327-335 Burley Road Horsley Park VMP - Implementation Progress Report: Year 2, September 2019-February 2020

CSR Building Products Ltd

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Template 2.8.1

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Abbreviations

Abbreviation	Description
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

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).

CSR Building Products Ltd (CSR) has engaged Eco Logical Australia (ELA) to implement the VMP (Travers 2017) for Lot 205 to fulfil the NSW Land and Environment (L&E) Court 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

ELA has been undertaking the vegetation management works on-site since March 2018. 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 six-month progress reports for the periods March to August 2018 (ELA 2018), September 2018 to February 2019 (ELA 2019a) and March to August 2019 (ELA 2019b). This is the six-month progress report for Year 2 covering the period from September 2019 to February 2020, however it has been delayed to capture the completion of revegetation works in June 2020.

1.1 Performance criteria

This report describes how the works undertaken to date comply with the performance targets listed in the VMP (**Table 1**). This satisfies the requirements of the VMP and helps to fulfil CSR's statutory obligations.

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.

Performance Criteria
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 for the period from September 2019 to February 2020 continued to focus on secondary treatment of weeds throughout the VMP area. Primary weed control was completed the first reporting period (March to August 2018) and now secondary weed control has been 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, in particular *Olea europaea subsp. cuspidata* (African Olive), *Lycium ferocissimum* (African Boxthorn) and *Lantana camara* (Lantana) were largely undertaken onsite during the first reporting period (March to August 2018). 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

The main vine targeted on site is *Araujia sericifera* (Moth Plant). Vines have been largely controlled on site. All vines entering the canopy or climbing on fallen trees were targeted during the first reporting period (March to August 2018). 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* and other exotic clumping 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) 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
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
Pennisetum clandestinum	Kikuyu	BC, 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.

The installation of 240 plants in the north east section of Bushland Interface Zone (BIZ) was delayed to allow for the earthworks in the adjoining Stage 3 development to be completed.

Planting species and numbers have been provided below in **Table 3**. Photos of the plants can be found in **Appendix A**.

Table 3: Revegetation species and numbers

Species	Common Name	BIZ	Dam	Reveg Areas	Total
Trees					
Acacia implexa	Hickory Wattle			40	40
Eucalyptus moluccana	Grey Box			48	48
Eucalyptus crebra	Narrow Leaved Ironbark			40	40
Eucalyptus eugenioides	Thin leaved Stringybark			40	40
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**

Species	Common Name	BIZ	Dam	Reveg Areas	Total
Sedges / Grasses					
Austrodanthonia racemosa	Wallaby Grass			200	200
Baumea articulata	Jointed Twig-Rush		1,100		1,100
Bothriochloa macra	Redleg Grass			400	400
Carex appressa	Tall Sedge		1,380		1,380
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
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 glyinoides	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

Species	Common Name	BIZ	Dam	Reveg Areas	Total
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
Pratia purpeuascens	Whiteroot			2,200	2,200
Stackhousia sp.				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 12 March 2020 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 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, 2 October 2019 and 12 March 2020 by ELA Restoration Ecologist Andrew Norvill and ELA Bush Regenerators Melinda Cook, Grant King and Nick Arends. 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
2 October 2019	27.9°C	0mm
12 March 2020	25.4°C	0.8mm

2.4 Photo point monitoring

Eighteen fixed photo monitoring points were established during the previous reporting period. 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 B**.

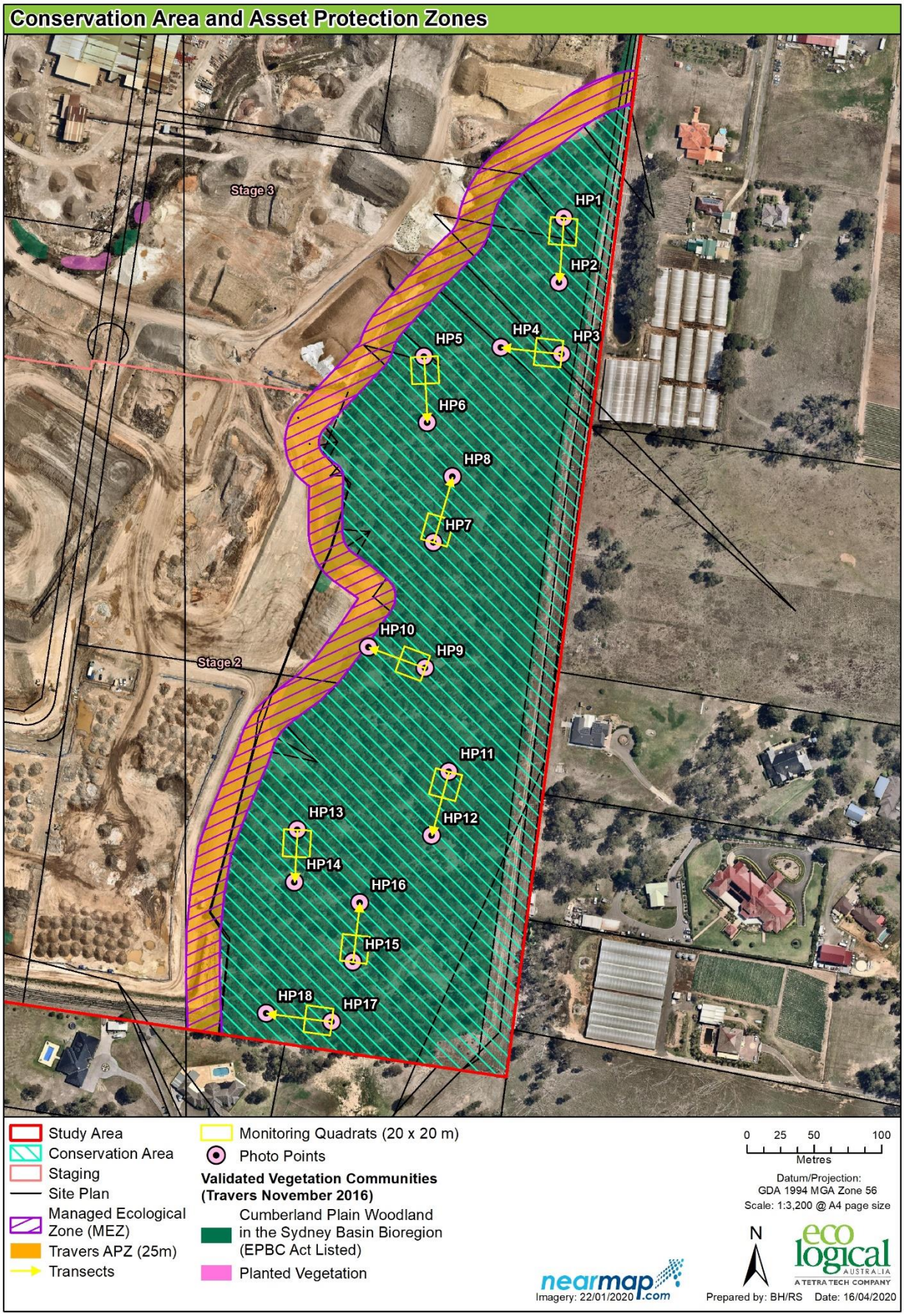

Figure 1: Vegetation quadrats and photo monitoring points

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 2018-20, is provided in **Appendix C**

1. Species richness (**Figure 2**)
    - An increase in native species richness within the quadrats from 38 in August 2018, to 54 in February 2020.
    - A decrease in weed species richness from 21 in August 2018, to 19 in February 2020.

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 85% in February 2020.
    - A slight reduction in exotic ground layer abundance from 8% in August 2018 to 7% in February 2020.
    - A decrease in native mid storey abundance from 62% in August 2018, to 57% in February 2020.
    - A decrease in exotic mid storey abundance from 3% in August 2018 to 1% in February 2020.

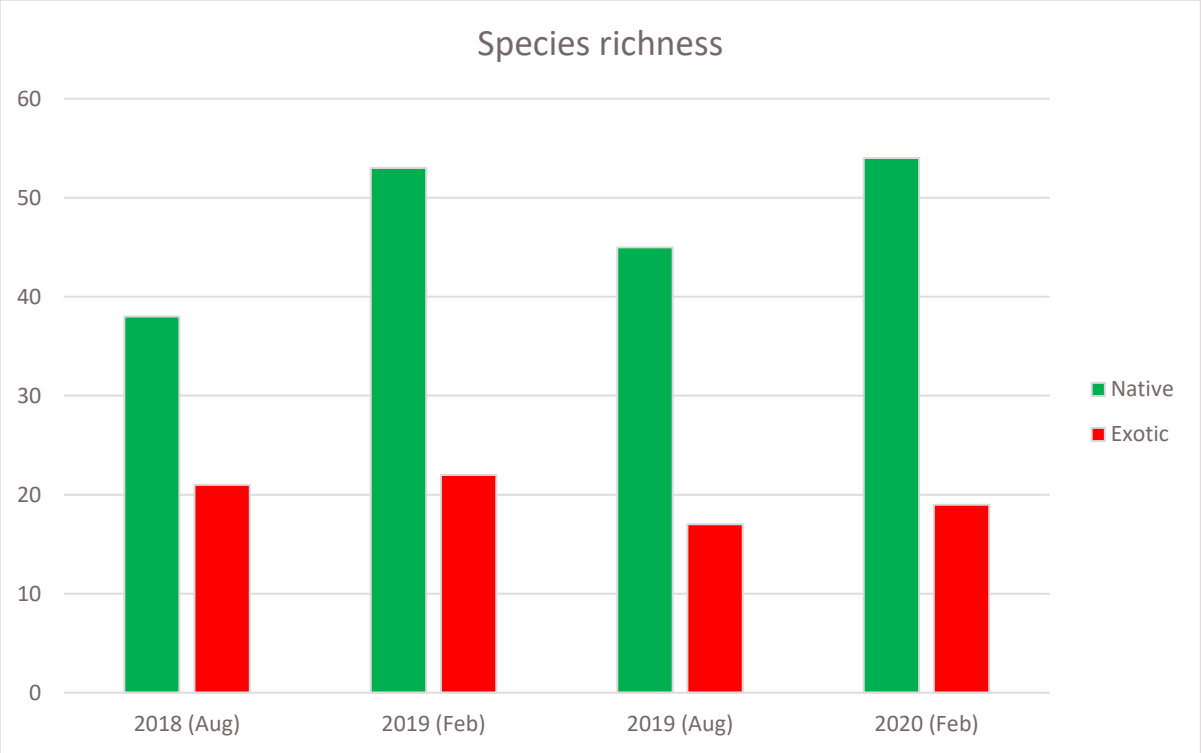

Figure 2 : Species richness across all quadrats

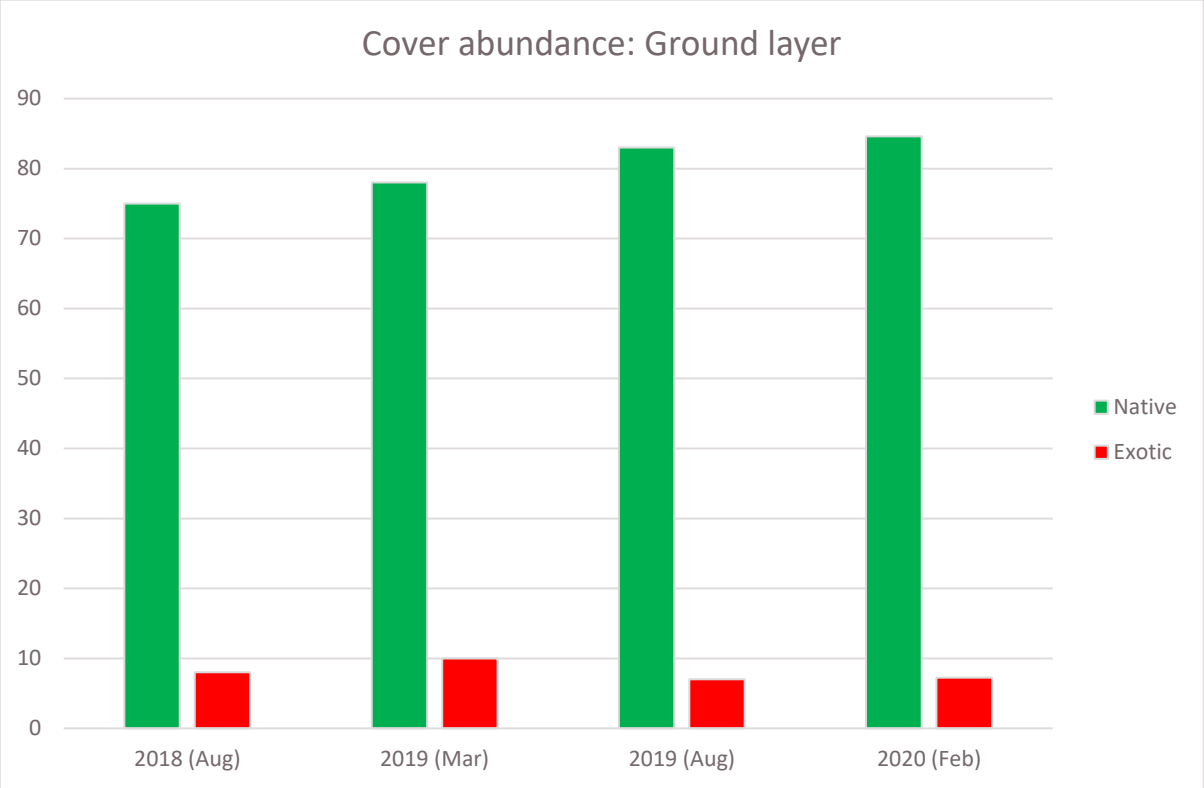

Figure 3 : Mean cover abundance Ground layer

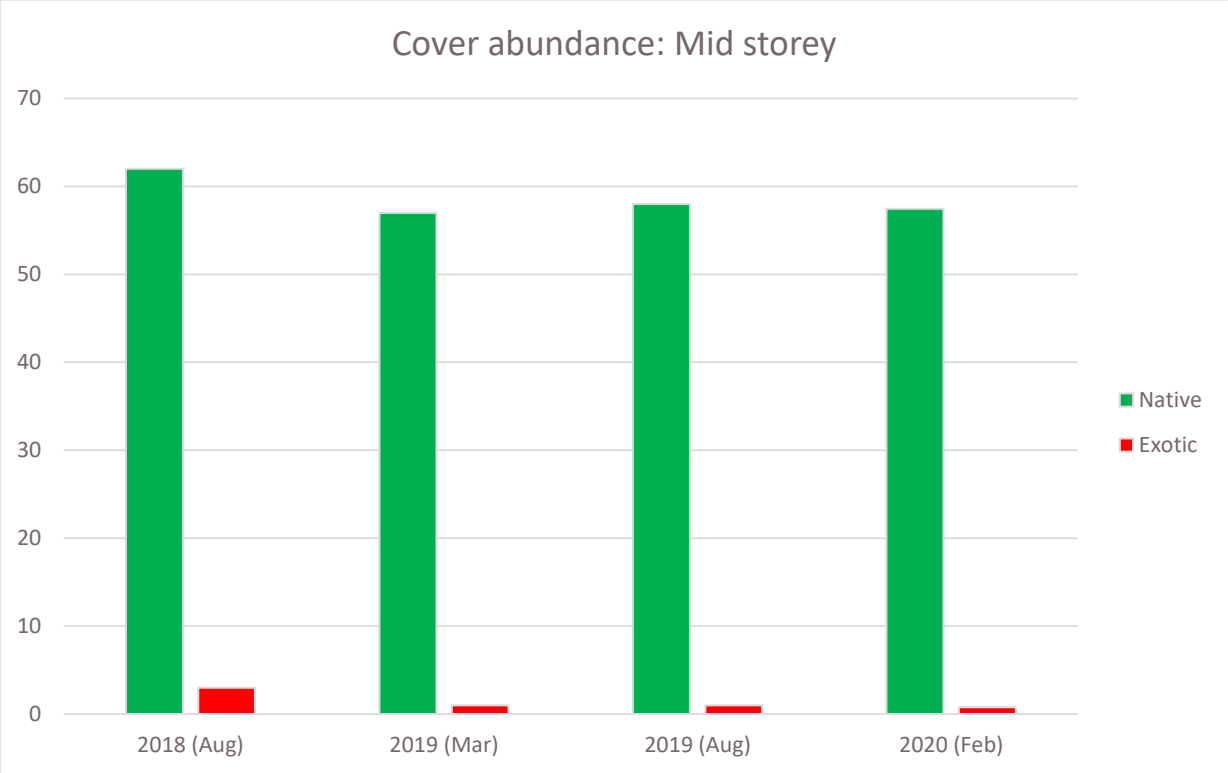

Figure 4 : Mean cover abundance Mid Storey

3.2 CPLS survey results

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

- 5 live CPLS
- 62 CPLS shells
- 0 live exotic snails
- 7 exotic snail shells

The location where the snails were recorded is provided in **Figure 6** for the CPLS and **Figure 7** for the exotic snails.

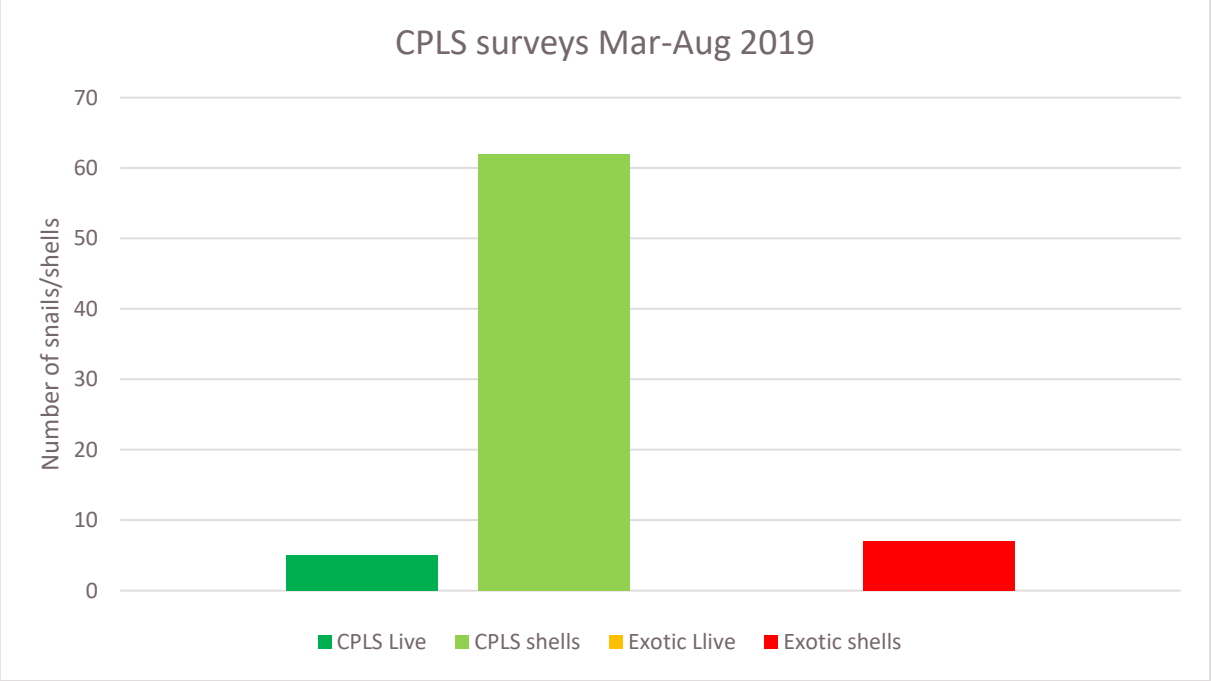

Figure 5: Cumberland Plain Land Snail search survey results and count

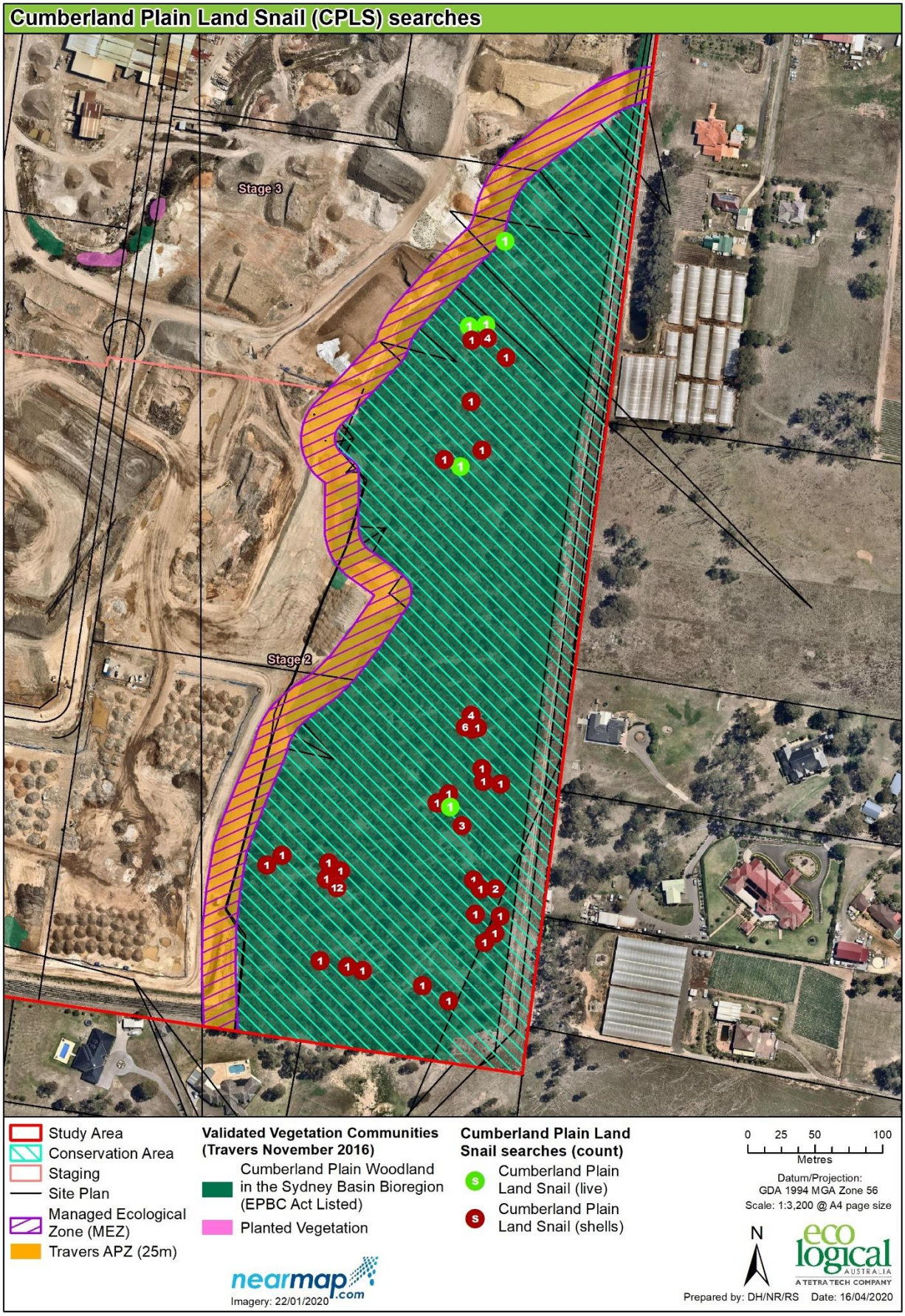

Figure 6: Cumberland Plain Land Snail survey results (March-August 2019)

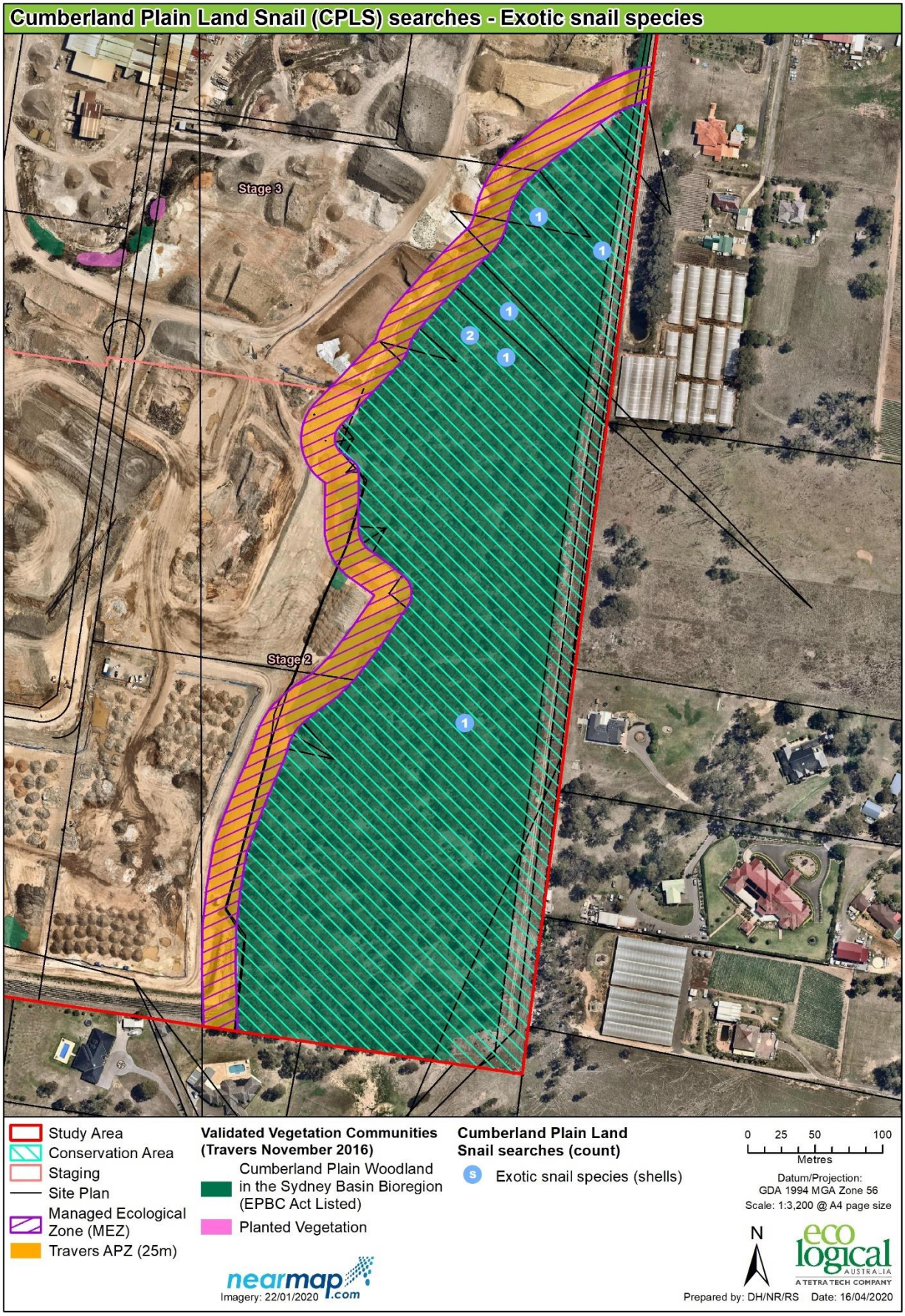

Figure 7: Exotic Snail survey results (March-August 2019)

3.3 Vegetation condition

Section 2.5 of the VMP (Travers 2017) notes that the vegetation condition across the site in May 2016 ranged from medium to high condition.

The eastern boundary consisted of a 20m wide band of African Olive (Travers 2017) prior to the commencement of VMP implementation works. The north east corner of the site also contained several large patches of Lantana and exotic grasses as well. All mature Lantana and African Olive trees have been removed and only seedlings are growing in their place. All exotic grasses have been suppressed and only occupy a small area in comparison to when the VMP implementation works commenced in 2018. Subsequently, all areas throughout the site originally listed as poor or fair condition are now in good condition, with the exception of a fair condition area at the northern end of the site (see **Figure 8**).

Kikuyu, Lantana and African Olive are all still present on the western boundary of the lot however, the overall amount has been significantly reduced since the commencement VMP implementation works. There are only a few small sections along the western boundary that are in a fair condition. (see


Vegetation Condition
Stage 3
Stage 2
Study Area
Staging
Site Plan
Vegetation Condition
Good
Fair
Poor
0 25 50 100
Metres
Datum/Projection:
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Figure 8 **8**).

Weeds present within the VMP boundary which require ongoing treatment include:

- *Araujia sericifera* (Moth Plant)
- *Cenchrus clandestinus* (Kikuyu)
- *Lantana camara* (Lantana)
- *Olea europaea subsp. cuspidata* (African Olive)

Figure 8: Vegetation condition map (March 2020)

3.4 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*)

3.5 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 3 March 2020 (see **Figure 9**Error! Reference source not found. and **Figure 10**).

The 2019 Rainfall data (**Figure 9**) and 2020 rainfall data to date (**Figure 10)** has been measured against the mean and median rainfall data for this weather station. Rainfall for this reporting period (August 2019 to March 2020), has been below the mean and median data for all months except for September 2019 and especially February 2020 where 461.8mm of rain fell (342.6mm above the monthly average rainfall for February).

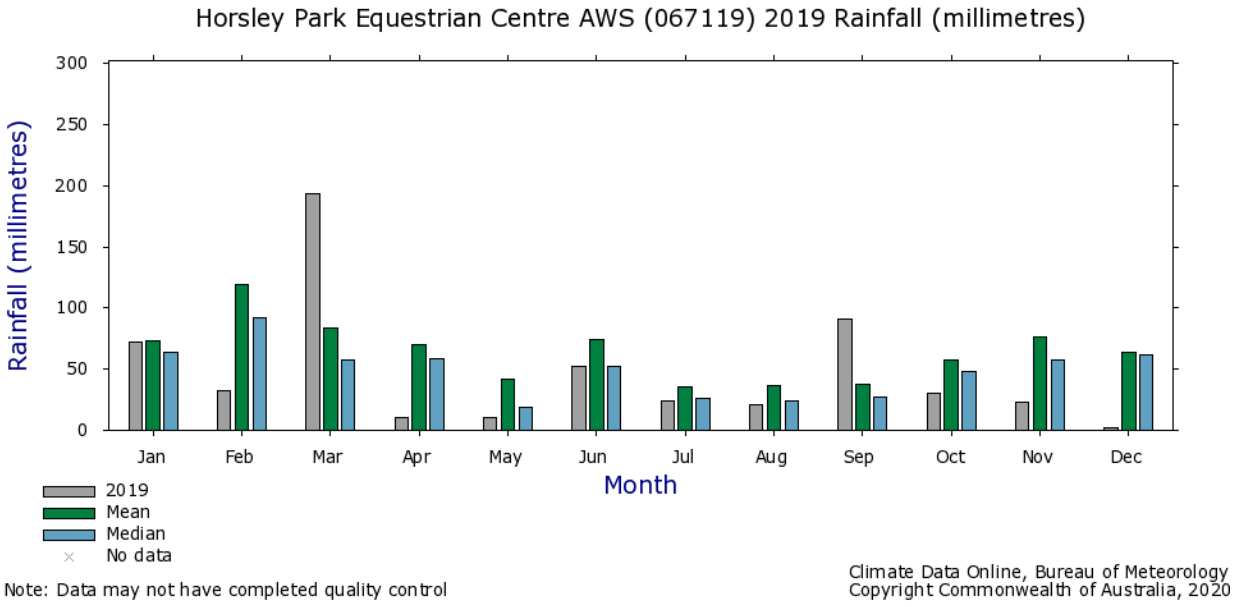

Figure 9: Mean rainfall for 2019 (BOM 3 March 2020)

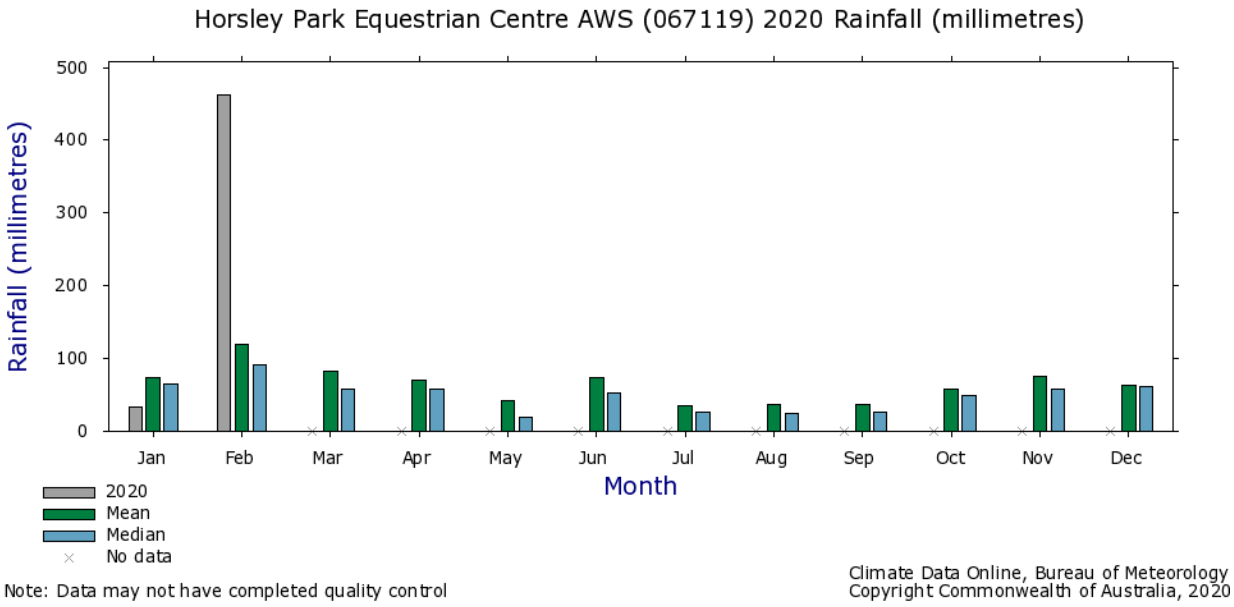

Figure 10: Mean rainfall for 2020 (BOM 3 March 2020)

4. Assessment against performance criteria

Works have been mostly focused on the secondary weed control of the more degraded sections of the site along the northern and eastern boundaries. Primary weed control was undertaken in Year 1 with secondary weed control works undertaken in Year 2 however, these areas will require regular follow up throughout the duration of the VMP implementation period to help control seed propagation and further spreading of weeds into well maintained areas.

All revegetation has been installed with the exception of 240 shrubs in the north east corner of the Bushland Interface Zone (BIZ). These will be installed when the earthworks in the adjoining Stage development are completed.

Overall the site is progressing well with most of the VMP performance criteria either met or on track to be met. The site is also on-track to fulfil its overall Year 10 performance criteria targets. 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.

Regular weed control maintenance will continue to be required to treat all emerging weeds, especially in and around natural regeneration areas where weeds such as *Bidens pilosa* (Cobbler's Pegs) and *Sida rhombifolia* (Paddy's Lucerne) are sprouting in areas where woody weed removal has been undertaken. In these areas, especially where native groundcover is thicker, hand weeding has become the preferred method of weed control as accurate spot spraying is more difficult.

The progress of works 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 7%
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 85%. Native midstorey cover at 57%
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	On track	240 shrubs to be installed in the north east corner upon completion of adjoining Stage 3 earthworks
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. 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 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)	On track	24 Hardwood logs have been placed within the site
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.	On track	Monitoring is currently being undertaken every 6 months, 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 no need to relocate any snails

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, soil disturbance from the development footprint along the western boundary has seen a large increase in exotic plant growth adjacent to the site as well. 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:

- 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 2. However, edge effects and impact from the adjacent development site will be a continuous issue.

Works for the remainder of Year 2 site will consist of maintenance of revegetation, ongoing weed control as well as the required monitoring and reporting.

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Appendix A Revegetation photos

Bushland Interface Zone (BIZ) plants along the western boundary facing north

Bushland Interface Zone (BIZ) plants along the western boundary facing north

Bushland Interface Zone (BIZ) plants along the western boundary facing north

Bushland Interface Zone (BIZ) plants along the western boundary facing north

Bushland Interface Zone (BIZ) plants along the southern boundary facing east

Revegetation areas in the centre of the site

Revegetation areas in the southern part of the site

BIZ plants and revegetation areas in the south eastern corner facing north

Dam plants and revegetation areas in the south eastern corner

Appendix B Photo monitoring points

HP1 July 2018

HP1 March 2020

HP2 July 2018

HP2 March 2020

HP3 July 2018

HP3 March 2020

HP4 July 2018

HP4 March 2020

HP5 July 2018

HP5 March 2020

HP6 July 2018

HP6 March 2020

HP7 July 2018

HP7 March 2020

HP8 July 2018

HP8 March 2020

HP9 July 2018

HP9 March 2020

HP10 July 2018

HP 10 March 2020

HP11 July 2018

HP11 March 2020

HP12 July 2018

HP12 March 2020

HP13 July 2018

HP13 March 2020

HP14 July 2018

HP14 March 2020

HP15 July 2018

HP15 March 2020

HP16 July 2018

HP16 March 2020

HP17 July 2018

HP17 March 2020

HP18 July 2018

HP18 March 2020

Appendix C 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 eugenoides						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
Pultenea 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 ferrocissimum**		<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 eugenoides						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
Pultenea 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 ferrocissimum**								<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

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
*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**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
Eucalyptus crebra				75	10	2				**10**
Eucalyptus eugenoides						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 saturejoides			<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**
Pultenea microphylla							3	2		**1**
Solanum prinophyllum	1		<1	<1	<1			<1		**0**
Sprobolus creber								<1		**0**
Syncarpia glomulifera								15		**2**

Species	% Projected foliage cover in quadrats									% Total cover
	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	
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 ferrocissimum**		<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 eugenoides						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 hygometrica 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 saturejoides						<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**
Pultenea 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**

Appendix D 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 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
Apocnynaceae	Gomphocarpus fruticosus*	Narrow Leaf Cotton Bush
Proteaceae	Hakea salicifolia	Willow Hakea
Fabaceae	Indigofera australis	Native Indigo
Verbenaceae	Lantana camara*	Lantana
Oleaceae	Ligustrum lucidum*	Large-leaved Privet
Solanaceae	Lycium ferocissimum*	African Boxthorn

Family	Scientific name	Common name
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
Brassicaceae	Brassica fruticulosa*	Twiggy Turnip
Acanthaceae	Brunoniella australis	Dwarf Blue Trumpet
Brassicaceae	Cardamine hirsuta*	Hairy Bittercress
Apiaceae	Centella asiatica	Indian Pennywort
Sinopteridaceae	Cheilanthes sieberi	Rock Fern
Poaceae	Chloris gayana*	Rhodes Grass
Poaceae	Chloris ventricosa	Tall Chloris
Asteraceae	Cirsium vulgare*	Spear Thistle
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

Family	Scientific name	Common name
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	Eragrostis brownii	Brown's Lovegrass
Poaceae	Eragrostis curvula*	African Lovegrass
Asteraceae	Erechtites valerianifolia*	Brazilian Fireweed
Scrophulariaceae	Eremophila debilis	Winter Apple
Apiaceae	Foeniculum vulgare*	Fennel
Geraniaceae	Geranium solanderi	Cutleaf Cranesbill
Poaceae	Hyparrhenia hirta*	Coolatai Grass
Clusiaceae	Hypericum gramineum	Small St John's Wort
Asteraceae	Hypochaeris radicata*	Flatweed
Hypoxidaceae	Hypoxis hygometrica var. hygrometrica	Golden Weather-grass
Juncaceae	Juncus acutus*	Sharp Rush
Juncaceae	Juncus continuus	-
Juncaceae	Juncus usitatus	Common Rush
Poaceae	Lachnagrostis filiformis	Blown Grass
Asteraceae	Lagenophora stipitata	Blue Bottle-daisy
Lomandraceae	Lomandra longifolia	Spiky-headed Mat-rush
Lomandraceae	Lomandra multiflora subsp. multiflora	Many-flowered Mat-rush
Fabaceae	Lotus suaveolans*	Hairy Bird's Foot Trefoil
Lamiaceae	Mentha satureioides	Creeping Mint
Poaceae	Microlaena stipoides var. stipoides	Weeping Grass
Malvaceae	Modiola caroliniana*	Red-flowered Mallow
Oxalidaceae	Oxalis perennans	-
Poaceae	Panicum effusum	Hairy Panic
Poaceae	Paspalidium distans	Watercrown Grass

Family	Scientific name	Common name
Poaceae	Paspalum dilatatum*	Paspalum
Malvaceae	Pavonia hastata*	Pink Pavonia
Poaceae	Pennisetum clandestinum*	Kikuyu
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.	-
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
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
Asteraceae	Taraxacum officinale*	Dandelion
Poaceae	Themeda australis	Kangaroo Grass
Commelinaceae	Tradescantis fluminensis*	Wandering Jew
Fabaceae	Trifolium repens*	White Clover
Verbenaceae	Verbena bonariensis*	Purpletop
Campanulaceae	Wahlenbergia gracilis	Australian Bluebell
Vines		
Apocnyaceae	Araujia sericifera*	Moth Plant

Family	Scientific name	Common name
Rosaceae	Rubus fruticosus*	Blackberry
Vitaceae	Cayratia clematidea	Native Grape
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		
Juncaceae	Juncus cognatus*	-
Onagraceae	Ludwigia peploides subsp. montevidensis	Water Primrose
Juncaginaceae	Triglochin microtuberosum	Water Ribbons
Typhaceae	Typha orientalis	Broadleaf Cumbungi

* denotes exotic species

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