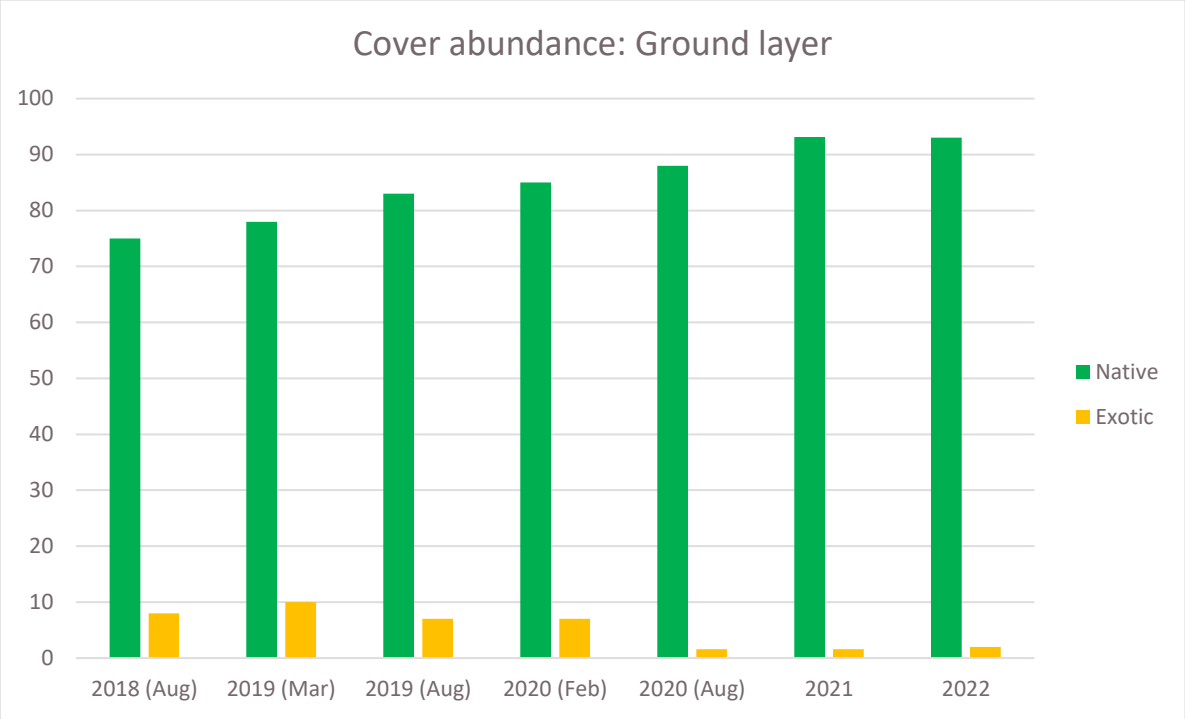

Figure 3: Mean cover abundance Ground layer

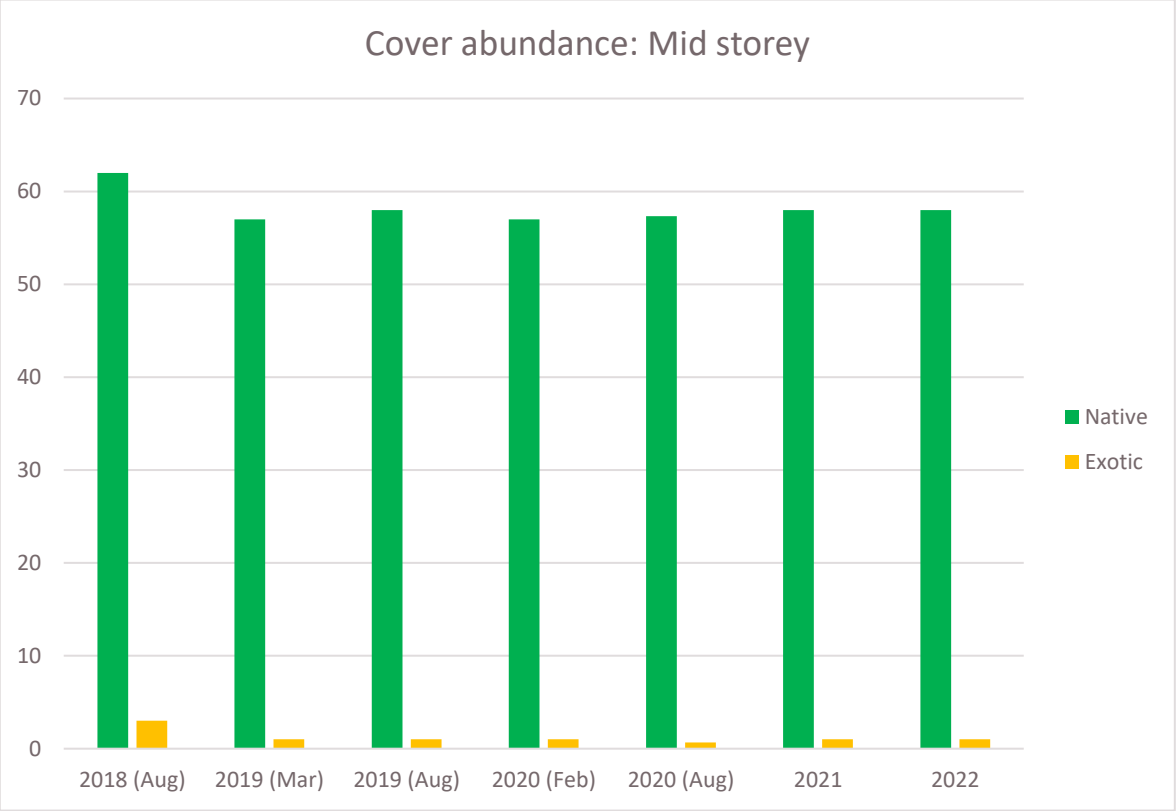

Figure 4: Mean cover abundance Mid Storey

3.2 CPLS survey results

Two surveys for CPLS recorded the following (also see **Figure 5**):

- 13 live CPLS
- 90 CPLS shells
- 0 live exotic snails
- 0 exotic snail shells

The location where the snails were recorded is provided in

Figure 6 for the CPLS.

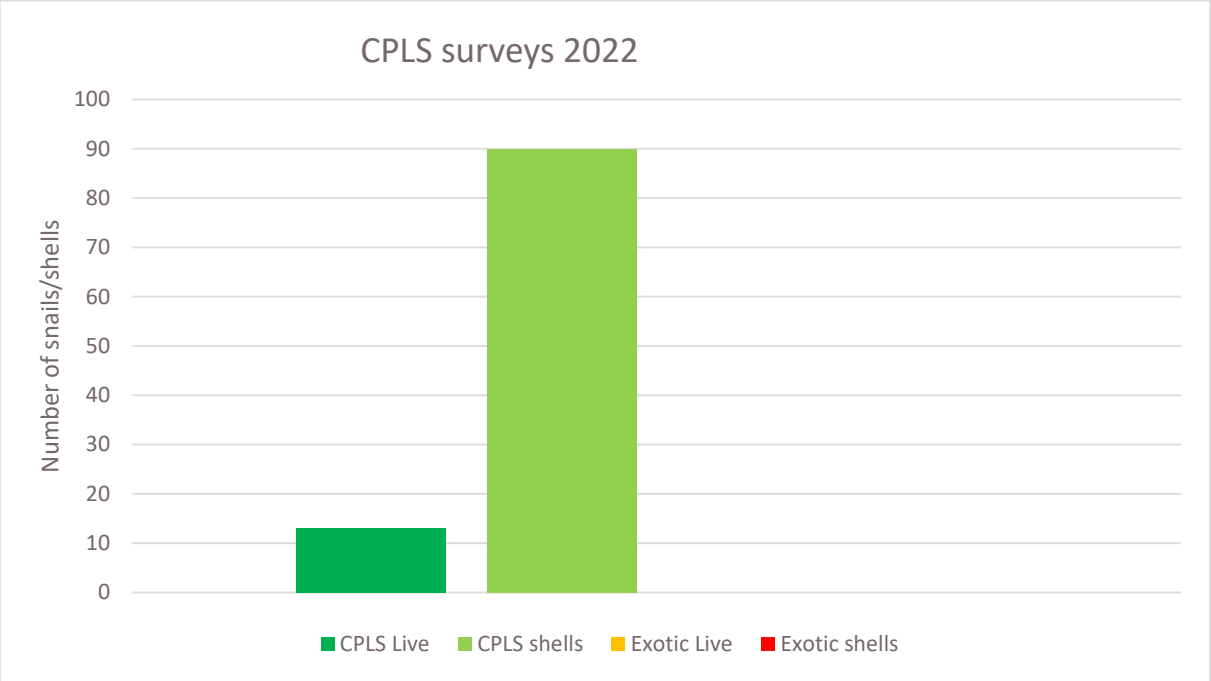

Figure 5: Cumberland Plain Land Snail search survey results and count

Figure 6: Cumberland Plain Land Snail survey results (2022)

3.3 Fauna observations

Incidental observations of native fauna onsite from the commencement of on ground works includes:

BIRDS

- Australian Wood Duck (Chenonetta jubata)
- Crested Pigeon (Ocyphaps lophotes)
- Peregrine Falcon (Falco peregrinus)
- Galah (Eolophus roseicapilla)
- Sulphur-Crested Cockatoo (Cacatua galerita)
- Rainbow Lorikeet (Trichoglossus haematodus)
- Pallid Cuckoo (Cacomantis pallidus)
- Dollarbird (Eurystomus orientalis)
- Superb Fairy-Wren (Malurus cyaneus)
- Yellow Thornbill (Acanthiza nana)
- Spotted Pardalote (Pardalotus punctatus)
- Yellow-Faced Honeyeater (Lichenostomus chrysops)
- White-Plumed Honeyeater (Ptilotula penicillata)
- Noisy Miner (Manorina melanocephala)
- Black-Faced Cuckoo Shrike (Coracina novaehollandiae)
- Golden Whistler (Pachycephala pectoralis)
- Grey Shrike-Thrush (Colluricincla harmonica)
- Grey Butcherbird (Cracticus torquatus)
- Australian Magpie (Cracticus tibicen)
- Pied Currawong (Strepera graculina)
- Grey Fantail (Rhipidura albiscapa)
- Willie Wagtail (Rhipidura leucophrys)
- Australian Raven (Corvus coronoides)
- Magpie-Lark (Grallina cyanoleuca)
- Eastern Yellow Robin (Eopsaltria australis)
- Welcome Swallow (Hirundo neoxena)
- Common Myna (Acridotheres tristis)*
- Double-Barred Finch (Taeniopygia bichenovii)

*Denotes introduced species

MAMMALS

- Eastern Grey Kangaroo (Macropus giganteus)
- Swamp Wallaby (*Wallabia bicolor*)

REPTILES

- Red-Bellied Black Snake (Pseudechis porphyriacus)
- Eastern Blue-tongue Lizard (*Tiliqua scincoides scincoides*)

SNAILS

- Cumberland Plain Land Snail (*Meridolum corneovirens*)

3.4 Weather during management period

Climate data has been collated for the nearest weather station to Horsley Park, at Horsley Park Equestrian Centre AWS (33.85°S, 150.86°E) from Bureau of Meteorology data, accessed on 6 December 2022 (see **Figure 7**).

The 2022 Rainfall data (**Figure 7**) has been measured against the mean and median rainfall data for this weather station. Rainfall for this reporting period (2022), has been consistently above average for most of the year, in particular February where 272.6mm of rain fell (230.2mm above the monthly average rainfall for February) and July where 401.6mm of rain fell (223.2mm above the monthly average rainfall for July).

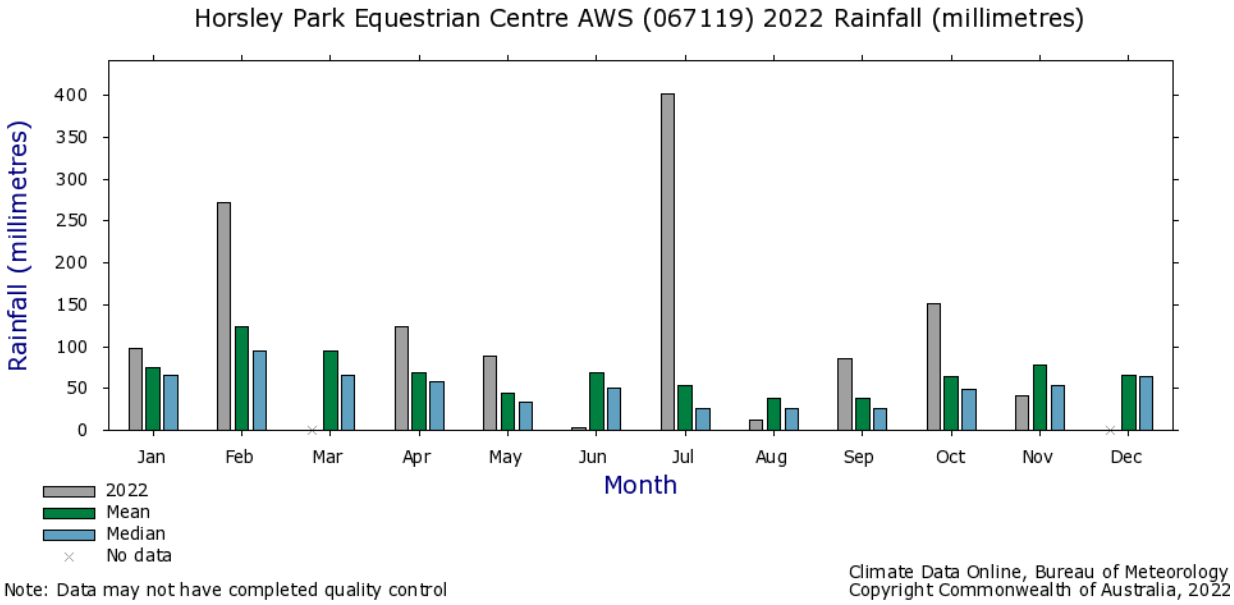

Figure 7: Mean rainfall for 2022 (BOM 6 December 2022)

4. Assessment against performance criteria

Works continued to concentrate on maintenance weed control of the more degraded sections of the site, in particular along the southern and western boundaries and amongst the plantings. Primary weed control was undertaken in Year 1 with secondary weed control works undertaken in Year 2 and maintenance weed control works undertaken since.

All revegetation has been installed across the site throughout June 2020 as well.

All weed control measures undertaken to date have been effective and there has been a significant reduction in cover of African Olive, African Boxthorn, Lantana, African Lovegrass, Kikuyu and overall weed presence which has meant the overall performance criteria has been met.

The works undertaken to achieve the performance criteria is shown in **Table 5.**

Table 5: Performance criteria achievement (Travers 2017)

Performance Criteria	Completed	Comment
1. A permanent, five-strand, plain wire protective fence is to be installed to the west of the site as located on Schedule 1 – Vegetation Management Works. Two gates will be installed for maintenance access as located on Schedule 1 – Vegetation Management Works. Existing fences to west and south to be repaired and upgraded.	Yes	-
2. Weed control and revegetation works are to be carried out by a qualified bushland regenerator to achieve the following weed control targets. The presence, abundance and cover of noxious and environmental weed species (maximum 10% weed coverage at the end of Year 1, progressively reducing to less than 1% at the end of Year 10).	Yes and on track	Exotic groundcover at 2%
3. A target 60% native vegetation cover applies at the end of Year 1, 75% native vegetation cover at the end of Year 3, and 95% native vegetation cover at the end of Year 10.	Yes and on track	Native groundcover at 93%. Native midstorey cover at 58%
4. All highly invasive weed species are to be continuously suppressed and, if possible, eradicated from the restoration area in accordance with noxious weed control guidelines and permits issued by NSW Office of Water.	Yes	-
5. A 20 m wide Bushland Interface Zone will be established as shown on Schedule 1 – Vegetation Management Works. Enrichment planting of shrub species only will be planted to create a dense shrub layer to minimise weeds. A minimum of seven (7) shrub species for revegetation will be selected from Table 4 Revegetation Species List, however may be supplemented from species which typically occur in Cumberland Plain Woodland. Shrub planting densities are to on average, establish one (1) shrub every 12 m2	Yes	-
6. Revegetation will also be undertaken in disturbed areas as indicated in Schedule 1. A minimum of three (3) tree species, seven (7) shrub species and 14 groundcover species for revegetation will be selected from Table 4 Revegetation Species List, however may be supplemented from species which typically occur in Cumberland Plain Woodland. Plantings will achieve the following densities: Trees – one (1) tree every 50 m2 Shrubs – one (1) shrub every 12 m2 Groundcovers – three (3) groundcover every 1 m2	Yes	32,275 plants installed in disturbed areas in June 2020. A total of 5 tree species, 9 shrub species and 19 groundcover were species installed
7. Habitat enhancement for the Cumberland Plain Land Snail completed including: Placement of a minimum of 30 x 3m length hardwood logs harvested from the adjoining affected vegetation remnants; and Search, removal and euthanasia of exotic snails (minimum 4 searches per year)	Yes and on track	24 hardwood logs have been placed within the site so far 2 searches were undertaken in 2022
8. A search for Cumberland Plain Land Snail and relocation into the CPW Reserve is to be undertaken two weeks prior to bulk earthworks at the reserve interface within any CPW remnants outside of the CPW reserve.	Yes	-

Performance Criteria	Completed	Comment
9. Monitoring will be undertaken every two (2) years. A condition assessment and review of works will be undertaken every 12 months and a report will be produced by the site bush regeneration contractors. A site restoration audit will be undertaken every two (2) years until the completion of the 10-year maintenance period by an independent project ecologist assessing achievements and recommended mitigation measures.	Yes	Monitoring was undertaken annually, according to Section 4.1 of the VMP (Travers 2017)
10. A compliance statement is to be issued by the project ecologist at the completion of all fencing and primary revegetation works and upon completion of the maintenance period.	N/A	-
11. No greater than 25% of the Cumberland Plain Woodland reverse is burnt in any one year and all snails within the proposed burn areas to be relocated into refuge shelters within the site.	N/A	There are no burns planned in the foreseeable future so snail relocation has not been required

5. Site issues

To date, only 24 of the 30 x 3 m length hardwood logs have been placed within the VMP. Given the permanent protective fence has already been installed along the western boundary and vehicular access has been prohibited, the relocation of the remaining six hardwood logs into the site will be difficult. However, there have been several fallen native trees within the conservation area that can compensate as CPLS habitat for the remaining six hardwood logs. In addition, it is recommended that piles of smaller diameter logs, ideally still 3m long, be placed in the conservation area. These can be used to create habitat structures which can provide similar habitat.

The VMP is subject to edge effects impacting on the bushland, especially where the VMP area lies adjacent to exotic grassland along the eastern boundary. Also, irrigation from the revegetation works in the APZ (outside of the VMP) along the western boundary has seen a large increase in exotic plant growth within the VMP due to excess water runoff. These boundaries will need to be regularly maintained to keep exotic grass seed to a minimum and prevent seed from entering the VMP area so that the long-term performance criteria can be met.

Future works proposed in the VMP area include:

- Installation of additional timber
- Continued removal of any further woody weed regrowth.
- Weed control of any emerging saplings throughout the site.
- Irrigation of plants installed
- Plant installation in north east corner of the BIZ upon completion of earthworks in adjacent development site
- 10% replacement planting (if required)
- Continued CPLS searches (minimum of 4 per year).
- Continued monitoring and reporting.

6. Conclusions

The performance criteria for the site are all being met or on-track to being met in the future where no specific criteria exists for Year 5. However, edge effects and impacts from the adjacent development site will be a continuous issue. It is recommended that ongoing maintenance continue to be undertaken throughout the remainder of the ten year VMP implementation period to ensure that the performance criteria are continually met.

References

Australian meteorology website. Data provided by Australian Bureau of meteorology. Accessed 22.12.2021. Accessed at: http://www.bom.gov.au/jsp/ncc/cdio/weatherData/av?p_nccObsCode=136&p_display_type=dailyDataFile&p_startYear=2019&p_c=-900995239&p_stn_num=067119

Australian meteorology website. Data provided by Australian Bureau of meteorology. Accessed 22.12.2021. Accessed at: http://www.bom.gov.au/jsp/ncc/cdio/weatherData/av?p_nccObsCode=122&p_display_type=dailyDataFile&p_startYear=&p_c=&p_stn_num=067119

Eco Logical Australia 2018. *327-335 Burley Road, Horsley Park Vegetation Management Plan Implementation Progress Report: March 2018 – August 2018.* Prepared for CSR Buildings Products Ltd.

Eco Logical Australia 2019a. *327-335 Burley Road, Horsley Park Vegetation Management Plan Implementation Progress Report: September 2018 – February 2019.* Prepared for CSR Buildings Products Ltd.

Eco Logical Australia 2019b. *327-335 Burley Road, Horsley Park Vegetation Management Plan Implementation Progress Report: March 2019 – August 2019.* Prepared for CSR Buildings Products Ltd.

Eco Logical Australia 2020a. *327-335 Burley Road, Horsley Park Vegetation Management Plan Implementation Progress Report: September 2019 – February 2020.* Prepared for CSR Buildings Products Ltd.

Eco Logical Australia 2020b. *327-335 Burley Road, Horsley Park Vegetation Management Plan Implementation Progress Report: March 2020 – August 2020.* Prepared for CSR Buildings Products Ltd.

Eco Logical Australia 2021. *327-335 Burley Road, Horsley Park Vegetation Management Plan Implementation Progress Report: September 2021 – February 2033.* Prepared for CSR Buildings Products Ltd.

Travers bushfire & ecology. 2016. Vegetation Management Plan, 327 – 335 Burley Road, Horsley Park.

Appendix A Photo monitoring points

HP1 July 2018

HP1 December 2022

HP2 July 2018

HP2 December 2022

HP3 July 2018

HP3 December 2022

HP4 July 2018

HP4 December 2022

HP5 July 2018

HP5 December 2022

HP6 July 2018

HP6 December 2022

HP7 July 2018

HP7 December 2022

HP8 July 2018

HP8 December 2022

HP9 July 2018

HP9 December 2022

HP10 July 2018

HP10 December 2022

HP11 July 2018

HP11 December 2022

HP12 July 2018

HP12 December 2022

HP13 July 2018

HP13 December 2022

HP14 July 2018

HP14 December 2022

HP15 July 2018

HP15 December 2022

HP16 July 2018

HP16 December 2022

HP17 July 2018

HP17 December 2022

HP18 July 2018

HP18 December 2022

Appendix B Quadrat data

Native vegetation (September 2018)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Acacia decurrens								40		**4**
Acacia falcata						<1	<1			**0**
Acacia longifolia							7			**1**
Aristida ramosa				<1	25	70	20	5		**13**
Aristida vagans		<1	20			2			<1	**2**
Arthropodium milleflorum					<1					**0**
Brunoniella australis	<1	5	3	5	5	<1	2	5	10	**4**
Bursaria spinosa	75	50	82	80	15		55	30	80	**52**
Cheilanthes sieberi		<1							<1	**0**
Chloris ventricosa					2					**0**
Cymbonotus lawsonianus							<1			**0**
Daviesia ulicifolia			<1							**0**
Desmodium varians	<1			<1						**0**
Dianella longifolia		<1		<1		<1	<1	<1	<1	**0**
Dichondra repens	5	2	3	<1	10	<1	2	<1	<1	**2**
Dichopogon sp.		<1								**0**
Dillwynia sieberi		<1							2	**0**
Eremophila debilis					<1					**0**
Eucalyptus crebra				75	10	2				**10**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Eucalyptus eugenioides						25			10	**4**
Eucalyptus moluccana	5	10	20							**4**
Eucalyptus tereticornis	32	32	42	20	70	30	<1	20	30	**31**
Ficus sp.	<1									**0**
Glycine microphylla	<1	<1	<1	<1	<1					**0**
Glycine tabacina	<1		<1	<1	<1	<1		<1	<1	**0**
Indigofera australis	<1									**0**
Lomandra multiflora subsp. multiflora			<1	<1	<1		<1	<1	2	**0**
Microlaena stipoides	70	60	50	30	10	10	<1	5	30	**29**
Oxalis perennans	<1					<1				**0**
Phyllanthus virgatus					<1	<1				**0**
Poa labillardieri			<1		5		<1	<1		**1**
Pratia purpurascens									3	**0**
Pultenaea microphylla							<1	2		**0**
Rumex sp.	<1									**0**
Solanum prinophyllum	<1	<1	<1	<1				<1		**0**
Sporobolus creber				<1						**0**
Syncarpia glomulifera								15		**2**
Themeda australis		5	2	2	25	2	50	10	30	**14**

Exotic vegetation (September 2018)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Araujia sericifera	<1	<1		<1	<1					**0**
Bidens pilosa	2	2			2					**1**
Conyza bonariensis		<1	<1							**0**
Ehrharta erecta	5		1		3					**1**
Eragrostis curvula								<1	<1	**0**
Hyparrhenia hirta						<1				**0**
Jacaranda mimosifolia				<1						**0**
Lantana camara	10	<1	5	<1						**2**
Lycium ferocissimum		<1								**0**
Ochna serrulata	<1									**0**
Olea europaea subsp. cuspidata	<1		<1	<1						**0**
Paspalum dilatatum	<1	<1			<1				2	**0**
Plantago lanceolata						1	<1	<1		**0**
Senecio madagascariensis				<1			<1			**0**
Senecio pterophorus		<1				<1	<1	<1	<1	**0**
Setaria parviflora						<1				**0**
Sida rhombifolia	<1	<1	10	<1	<1	1	<1	<1	<1	**1**
Solanum pseudocapsicum	<1	<1	<1	<1	<1	<1		<1		**0**
Solanum sisymbriifolium		<1								**0**
Sonchus oleraceus	<1			<1	<1					**0**
Verbena bonariensis		<1				<1				**0**

Native vegetation (March 2019)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Acacia decurrens								20		**2**
Acacia falcata						1	1			**0**
Acacia implexa							10			**1**
Aristida ramosa			<1	<1	15	40	20	25		**11**
Aristida vagans		<1	5			2		<1		**1**
Arthropodium milleflorum							<1			**0**
Asperula conferta						<1	<1	<1		**0**
Brunoniella australis	10	10	20	5	5	10	10	10	10	**10**
Bursaria spinosa	75	50	70	80	15	30	70	30	80	**56**
Cayratia clematidea	5									**1**
Centella asiatica					5		2			**1**
Cheilanthes sieberi	<1	<1	<1	<1		<1				**0**
Chloris ventricosa					2	5	2	2		**1**
Cymbopogon refractus					10	1	<1	<1	<1	**1**
Cyperus sp.			<1	<1				<1	<1	**0**
Daviesia ulicifolia			<1							**0**
Desmodium varians	2	2	<1	<1		1	<1	<1		**1**
Dianella longifolia		<1		<1	1	<1	<1	<1	<1	**0**
Dichondra repens	10	5	2	<1	10		2	<1	<1	**3**
Dillwynia sieberi		<1							2	**0**
Echinopogon caespitosus var. caespitosus			<1							**0**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Einadia hastata	<1									**0**
Einadia trigonos				<1						**0**
Eremophila debilis			<1	<1			<1			**0**
Eucalyptus crebra				75	10	2				**10**
Eucalyptus eugenioides						25			10	**4**
Eucalyptus moluccana	5	10	20		1			1		**4**
Eucalyptus tereticornis	30	30	40	20	70	25	40	20	30	**34**
Ficus sp.	<1									**0**
Glycine microphylla	<1	<1	<1	<1				<1		**0**
Glycine tabacina	5	2	<1	<1		<1	<1	<1	<1	**1**
Hypoxis hygrometrica var. hygrometrica		<1	<1	<1		<1	<1	<1		**0**
Indigofera australis	1									**0**
Lagenophora stipitata			<1	<1			<1	<1		**0**
Lomandra filiformis			<1						<1	**0**
Lomandra multiflora subsp. multiflora		<1	1	1					2	**0**
Mentha satureioides				<1					<1	**0**
Microlaena stipoides	20	60	20	20	10	20	1	25	20	**22**
Oxalis perennans	1	<1				<1		<1	<1	**0**
Pandorea pandorana		<1								**0**
Paspalidium distans				<1						**0**
Phyllanthus virgatus		<1	<1			<1		<1	<1	**0**
Plantago gaudichaudii					1	<1		<1		**0**
Poa labillardieri			<1		5		<1			**1**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Pratia purpurascens									2	**0**
Pultenaea microphylla							3	2		**1**
Rumex sp.	<1									**0**
Sigesbeckia orientalis ssp. orientalis				<1						**0**
Solanum prinophyllum	1	<1	<1	<1				<1		**0**
Sporobolus creber								<1		**0**
Syncarpia glomulifera								15		**2**
Themeda australis		2	2	2	20	2	30	10	30	**11**
Wahlenbergia gracilis								<1		**0**

Exotic vegetation (March 2019)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Araujia sericifera	<1	<1		<1						**0**
Bidens pilosa	5	5	<1	1	<1	<1	<1		<1	**1**
Brassica fruticulosa	<1									**0**
Conyza bonariensis	<1			<1						**0**
Ehrharta erecta	10		<1	1	3					**1**
Eragrostis curvula						<1		<1		**0**
Hyparrhenia hirta		<1								**0**
Lantana camara	<1	1	1	1	<1					**0**
Lycium ferocissimum								<1	<1	**0**
Ochna serrulata	<1		<1		<1					**0**
Olea europaea subsp. cuspidata		<1		<1						**0**
Paspalum dilatatum	<1	<1	<1	<1	<1	<1	1	<1	2	**0**
Plantago lanceolata		<1				<1	<1	<1		**0**
Rosa rubiginosa					<1					**0**
Senecio madagascariensis	<1	<1		<1	<1	1	<1	<1		**0**
Senecio pterophorus	<1	<1			<1		<1	<1		**0**
Setaria parviflora	<1		<1	<1		1	<1	<1		**0**
Sida rhombifolia	<1	<1	<1	<1	<1	<1	<1	<1	<1	**0**
Solanum pseudocapsicum				<1		<1				**0**
Solanum sisymbriifolium			<1	<1		<1				**0**
Sonchus oleraceus	<1	<1		<1						**0**
Verbena bonariensis		<1				<1				**0**

Native vegetation (September 2019)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Acacia decurrens								20		**2**
Acacia falcata						1	1			**0**
Acacia implexa							7			**1**
Aristida ramosa		30	20	20	30	40	30	30		**22**
Aristida vagans		<1	2	<1	<1	2	<1	<1		**0**
Asperula conferta						<1				**0**
Brunoniella australis	2	2	2	2	2	5	2	2	2	**2**
Bursaria spinosa	75	50	70	80	15	30	70	30	80	**56**
Cayratia clematidea	5									**1**
Centella asiatica					<1		<1			**0**
Cheilanthes sieberi	<1					<1				**0**
Chloris ventricosa					5	2	5	2		**2**
Cymbopogon refractus					5	2	<1	<1	<1	**1**
Cyperus sp.			<1				<1			**0**
Daviesia ulicifolia			<1							**0**
Desmodium varians	1	1	<1	<1	<1	<1	<1	<1		**0**
Dianella longifolia		<1			1	<1	<1	<1	<1	**0**
Dichondra repens	2	2	1	<1	5	<1	1	1	<1	**1**
Dillwynia sieberi		<1							2	**0**
Einadia hastata	<1									**0**
Eremophila debilis				<1			<1			**0**
Eucalyptus crebra				75	10	2				**10**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Eucalyptus eugenioides						25			10	**4**
Eucalyptus moluccana	5	10	20		1			1		**4**
Eucalyptus tereticornis	30	30	40	20	70	25	40	20	30	**34**
Ficus sp.	<1									**0**
Glycine microphylla	<1	<1	<1	<1	<1	<1		<1	<1	**0**
Glycine tabacina	5	2	<1	<1	<1	<1	<1	<1	<1	**1**
Goodenia hederacea							<1	<1		**0**
Indigofera australis	1									**0**
Kennedia rubicunda			<1							**0**
Lomandra filiformis			<1		<1	<1		<1	<1	**0**
Lomandra multiflora subsp. *multiflora*		<1	1	1	<1	<1	<1		2	**0**
Mentha satureioides			<1							**0**
Microlaena stipoides	60	40	20	20	15	20	15	40	50	**31**
Oxalis perennans	<1								<1	**0**
Paspalidium distans			<1							**0**
Plantago gaudichaudii					<1	<1		<1		**0**
Poa labillardieri			<1		5		5	<1		**1**
Pratia purpurascens									2	**0**
Pultenaea microphylla							3	2		**1**
Solanum prinophyllum	1		<1	<1	<1			<1		**0**
Sporobolus creber								<1		**0**
Syncarpia glomulifera								15		**2**
Themeda australis		2	2	2	15	10	20	5	20	**8**

Exotic vegetation (September 2019)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Bidens pilosa	<1	<1	<1		<1	<1	<1		<1	**0**
Cirsium vulgare		<1								**0**
Conyza bonariensis	<1									**0**
Ehrharta erecta	10		<1	<1		<1				**1**
Eragrostis curvula						<1		<1		**0**
Hypochaeris radicata				<1						**0**
Lantana camara			<1	<1						**0**
Lycium ferocissimum		<1	<1							**0**
Ochna serrulata				<1	<1					**0**
Olea europaea subsp. *cuspidata*			<1	<1						**0**
Paspalum dilatatum		<1					<1	<1	2	**0**
Plantago lanceolata							<1	<1		**0**
Senecio madagascariensis	<1					<1	<1	<1	<1	**0**
Senecio pterophorus		<1			<1		<1	<1		**0**
Sida rhombifolia	<1	<1	<1	<1		<1	<1		<1	**0**
Solanum nigrum	<1								<1	**0**
Solanum pseudocapsicum	<1		<1	<1		<1				**0**
Solanum sisymbriifolium									1	**0**

Native vegetation (March 2020)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Acacia decurrens								5		**1**
Acacia falcata							<1			**0**
Acacia implexa							5			**1**
Aristida ramosa		10	20	10	10	10	25	10		**11**
Aristida vagans			2	<1	2	10		<1		**2**
Arthropodium milleflorum							<1			**0**
Asperula conferta					<1	<1	<1	<1		**0**
Bossiaea prostrata						1				**0**
Bothriochloa macra								1		**0**
Brunoniella australis	2	10	2	5	5	10	10	10	5	**7**
Bursaria spinosa	75	50	70	80	15		70		80	**49**
Cayratia clematidea	5									**1**
Cheilanthes sieberi	<1	<1	<1	<1		<1				**0**
Chloris ventricosa			<1		5	5		<1		**1**
Commelina cyanea						<1				**0**
Cymbopogon refractus					10	5	20	1		**4**
Cyperus gracilis	<1		<1							**0**
Daviesia ulicifolia			<1							**0**
Desmodium varians	<1	<1	<1	1	<1	<1	2			**0**
Dianella longifolia		<1		<1	<1	<1	<1	<1		**0**
Dichondra repens	15	5	5	5	5	3	5	5	<1	**5**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Dillwynia sieberi									2	**0**
Einadia hastata	<1							<1		**0**
Einadia nutans							<1			**0**
Eremophila debilis				1						**0**
Eriochloa pseudoacrotricha							<1			**0**
Eucalyptus crebra				70	10	2				**9**
Eucalyptus eugenioides						25			10	**4**
Eucalyptus moluccana	5	10	20		<1			<1		**4**
Eucalyptus tereticornis	30	30	40	20	70	25	40	20	30	**34**
Ficus sp.	<1									**0**
Glycine clandestina	<1	<1	<1	<1	<1	<1	<1	<1		**0**
Glycine tabacina	5	2	5	2	1	<1	2	<1	<1	**2**
Goodenia hederacea								<1		**0**
Hypoxis hygrometrica var. hygrometrica		<1	<1	1	1	<1	<1	<1		**0**
Indigofera australis	<1									**0**
Kennedia rubicunda			<1							**0**
Lagenofera stipata			<1	<1						**0**
Lomandra multiflora subsp. multiflora		<1	<1	<1	<1	<1	<1	<1		**0**
Mentha satureioides						<1				**0**
Microlaena stipoides	51	50	30	40		50	15	70	50	**40**
Oxalis perennans	<1	<1				<1	<1	<1		**0**
Panicum effusum						<1				**0**
Paspalidium distans		<1	<1			<1	<1			**0**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Phyllanthus virgatus		<1			<1	<1	<1			**0**
Plantago gaudichaudii					1					**0**
Pratia purpurascens									20	**2**
Pultenaea microphylla							3	2		**1**
Sigesbeckia orientalis ssp. orientalis				<1						**0**
Solanum prinophyllum	1	<1	<1	<1				1		**0**
Sorghum leiocladum					2			<1		**0**
Stackhousia viminea						<1	<1			**0**
Syncarpia glomulifera								15		**2**

Exotic vegetation (March 2020)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Araujia sericifera	<1	<1								**0**
Bidens pilosa	10	5	5	1	<1	<1		<1	5	**3**
Cirsium vulgare		<1		<1						**0**
Ehrharta erecta	10		1			<1				**1**
Eragrostis curvula								<1		**0**
Hypochaeris radicata		<1								**0**
Lantana camara	2	1	2	2				<1		**1**
Ochna serrulata				<1						**0**
Olea europaea subsp. cuspidata		<1							<1	**0**
Paspalum dilatatum		5		<1	<1	<1	3	<1	10	**2**
Phytolacca octandra				<1						**0**
Plantago lanceolata						<1	<1	<1		**0**
Senecio madagascariensis			<1	<1		<1	<1	<1		**0**
Setaria parviflora	<1		<1		<1	<1	<1	<1	<1	**0**
Sida rhombifolia	1	2	<1	1	<1	1	<1	<1	<1	**1**
Solanum nigrum				<1						**0**
Solanum pseudocapsicum				<1		<1				**0**
Solanum sisymbriifolium	<1	<1	<1	<1			<1	<1	<1	**0**
Sonchus oleraceus	<1	<1	<1	<1			<1	<1		**0**

Native vegetation (August 2020)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Acacia decurrens								5		**1**
Acacia falcata						<1				**0**
Acacia implexa							3			**0**
Aristida ramosa		10	20	10	10	15	30	5		**11**
Aristida vagans			2	<1	2	5				**1**
Arthropodium milleflorum		<1					<1	<1	<1	**0**
Bossiaea prostrata						<1				**0**
Bothriochloa macra								<1		**0**
Brunoniella australis	1	10	10	10		10	10	10	5	**7**
Bursaria spinosa	75	50	70	80	15	30	70	30	80	**56**
Cayratia clematidea	5									**1**
Cheilanthes sieberi	<1	<1	<1	<1		<1				**0**
Chloris ventricosa			<1		5	5		<1		**1**
Cymbopogon refractus					10	5	20	1		**4**
Cyperus gracilis	<1									**0**
Daviesia ulicifolia			<1							**0**
Desmodium varians	<1	<1	<1	<1	<1	<1	<1	<1		**0**
Dianella longifolia		<1		<1	<1	<1	<1	<1		**0**
Dichelachne micrantha		<1						<1		**0**
Dichondra repens	15	5	5	10	2	5	5	5	<1	**6**
Dillwynia sieberi		<1							2	**0**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Echinopogon caespitosus								<1		**0**
Einadia hastata	<1									**0**
Entolasia marginata	<1									**0**
Eremophila debilis				1			<1			**0**
Eucalyptus crebra				70	10	2				**9**
Eucalyptus eugenioides						25			10	**4**
Eucalyptus moluccana	5	10	20							**4**
Eucalyptus tereticornis	30	30	40	20	70	25	40	20	30	**34**
Euchiton sphaericus				<1						**0**
Ficus sp.	<1									**0**
Glycine clandestina	<1	<1	<1	<1	<1	<1	<1	<1		**0**
Glycine tabacina	3	2	2	2	<1	<1	<1	<1	<1	**1**
Goodenia hederacea subsp. hederacea					<1			<1		**0**
Hardenbergia violacea						<1				**0**
Hypoxis hygrometrica var. hygrometrica		<1	<1	<1	1	<1	<1	<1		**0**
Indigofera australis	<1									**0**
Lagenofera stipata			<1	<1						**0**
Lomandra longifolia						<1				**0**
Lomandra multiflora subsp. multiflora		<1	<1	<1	<1	<1	<1	<1		**0**
Mentha satureioides			<1							**0**
Microlaena stipoides	60	55	40	40	40	50	10	75	80	**50**
Oplismenus aemulus						<1				**0**
Oxalis perennans	<1	<1				<1		<1		**0**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Pandorea pandorana		<1								**0**
Panicum effusum					<1	<1				**0**
Paspalidium distans			<1	<1						**0**
Phyllanthus virgatus		<1			<1	<1				**0**
Plantago gaudichaudii					<1					**0**
Poa labillardierei				<1	<1	<1	<1	<1		**0**
Pratia purpurascens									<1	**0**
Pultenaea microphylla							3	2		**1**
Sigesbeckia orientalis ssp. orientalis			<1							**0**
Solanum prinophyllum	1		<1	<1						**0**
Sorghum leiocladum					2					**0**
Stackhousia viminea						<1				**0**
Syncarpia glomulifera								15		**2**
Themeda triandra		<1	<1	2	15	<1	10	<1	<1	**3**
Vittadinia gracilis			<1							**0**
Wahlenbergia gracilis			<1	<1		<1	<1	<1		**0**

Exotic vegetation (August 2020)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Anagallis arvensis				<1	<1	<1	<1	<1		**0**
Araujia sericifera	<1									**0**
Bidens pilosa	5	2	1		<1	<1	<1	<1	2	**1**
Briza subaristata					<1			<1		**0**
Cirsium vulgare	<1	<1		<1	<1	<1				**0**
Conyza bonariensis				<1						**0**
Ehrharta erecta	10	<1	1							**1**
Herbertia lahue								<1		**0**
Hypochaeris radicata	<1			<1	<1	<1		<1		**0**
Lactuca serriola				<1						**0**
Lantana camara	2		2	2						**1**
Lolium perenne		<1								**0**
Ochna serrulata				<1	<1					**0**
Olea europaea subsp. cuspidata		<1								**0**
Paspalum dilatatum					<1		3		5	**1**
Plantago lanceolata						<1	<1	<1		**0**
Senecio madagascariensis			<1	<1		<1	<1			**0**
Senecio pterophorus	<1	<1		<1	<1					**0**
Sida rhombifolia	<1		<1	<1	<1	<1		<1	<1	**0**
Solanum nigrum			<1							**0**
Solanum pseudocapsicum			<1			<1				**0**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Solanum sisymbriifolium	<1		<1	<1	<1		<1	<1	<1	**0**
Sonchus oleraceus	<1	<1	<1	<1		<1		<1		**0**
Verbena bonariensis						2				**0**

Native vegetation (2021)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Acacia decurrens								5		1
Acacia falcata						<1	<1			0
Acacia implexa							6			1
Aristida ramosa	<1	20	30	10	20	20	30	5		15
Aristida vagans			10	<1	2	5				2
Arthropodium milleflorum							<1	<1	<1	0
Bossiaea prostrata						<1				0
Bothriochloa macra								<1		0
Brunoniella australis	1	10	10	5	5	10	10	10	5	7
Bursaria spinosa	75	50	75	80	15	30	72	30	80	56
Cayratia clematidea	5									1
Cheilanthes sieberi	<1	<1	<1	<1		<1				0
Chloris ventricosa			<1		2	5		<1		1
Clematis glycinoides						<1				0
Cymbopogon refractus				<1	10	5	20	1		4
Cyperus gracilis			<1							0
Daviesia ulicifolia			<1							0
Desmodium varians	<1	<1	<1	<1	<1	<1	<1	<1		0
Dianella longifolia						<1	<1	<1		0
Dichelachne micrantha								<1		0
Dichondra repens	15	10	5	10	2	5	5	5	<1	6

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Dillwynia sieberi									2	0
Echinopogon caespitosus								<1		0
Einadia hastata	<1									0
Eremophila debilis				1			<1			0
Eucalyptus crebra				75	10	2				10
Eucalyptus eugenioides						25			10	4
Eucalyptus moluccana	5	10	20		<1					4
Eucalyptus tereticornis	30	30	40	20	70	25	40	20	30	34
Ficus sp.	<1									0
Glycine clandestina	<1	<1	<1	<1	<1	<1	<1	<1		0
Glycine tabacina	2	2	2	2	<1	<1	<1	<1	<1	1
Goodenia hederacea subsp. hederacea					<1			<1		0
Hardenbergia violacea						<1				0
Hypoxis hygrometrica var. hygrometrica		<1	<1	<1	1	<1	<1	<1		0
Indigofera australis	<1									0
Lomandra filiformis		<1			<1					0
Lomandra longifolia					<1	<1				0
Lomandra multiflora subsp. multiflora		<1	<1	<1	<1	<1	<1	<1		0
Microlaena stipoides	60	50	30	45	35	40	10	75	80	47
Oplismenus aemulus						<1				0
Oxalis perennans	<1	<1				<1		<1		0
Panicum effusum					<1					0
Paspalidium distans			<1	<1						0

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Phyllanthus virgatus		<1				<1				0
Plantago gaudichaudii					<1					0
Poa labillardierei				<1	<1	<1	<1	<1		0
Pratia purpurascens									<1	0
Pultenaea microphylla		<1					6	2		1
Solanum prinophyllum	1	<1	<1	<1	<1					0
Sorghum leiocladum					5					1
Stackhousia viminea		<1								0
Syncarpia glomulifera								15		2
Themeda triandra		<1	<1	3	15	<1	10	<1	<1	3
Vittadinia gracilis			<1							0
Wahlenbergia gracilis			<1	<1		<1	<1	<1		0

Exotic vegetation (2021)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Anagallis arvensis							<1	<1		0
Araujia sericifera	<1									0
Bidens pilosa	<1	2	<1		<1	<1	<1	<1	2	0
Briza subaristata								<1		0
Cirsium vulgare		<1		<1						0
Conyza bonariensis				<1						0
Ehrharta erecta	10	<1	1							1
Herbertia lahue								<1		0
Hypochaeris radicata					<1			<1		0
Lantana camara	2		2	2						1
Lolium perenne		<1								0
Ochna serrulata				<1						0
Olea europaea subsp. cuspidata		<1		<1						0
Paspalum dilatatum	<1					<1	3		5	1
Plantago lanceolata						<1	<1	<1		0
Senecio madagascariensis							<1			0
Senecio pterophorus		<1	<1	<1						0
Sida rhombifolia	<1		<1	<1		<1		<1	<1	0
Solanum sisymbriifolium					<1		<1	<1	<1	0
Sonchus oleraceus		<1						<1		0
Verbena bonariensis						<1				0

Native vegetation (2022)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Acacia decurrens								5		**1**
Acacia falcata						<1	<1			**0**
Acacia implexa							5			**1**
Aristida ramosa	<1	30	30	20	20	20	30	10		**18**
Aristida vagans			10	<1	5	5				**2**
Arthropodium milleflorum							<1	<1	<1	**0**
Bossiaea prostrata						<1				**0**
Bothriochloa macra								<1		**0**
Brunoniella australis	1	10	10	10	5	10	10	5	5	**7**
Bursaria spinosa	75	50	75	80	15	30	72	30	80	**56**
Cayratia clematidea	5									**1**
Cheilanthes sieberi	<1	<1	<1	<1		<1				**0**
Chloris ventricosa			<1		2	5		<1		**1**
Clematis glycinoides						<1				**0**
Cymbopogon refractus				<1	10	10	20	1		**5**
Cyperus gracilis			<1							**0**
Daviesia ulicifolia			<1							**0**
Desmodium varians	<1	<1	<1	<1	<1	<1	<1	<1		**0**
Dianella longifolia						<1	<1	<1		**0**
Dichelachne micrantha								<1		**0**
Dichondra repens	15	10	10	10	2	5	5	5	<1	**7**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Dillwynia sieberi									2	**0**
Echinopogon caespitosus								<1		**0**
Einadia hastata	<1									**0**
Eremophila debilis				1			<1			**0**
Eucalyptus crebra				75	10	2				**10**
Eucalyptus eugenioides						25			10	**4**
Eucalyptus moluccana	5	10	20		<1					**4**
Eucalyptus tereticornis	30	30	40	20	70	25	40	20	30	**34**
Ficus sp.	<1									**0**
Glycine clandestina	<1	<1	<1	<1	<1	<1	<1	<1		**0**
Glycine tabacina	5	2	2	2	<1	<1	<1	<1	<1	**1**
Goodenia hederacea subsp. hederacea					<1			<1		**0**
Hardenbergia violacea						<1				**0**
Hypoxis hygrometrica var. hygrometrica		<1	<1	<1	1	<1	<1	<1		**0**
Indigofera australis	<1									**0**
Lomandra filiformis		<1			<1					**0**
Lomandra longifolia					<1	<1				**0**
Lomandra multiflora subsp. multiflora		<1	<1	<1	<1	<1	<1	<1		**0**
Microlaena stipoides	70	45	30	50	35	40	10	75	80	**48**
Oplismenus aemulus						<1				**0**
Oxalis perennans	<1	<1				<1		<1		**0**
Panicum effusum					<1					**0**
Paspalidium distans			<1	<1						**0**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Phyllanthus virgatus		<1				<1				**0**
Plantago gaudichaudii					<1					**0**
Poa labillardierei				<1	<1	<1	<1	<1		**0**
Pratia purpurascens									<1	**0**
Pultenaea microphylla		<1					5	2		**1**
Solanum prinophyllum	1	<1	<1	<1	<1					**0**
Sorghum leiocladum					5					**1**
Stackhousia viminea		<1								**0**
Syncarpia glomulifera								15		**2**
Themeda triandra		<1	<1	3	10	<1	10	<1	<1	**3**
Vittadinia gracilis			<1							**0**
Wahlenbergia gracilis			<1	<1		<1	<1	<1		**0**

Exotic vegetation (2022)

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Anagallis arvensis							<1	<1		**0**
*Araujia sericifera**	<1									**0**
*Bidens pilosa**	<1	1	<1		<1	<1	<1	<1	1	**0**
Briza subaristata								<1		**0**
Cirsium vulgare		<1		<1						**0**
Conyza bonariensis				<1						**0**
*Ehrharta erecta**	5	<1	1							**1**
*Hypochaeris radicata**					<1			<1		**0**
*Lantana camara**	1		1	1						**0**
*Olea europaea subsp. cuspidata**		<1		<1						**0**
*Paspalum dilatatum**	<1					<1	1		2	**0**
*Plantago lanceolata**						<1	<1	<1		**0**
*Senecio madagascariensis**							<1			**0**
Senecio pterophorus		<1	<1	<1						**0**
*Sida rhombifolia**	<1		<1	<1		<1		<1	<1	**0**
*Solanum sisymbriifolium**					<1		<1	<1	<1	**0**
*Sonchus oleraceus**		<1						<1		**0**

Appendix C Observed flora species not found within the quadrats

Family	Scientific name	Common name
Trees		
Mimosaceae	*Acacia decurrens*	Black Wattle
Myrtaceae	*Angophora floribunda*	Rough-barked Apple
Myrtaceae	*Corymbia maculata*	Spotted Gum
Myrtaceae	*Eucalyptus crebra*	Narrow-leaved Ironbark
Myrtaceae	*Eucalyptus eugenioides*	Thin-leaved Stringybark
Myrtaceae	*Eucalyptus moluccana*	Grey Box
Myrtaceae	*Eucalyptus tereticornis*	Forest Red Gum
Santalaceae	*Exocarpos cupressiformis*	Native Cherry
Moraceae	*Ficus spp.*	Fig
Myrtaceae	*Melaleuca decora*	White Feather Honeymyrtle
Myrtaceae	*Melaleuca styphelioides*	Prickly-leaved Tea Tree
Myrtaceae	*Syncarpia glomulifera*	Turpentine
Shrubs		
Mimosaceae	*Acacia falcata*	Sickle Wattle
Mimosaceae	*Acacia fimbriata*	Fringed Wattle
Mimosaceae	*Acacia implexa*	Hickory
Mimosaceae	*Acacia longifolia var. longifolia*	Sydney Golden Wattle
Mimosaceae	*Acacia parramattensis*	Parramatta Wattle
Mimosaceae	*Acacia saligna**	Orange Wattle
Mimosaceae	*Acacia ulicifolia*	Prickly Moses
Pittosporaceae	*Bursaria spinosa var. spinosa*	Native Blackthorn
Asteraceae	*Cassinia sp.*	-
Solanaceae	*Cestrum parqui**	Chilean Cestrum
Fabaceae	*Daviesia ulicifolia*	Gorse Bitter Pea
Fabaceae	*Dillwynia sieberi*	Prickly Parrot-pea
Sapindaceae	*Dodonaea viscosa*	Sticky Hop-Bush
Apocnynaceae	*Gomphocarpus fruticosus**	Narrow Leaf Cotton Bush
Proteaceae	*Hakea salicifolia*	Willow Hakea
Fabaceae	*Indigofera australis*	Native Indigo
Verbenaceae	*Lantana camara**	Lantana

Family	Scientific name	Common name
Oleaceae	*Ligustrum lucidum**	Large-leaved Privet
Solanaceae	*Lycium ferocissimum**	African Boxthorn
Myrtaceae	*Melaleuca nodosa*	Ball Honey Myrtle
Berberidaceae	*Nandina domestica**	Sacred Bamboo
Ochnaceae	*Ochna serrulata**	Mickey Mouse Plant
Oleaceae	*Olea europaea subsp. cuspidata**	African Olive
Fabaceae	*Pultenaea microphylla*	-
Euphorbiaceae	*Ricinus communis**	Castor Oil Plant
Rosaceae	*Rosa rubignosa**	Sweet Briar
Asteraceae	*Senecio pterophorus**	African Daisy
Solanaceae	*Solanum linnaeanum**	Apple-of-Sodom
Groundcovers		
Myrsinaceae	*Anagallis arvensis**	Scarlet Pimpernel
Poaceae	*Aristida ramosa*	Wire Grass
Poaceae	*Aristida vagans*	Three-awn Speargrass
Poaceae	*Aristida warburgii*	Wire Grass
Anthericaceae	*Arthropodium milleflorum*	Pale Vanilla Lily
Rubiaceae	*Asperula conferta*	Common Woodruff
Poaceae	*Austrostipa pubescens*	Tall Speargrass
Poaceae	*Axonopus fissifolius**	Narrow-leafed Carpet Grass
Asteraceae	*Bidens pilosa**	Cobbler's Pegs
Poaceae	*Bothriochloa macra*	Redleg Grass
Brassicaceae	*Brassica fruticulosa**	Twiggy Turnip
Acanthaceae	*Brunoniella australis*	Dwarf Blue Trumpet
Asteraceae	*Calotis cuneifolia*	Purple Burr-daisy
Brassicaceae	*Cardamine hirsuta**	Hairy Bittercress
Poaceae	*Cenchrus clandestinum**	Kikuyu
Apiaceae	*Centella asiatica*	Indian Pennywort
Sinopteridaceae	*Cheilanthes sieberi*	Rock Fern
Poaceae	*Chloris gayana**	Rhodes Grass
Poaceae	*Chloris truncata*	Windmill Grass
Poaceae	*Chloris ventricosa*	Tall Chloris
Asteraceae	*Cirsium vulgare**	Spear Thistle

Family	Scientific name	Common name
Commelinaceae	*Commelina cyanea*	Scurvy Weed
Asteraceae	*Conyza bonariensis**	Flaxleaf Fleabane
Brassicaceae	*Coronpus didymus**	Lesser Swine-cress
Poaceae	*Cortaderia selloana**	Pampas Grass
Apiaceae	*Cyclospermum leptophyllum**	Slender Celery
Asteraceae	*Cymbonotus lawsonianus*	Bear's Ear
Poaceae	*Cymbopogon refractus*	Barbed Wire Grass
Poaceae	*Cynodon dactylon*	Common Couch
Cyperaceae	*Cyperus eragrostis**	Umbrella Sedge
Phormiaceae	*Dianella longifolia*	Pale Flax-lily
Poaceae	*Dichelachne micrantha*	Short-hair Plume Grass
Convolvulaceae	*Dichondra repens*	Kidney Weed
Poaceae	*Echinopogon caespitosus var. caespitosus*	Tufted Hedgehog Grass
Poaceae	*Ehrharta erecta**	Panic Veldtgrass
Chenopodiaceae	*Einadia hastata*	Berry Saltbush
Chenopodiaceae	*Einadia trigonos*	Fishweed
Poaceae	*Entolasia marginata*	Bordered Panic
Poaceae	*Entolasia stricta*	Wiry Panic
Poaceae	*Eragrostis brownii*	Brown's Lovegrass
Poaceae	*Eragrostis curvula**	African Lovegrass
Poaceae	*Eragrostis leptostachya*	Paddock Lovegrass
Asteraceae	*Erechtites valerianifolia**	Brazilian Fireweed
Scrophulariaceae	*Eremophila debilis*	Winter Apple
Apiaceae	*Foeniculum vulgare**	Fennel
Geraniaceae	*Geranium solanderi*	Cutleaf Cranesbill
Goodeniaceae	*Goodenia hederacea*	Forest Goodenia
Fabaceae	*Hardenbergia violacea*	Purple Coral Pea
Iridaceae	*Herbertia lahue**	Prairie Nymph
Poaceae	*Hyparrhenia hirta**	Coolatai Grass
Clusiaceae	*Hypericum gramineum*	Small St John's Wort
Asteraceae	*Hypochaeris radicata**	Flatweed
Hypoxidaceae	*Hypoxis hygrometrica var. hygrometrica*	Golden Weather-grass
Juncaceae	*Juncus acutus**	Sharp Rush

Family	Scientific name	Common name
Juncaceae	*Juncus continuus*	-
Juncaceae	*Juncus usitatus*	Common Rush
Poaceae	*Lachnagrostis filiformis*	Blown Grass
Asteraceae	*Lagenophora stipitata*	Blue Bottle-daisy
Lomandraceae	*Lomandra filiformis*	Wattle Mat-Rush
Lomandraceae	*Lomandra longifolia*	Spiky-headed Mat-rush
Lomandraceae	*Lomandra multiflora subsp. multiflora*	Many-flowered Mat-rush
Fabaceae	*Lotus suaveolens**	Hairy Bird's Foot Trefoil
Lamiaceae	*Mentha satureioides*	Creeping Mint
Poaceae	*Microlaena stipoides var. stipoides*	Weeping Grass
Malvaceae	*Modiola caroliniana**	Red-flowered Mallow
Poaceae	*Oplismenus aemulus*	Basket Grass
Oxalidaceae	*Oxalis perennans*	-
Poaceae	*Panicum effusum*	Hairy Panic
Poaceae	*Paspalidium distans*	Watercrown Grass
Poaceae	*Paspalum dilatatum**	Paspalum
Malvaceae	*Pavonia hastata**	Pink Pavonia
Polygonaceae	*Persicaria decipiens*	Slender Knotweed
Phyllanthaceae	*Phyllanthus virgatus*	Seed-under-leaf
Plantaginaceae	*Plantago gaudichaudii*	Narrow Plantain
Plantaginaceae	*Plantago lanceolata**	Ribwort
Poaceae	*Poa labillardieri*	Tussock Grass
Lobeliaceae	*Pratia purpurascens*	White Root
Acanthaceae	*Pseuderanthemum variabile*	Pastel Flower
Fabaceae	*Pultenaea microphylla*	Spreading Bush-pea
Iridaceae	*Romulea rosea var. australis**	Onion Grass
Polygonaceae	*Rumex sp.*	-
Poaceae	*Rytidosperma racemosum*	Wallaby Grass
Asteraceae	*Senecio madagascariensis**	Fireweed
Poaceae	*Setaria parviflora**	Pigeon Grass
Malvaceae	*Sida rhombifolia**	Paddy's Lucerne
Asteraceae	*Sigesbeckia orientalis ssp. orientalis*	Indian Weed
Solanaceae	*Solanum nigrum**	Blackberry Nightshade

Family	Scientific name	Common name
Solanaceae	*Solanum prinophyllum*	Forest Nightshade
Solanaceae	*Solanum pseudocapsicum**	Jerusalem Cherry
Solanaceae	*Solanum sisymbriifolium**	Sticky Nightshade
Asteraceae	*Sonchus oleraceus**	Common Sow-thistle
Poaceae	*Sporobolus africanus**	Parramatta Grass
Poaceae	*Sporobolus creber*	Slender Rat's Tail Grass
Lamiaceae	*Stachys arvensis**	Stagger Weed
Celastraceae	*Stackhousia viminea*	Slender Stackhousia
Asteraceae	*Taraxacum officinale**	Dandelion
Poaceae	*Themeda triandra*	Kangaroo Grass
Commelinaceae	*Tradescantia fluminensis**	Wandering Jew
Fabaceae	*Trifolium repens**	White Clover
Verbenaceae	*Verbena bonariensis**	Purpletop
Campanulaceae	*Wahlenbergia gracilis*	Australian Bluebell
Vines		
Apocnyaceae	*Araujia sericifera**	Moth Plant
Rosaceae	*Rubus fruticosus**	Blackberry
Vitaceae	*Cayratia clematidea*	Native Grape
Ranunculaceae	*Clematis glycinoides*	Old Man's Beard
Fabaceae	*Desmodium varians*	Slender Tick-Trefoil
Chenopodiaceae	*Einadia nutans subsp. linifolia*	Climbing Saltbush
Fabaceae	*Glycine clandestina*	Twining Glycine
Fabaceae	*Glycine microphylla*	Small-leaf Glycine
Fabaceae	*Glycine tabacina*	Variable Glycine
Fabaceae	*Hardenbergia violacea*	False Sarsparilla
Convolvulaceae	*Ipomoea cairica**	Coastal Morning Glory
Convolvulaceae	*Ipomoea indica**	Blue Morning Glory
Bignoniaceae	*Pandorea pandorana*	Wonga Vine
Apocynaceae	*Parsonsia straminea*	Common Silkpod
Fabaceae	*Vicia sativa subsp. sativa**	Common Vetch
Water plants		
Cyperaceae	*Baumea articulata*	Jointed Twig-Rush
Cyperaceae	*Carex appressa*	Tall Sedge

Family	Scientific name	Common name
Cyperaceae	*Eleocharis sphacelata*	Tall Spike Rush
Juncaceae	*Juncus cognatus**	-
Onagraceae	*Ludwigia peploides subsp. montevidensis*	Water Primrose
Philydraceae	*Philydrum lanuginosum*	Frogsmouth
Cyperaceae	*Schoenoplectus validus*	Softstem Bulrush
Juncaginaceae	*Triglochin microtuberosum*	Water Ribbons
Typhaceae	*Typha orientalis*	Broadleaf Cumbungi

*denotes exotic species

1300 646 131
www.ecoaus.com.au