

Eastern Creek Business Hub – VMP Implementation  
Progress Annual Report: Year 2 Jan – Dec 2022

---

**Western Sydney Parklands Trust**

---

## DOCUMENT TRACKING

<b>Project Name</b>	Eastern Creek Business Hub – VMP Implementation Progress Annual Report: Year 2 2022
<b>Project Number</b>	20SYD-17696
<b>Project Manager</b>	Alex Gorey
<b>Prepared by</b>	Andrew Norvill and Kody Kemp
<b>Reviewed by</b>	Andrew Whitford
<b>Approved by</b>	Andrew Whitford
<b>Status</b>	<b>Final</b>
<b>Version Number</b>	<b>V1</b>
<b>Last saved on</b>	<b>25 July 2023</b>

This report should be cited as ‘Eco Logical Australia 2022. *Eastern Creek Business Hub – VMP Implementation Progress Annual Report: Year 2 2022* . Prepared for Western Sydney Parklands Trust.’

## ACKNOWLEDGEMENTS

This document has been prepared by Eco Logical Australia Pty Ltd with support from Daryl Wells (Muru Mittigar)

### *Disclaimer*

*This document may only be used for the purpose for which it was commissioned and in accordance with the contract between Eco Logical Australia Pty Ltd and Western Sydney Parklands Trust. The scope of services was defined in consultation with Western Sydney Parklands Trust, by time and budgetary constraints imposed by the client, and the availability of reports and other data on the subject area. Changes to available information, legislation and schedules are made on an ongoing basis and readers should obtain up to date information. Eco Logical Australia Pty Ltd accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report and its supporting material by any third party. Information provided is not intended to be a substitute for site specific assessment or legal advice in relation to any matter. Unauthorised use of this report in any form is prohibited.*

# Contents

<b>1. Introduction.....</b>	<b>1</b>
1.1 Background .....	1
1.2 Site description .....	2
1.3 Management works .....	2
1.4 Performance Criteria.....	3
<b>2. Preliminary works required .....</b>	<b>8</b>
2.1 Temporary fencing .....	8
2.2 Permanent fencing and signage.....	8
2.3 Sediment and erosion control.....	8
2.4 Seed collection .....	9
2.5 Habitat enhancement .....	9
<b>3. Vegetation management works required .....</b>	<b>10</b>
3.1 Revegetation .....	10
3.1.1 Zone 1: Regeneration (restoration).....	10
3.1.2 Zone 2: Revegetation .....	10
3.1.3 Zone 3: Revegetation – wetlands.....	10
3.2 Weed control .....	11
3.3 Monitoring requirements.....	12
<b>4. Monitoring methods .....</b>	<b>13</b>
4.1 Photo points.....	13
4.2 Vegetation quadrats.....	13
<b>5. Monitoring results .....</b>	<b>14</b>
5.1 Photo point results.....	14
5.2 Vegetation monitoring results .....	14
<b>6. Assessment against the performance criteria.....</b>	<b>17</b>
<b>7. Site issues and future works .....</b>	<b>19</b>
7.1 Site issues.....	19
7.2 Future works .....	19
<b>References .....</b>	<b>20</b>
<b>Appendix A Photo points – Monitoring photos .....</b>	<b>21</b>
<b>Appendix B Vegetation monitoring data .....</b>	<b>30</b>
<b>Appendix C : November 2022 Revegetation .....</b>	<b>40</b>

## List of Figures

Figure 1: VMP area .....	4
Figure 2: VMP map as depicted in Version 8 of the VMP (ELA 2022) .....	5
Figure 3: Species richness across all quadrats .....	16
Figure 4: Mean ground layer cover – All zones .....	16

## List of Tables

Table 1: VMP objectives .....	1
Table 2 Performance criteria – establishment .....	6
Table 3 Performance criteria – maintenance .....	7
Table 4: Benchmark conditions for vegetation communities within the VMP areas.....	7
Table 5: Weed treatment table .....	11
Table 6: Quadrat and photo point locations .....	13
Table 7: Baseline species richness comparison against species richness benchmark.....	14
Table 8: Maximum extent of exotic ground layer allowed each year .....	14
Table 9: Performance against PCT native groundcover % benchmark.....	15
Table 10: Performance criteria – Year 2 .....	17

## Abbreviations

Abbreviation	Description
AW	Alluvial Woodland
BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
CEEC	Critically Endangered Ecological Community
CPW	Cumberland Plain Woodland
ELA	Eco Logical Australia Pty Ltd
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
LGA	Local Government Area
OEMP	Operational Environmental Management Plan
RFEF	River-flat Eucalypt Forest
SPW	Shale Plains Woodland
VMP	Vegetation Management Plan
WSPT	Western Sydney Parklands Trust

# 1. Introduction

## 1.1 Background

Ecological Australia (ELA) has been engaged by the Western Sydney Parklands Trust (WSPT) to undertake the VMP annual progress report for the protection, restoration and rehabilitation of Cumberland Plain Woodlands and Shale-Gravel Transition Forest ecological community associated with the proposed development at Eastern Creek Retail Centre, Eastern Creek in the Blacktown Local Government Area (LGA).

ELA has also prepared the Vegetation Management Plan (VMP) for the site with the latest version released on 13 September 2018. This VMP (ELA 2018) provides the basis for vegetation management on the site as well as outlining the roles and responsibilities of WSPL and the Principal Contractor and has been accepted by Blacktown City Council.

During Year 2 of the Implementation of this VMP, revision of the VMP extent and distribution was undertaken to satisfy the council condition B27 regarding stormwater drainage designs (ELA 2022). Under this revision no impacts to the Cumberland Shale Plains Woodland and Shale Gravel Transition Forest. The subsequent amendments to this VMP increased the area of land to be revegetated as wetland, thus increasing the size of MZ3.

In October 2022, ELA produced Version 8 of the Eastern Creek Business Hub Vegetation Management Plan due to required changes to the VMP area. This change incorporated the changes made to the stormwater drainage system and traffic management plan for the Eastern Creek Business Hub. This revision did not include any additional impacts to Matters of National Significance within the VMP area. the amendments made to this VMP did not change the overall objective of the VMP although the total area to be revegetated as wetland was increased.

The objectives of the VMP are detailed in **Table 1**.

**Table 1: VMP objectives**

Objectives (environmental outcomes)	Approach
Improve ecological health and integrity	Control woody weeds and noxious weeds Revegetate with appropriate native species in keeping with the CPW ecological community Maintenance of weed control and gradual reduction to >40% of weed and exotic plant cover in 10 years Rectify poor drainage and hydrology to prevent further tree deaths Management of threats
Maintain and enhance habitat values	Protect existing native vegetation Weed control and gradual reduction to >10% of weed and exotic plant cover Increase native plant cover Management of threats
Stabilise creek bed and banks and maintain water quality	Minimise impacts of construction activities Ensure water quality is maintained Minimise the loss of native plant cover

Objectives (environmental outcomes)	Approach
	Utilise native vegetation planting to assist in stabilisation Management of threats

## 1.2 Site description

The VMP area, an area of 17.6 ha is largely flat and includes several remnant bushland areas, large open grasslands (**Figure 1**). The majority of the open grassland areas have been utilised for grazing purposes and are heavily disturbed resulting to the prevalence of exotic pasture grasses and herbaceous weeds.

Two native vegetation communities have been identified within the VMP area:

- Shale Plains Woodland (SPW), a component of Cumberland Plain Woodland (CPW)
- Alluvial Woodland (AW), a component of River-Flat Eucalyptus Forest (RFEF)

CPW is listed as a ‘Critically Endangered Ecological Community’ under both the NSW *Biodiversity Conservation Act 2016* (BC Act) and the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). RFEF is listed as an ‘Endangered Ecological Community’ under the BC Act.

The VMP site is bounded by M7 Motorway to the East, the Great Western Highway to the South, Rooty Hill Road South to the West and Church Street to the North.

## 1.3 Management works

The VMP divided the site into three management zones with a total VMP area of approximately 17.6 ha (**Figure 2**).

- Zone 1: Regeneration (restoration) (5.68 ha)
- Zone 2: Revegetation (9.59 ha)
- Zone 3: Revegetation – wetlands (2.35 ha)

Zone 1, an area of 5.68 ha comprises all the remaining bushland remnants within the VMP area, to be regenerated to RFEF and CPW ecological communities.

Zone 2, an area of 9.59 ha comprises the areas of site that will require revegetation, including proposed batters, the gas line easement and areas currently dominated by pasture grass, with few native shrubs or trees present.

Zone 3, an area of 2.35 ha comprises the area to be constructed and revegetated to native wetland including the channel base within constructed creek swales and the base of the OSD (onsite stormwater detention) / Bioretention basins.

As identified in the VMP, management works are expected to be implemented over a period of ten years. Two work phases have been identified, including:

- Establishment (Years 1 – 3)
- Maintenance (Years 4 – 10)

ELA prepared a baseline Monitoring Report (ELA 2021) prior to works commencing on site to create a baseline for monitoring the vegetation for changes over the management period.

Muru Mittaggar has undertaken the VMP implementation works in Year 1 and Year 2. These works included site preparation, primary weed control works, photo point monitoring and quadrat data collection.

Due to the COVID-19 lock downs and restrictions throughout Year 1 causing severe and extensive delays to the implementation of the VMP from July to November 2021. The delays were communicated to the Department via email on 5 August 2021. DAWE responded in agreeance to halting works due to COVID-19 and stated that works could be resumed when possible.

This report captures all the work undertaken in Year 2, covering the period from January – December 2022.

#### 1.4 Performance Criteria

The aims of the VMP are to Improve ecological health and integrity, maintain and enhance habitat values, stabilise creek bed and banks and maintain water quality. The VMP covers the initial ten-year period, or until the objectives and performance criteria outlined in the VMP are met. The performance criteria required are provided in **Table 2** and **Table 3**.



Figure 1: VMP area





Figure 2: VMP map as depicted in Version 8 of the VMP (ELA 2022)

**Table 2 Performance criteria – establishment**

Treatment Zones	Establishment		
	Year 1	Year 2	Year 3
All	<ul style="list-style-type: none"> <li>• Commencement or completion of all tasks outlined in the VMP (ELA 2018)</li> <li>• Management of priority weeds as per statutory regulations. No Blackberry patches over 4 m<sup>2</sup></li> <li>• Revegetation is to be undertaken with a minimum of 60% of the benchmark levels for species diversity provided in Appendix C of VMP (ELA 2018)</li> <li>• At one year post planting, a minimum of 80% survival rate of all vegetation strata planted in each zone (e.g. tree, shrub and groundcover)</li> <li>• Any localised plant failure within planting areas are addressed with no area larger than 2 m x 2 metres without surviving plants at one-year post planting;</li> <li>• Maintenance replanting is to replace plants with the same growth form (i.e. tree for tree etc.) and must not decrease species diversity. Any new species to be planted must be from the community being emulated and of local provenance or of provenance for climate change adaptation if required.</li> <li>• Monitoring and reporting undertaken in accordance with Section 7 of the VMP (ELA 2018)</li> </ul>		
	<ul style="list-style-type: none"> <li>• 100% initial treatment of woody and exotic weed species</li> <li>• Exotic ground covers 70% of original extent</li> <li>• Native vegetation cover no less than 40% of biometric benchmark</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Woody weeds and exotic vines to be less than 10% cover, not allowed to set seed and no establishment of new species</b></li> <li>• <b>Exotic ground covers 65% of original extent</b></li> <li>• <b>Native vegetation cover no less than 50% of biometric benchmark</b></li> </ul>	<ul style="list-style-type: none"> <li>• Woody weeds and exotic vines to be less than 5% cover, not allowed to set seed and no establishment of new species</li> <li>• Exotic ground covers 60% of original extent</li> <li>• Native vegetation cover no less than 60% of biometric benchmark</li> </ul>

**Table 3 Performance criteria – maintenance**

Treatment Zones	Maintenance			
	Year 4	Year 6	Year 8	Year 10
All	<ul style="list-style-type: none"> <li>• Commencement or completion of all tasks outlined in the VMP</li> <li>• Management of priority weeds as per statutory regulations. No Blackberry patches over 4 m<sup>2</sup></li> <li>• Revegetation is to be undertaken with a minimum of 60% of the benchmark levels for species diversity provided in Appendix C</li> <li>• At one year post planting, a minimum of 80% survival rate of all vegetation strata planted in each zone (e.g. tree, shrub and groundcover)</li> <li>• Any localised plant failure within planting areas are addressed with no area larger than 2 m x 2 metres without surviving plants at one year post planting;</li> <li>• Maintenance replanting is to replace plants with the same growth form (i.e. tree for tree etc.) and must not decrease species diversity. Any new species to be planted must be from the community being emulated and of local provenance or of provenance for climate change adaptation if required.</li> <li>• A demonstrated increase in native cover and diversity and a demonstrated decrease in exotic cover and diversity by the end of the maintenance period</li> <li>• Monitoring and reporting undertaken in accordance with Section 7 of the VMP (ELA 2018)</li> </ul>			
	<ul style="list-style-type: none"> <li>• Woody weeds and exotic vines to be less than 2% cover, not allowed to set seed and no establishment of new species</li> <li>• Exotic ground covers 55% of original extent</li> <li>• Native vegetation cover no less than 65% of biometric benchmark</li> </ul>	<ul style="list-style-type: none"> <li>• Woody weeds and exotic vines to be less than 2% cover, not allowed to set seed and no establishment of new species</li> <li>• Exotic ground covers 50% of original extent</li> <li>• Native vegetation cover no less than 70% of biometric benchmark</li> </ul>	<ul style="list-style-type: none"> <li>• Woody weeds and exotic vines to be less than 2% cover, not allowed to set seed and no establishment of new species</li> <li>• Exotic ground covers 45% of original extent</li> <li>• Native vegetation cover no less than 75% of biometric benchmark</li> </ul>	<ul style="list-style-type: none"> <li>• No woody weeds or exotic vines present and no establishment of new species</li> <li>• Exotic ground covers 40% of original extent</li> <li>• Native vegetation cover no less than 80% of biometric benchmark</li> </ul>

**Table 4: Benchmark conditions for vegetation communities within the VMP areas**

PCT - ID	Vegetation Community	Species Richness			Cover* (%)		
		Canopy	Shrub	Groundcover#	Canopy	Shrub	Groundcover
PCT 849	Shale Plains Woodland	5	8	34	52	18	77
PCT 835	River-flat Eucalypt Forest	4	8	20	21	21	78

\* Based on monthly average following average rainfall year. Note: groundcovers include grasses and forbs but does not include ferns or other vegetation types within the groundstorey strata.

## 2. Preliminary works required

### 2.1 Temporary fencing

According to Section 4.2.2 of the VMP (ELA 2018), temporary fencing is required to ensure construction activities do not impact onto conservation areas. Temporary construction fencing is to adhere to *AS4970 – 2009 Protection of trees on development sites*. Temporary fencing to be comprised of temporary stakes and high visibility orange ‘para webbing’ or similar to clearly identify the boundary between construction activities and vegetation management works and around trees to be retained in the construction area. The aim of this is to prevent any damage to native vegetation in the VMP area from construction activities and excludes all construction machinery, activities, materials and staff from the VMP area. The developer will also be responsible for the removal of all construction fencing after construction works are completed.

Temporary fencing was previously installed along the south-western corner of the site adjacent to the construction site. There is currently no construction works being undertaken adjacent to any other part of the site therefore there is no temporary fencing currently installed.

### 2.2 Permanent fencing and signage

According to Section 4.2.2 of the VMP (ELA 2018), permanent fencing is to be installed once construction finishes. The purpose of this fence is to stop illegal access and dumping from occurring in the VMP area. Fencing of internal zones such as the gas easement will not be required. Perimeter fencing will allow access for WSPT parkland manager and sub-contractors and emergency vehicles only. The fencing style will at a minimum consist of rural style fencing and gates, consisting of treated timber posts set into concrete flooring and star picket posts with 3 or 4 strands of galvanised wire running between as indicated in the WSP Design Manual. Signage will state that the VMP areas are restricted access and only authorised personnel are permitted entry.

All fencing will be monitored and maintained as required to ensure it controls access to vehicles, grazing animals and the general public. Monitoring would occur when the VMP is being implemented. Broken fence palings, wires or holes in the fence that would allow unauthorised persons into the VMP area would require maintenance.

Permanent fencing has been installed along the road verge of Management Zones 1b and 1d where construction works have been completed. The remainder of the site is contains permanent fencing and is secure at the road boundaries and as such, the VMP site is secure from unauthorised access.

### 2.3 Sediment and erosion control

According to Section 4.2.3 of the VMP, sediment and erosion control will be implemented as per the CMP (J. Wyndham Prince 2012), the OEMP (ELA 2016) and as per the *Managing Urban Stormwater – Soils and Construction Volume 1 2004 (Landcom) ‘The Blue Book’*.

There is currently no construction works being undertaken on site and as such there is no sediment and erosion control installed.

## 2.4 Seed collection

No seed was collected from site throughout Year 2

## 2.5 Habitat enhancement

No mulch or timber has been retained or kept on site in Year 2

## 3. Vegetation management works required

### 3.1 Revegetation

According to the VMP (ELA 20122), revegetation has been undertaken across Management Zones 2 and 3 in Year 2. The need for revegetation in Management Zone 1 will be assessed at the end of Year 3. All revegetation is to be undertaken utilising species from the appropriate vegetation community as shown in Appendix C of the VMP (ELA 2022).

#### 3.1.1 Zone 1: Regeneration (restoration)

Management Zone 1 may require in-fill and buffer planting after initial weed control works have been undertaken.

The need for this revegetation will be assessed at the end of Year 3 and as such no revegetation has been undertaken in this zone.

#### 3.1.2 Zone 2: Revegetation

According to Section 5.2 of the VMP (ELA 2022), revegetation in Management Zone 2 may be undertaken by either:

- Direct seeding with an integrated mulch matrix product
- Tubestock planting of trees, shrubs and groundcovers
- Tubestock planting of tree and shrubs only

This last approach may be undertaken to shade out exotic pasture species and change the habitat to promote native groundcover regeneration. This is a longer-term strategy (i.e. 10 years) and also assumes that there is sufficient native seed present in the soil profile to respond to the changing conditions. Allowance will be made for supplementing native seed if this is not the case. If sufficient native seed is not present in the soil profile to meet the performance criteria, planting may need to be supplemented by tubestock planting and/or introduction of native seed from commercial sources.

Site preparation will be required prior to revegetation works being undertaken. This includes:

- Scraping the top 100 mm of soils and pasture grasses for direct seeding
- Scraping or spraying all weeds and installing mulch to a depth of 100mm for tubestock installation of trees, shrubs and groundcovers.
- Slashing and spraying pasture grasses for tubestock installation of trees and shrubs.

Revegetation throughout Management Zone 2 has been undertaken in Year 2 however the survival rate is well below the minimum of 80% meaning that further revegetation will be required in Year 3. Revegetation numbers have been provided by Muru Mittigar in Appendix C.

#### 3.1.3 Zone 3: Revegetation – wetlands

Management Zone 3 will require native sedges and rushes to be installed across the entire zone to resemble freshwater wetlands.

Site preparation works are to include the installation of jute matt in swales and areas of high erosion potential. No jute matt is to be installed within the bio retention basins as it interferes with filtration. At this stage, the northern basin is connected to the stage 1 development and is operational. The southern basin is due to be connected by 30 April 2020 to coincide with the practical completion of the stage 2 development.

No revegetation has been undertaken in Management Zone 3 to this point.

### 3.2 Weed control

According to the Section 5.1.3 of the VMP (ELA 2022) , the site currently retains approximately eight noxious weed species, along with a further 31 exotic species known to occur on site at time of survey.

Primary weed control included the treatment of the majority of noxious weeds, in particular *Lantana camara* (Lantana), *Rubus fruticosus* spp. *aggregate* (Blackberry) and *Cortaderia selloana* (Pampas Grass) were recorded in the exotic pasture zones, while one species *Lycium ferocissimum* (African Boxthorn) was recorded in the patch of Alluvial Woodland in the middle of the site.

Management Zone 2 is mostly comprised of pasture grasses and will require slashing and spraying in conjunction with the revegetation strategy that is undertaken.

Secondary weed control will focus on the regrowth of species treated throughout the primary weed control period. Maintenance weed control will then be undertaken for the remainder of the ten-year period to control weed regrowth from soil seed bank.

Primary weed control was undertaken on site throughout Year 1 which focused on the removal of mature woody weeds and vines.

#### *Woody weeds*

Woody weeds were treated using the cut and paint method. Some adult specimens have been treated across the site however there is still more to go, in particular *Erythrina crista-galli* (Coral Tree) along the creekline.

#### *Vines*

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. There was evidence of *Cardiospermum halicacabum* (Balloon Vine) still on site so more vine work is required to meet the relevant performance criteria.

A cumulative list of the main weeds treated since the beginning of the implementation phase is provided in **Table 5** .

**Table 5: Weed treatment table**

Species	Common Name
<i>Anredera cordifolia</i>	Madeira Vine
<i>Lantana camara</i> *	Lantana

Species	Common Name
<i>Ligustrum lucidum</i>	Broad-leaf Privet
<i>Ligustrum sinense</i>	Small-leaf Privet
<i>Lycium ferocissimum</i> *	African Boxthorn
<i>Olea europaea subsp. cuspidata</i>	African Olive
<i>Rosa filipes</i>	Scrambling Rose
<i>Rubus fruticosus sp. aggregate</i>	Blackberry

### 3.3 Monitoring requirements

Section 7 of the VMP (ELA 2022) specifies that monitoring will be undertaken prior to works being commenced to establish a benchmark for performance. This is to include the establishment of photo points and vegetation survey quadrats. Progress reports will then be prepared on an annual basis throughout the establishment period (Years 1 – 3) and bi-annually until the VMP is fully implemented (Years 4 – 10).



## 4. Monitoring methods

### 4.1 Photo points

A total of **eight** photo points were established across all Management Zones prior to the commencement of vegetation management works on the 12 February 2021, by ELA Restoration Ecologist Andrew Norvill and Muru Mittigar Technical Manager Tim Withers.

Photos were taken from the SW corner of each monitoring quadrat. Comparative photos were taken from the same locations by ELA restoration Ecologist Andre Norvill on 21 June 2023.

The distribution of photo points / vegetation quadrats is detailed in **Table 6** and mapped in **Figure 2**. PCT849 relates to quadrats SP1, SP3, SP4, SP6 and SP8. PCT 835 relates to quadrat SP2, SP5 and SP8.

**Table 6: Quadrat and photo point locations**

Management Zone	Number of Quadrats	Quadrat names	PCT Zone
Zone 1 – Regeneration (restoration)	4	SP1	849
		SP3	849
		SP5	835
		SP6	849
Zone 2 – Revegetation	2	SP4	849
		SP8	849
Zone 3 – Revegetation (wetlands)	2	SP2	835
		SP7	835
<b>Total</b>	<b>8</b>	-	-

### 4.2 Vegetation quadrats

Vegetation monitoring quadrats were established at the same location as the photo points. A total of **eight**, 20 m x 20 m quadrats were established at the locations shown in **Figure 2**.

Each quadrat was marked with the GPS and has been identified onsite with star pickets installed in the Southwest corner of the quadrat. The quadrat monitoring data was collecting by ELA restoration ecologists Andrew Norvill and Kody Kemp on 21 June 2023.

## 5. Monitoring results

### 5.1 Photo point results

Baseline photos and Year 2 comparison photos for each photo point have been included as **Appendix A**.

### 5.2 Vegetation monitoring results

#### SPECIES RICHNESS

There has been an increase in native species richness and a reduction in exotic species richness across the entire site (**Figure 3**).

**Table 7: Baseline species richness comparison against species richness benchmark**

PT	Vegetation Community	Species richness benchmark			Year 2 species richness		
		Canopy	Shrub	Ground Cover	Canopy	Shrub	Ground Cover
849	Shale Plains Woodland	5	8	34	5	6	21
835	River-flat Eucalypt Forest	4	8	20	2	2	10

Native species diversity should increase once further revegetation works have been undertaken in Year 3.

#### MEAN GROUND LAYER COVER ABUNDANCE

The mean ground layer cover abundance (**Figure 4**) for all management zone was:

- An increase in native ground layer abundance from 15% in February 2022, to 29% in June 2023
- An decrease in exotic ground layer abundance from 62% in February 2022, to 60% in June 2023

Table 8 below contains a breakdown of the exotic ground layer recorded on site for each management zone in that respective reporting period measured against the maximum exotic groundcover allowed for that year. The data collected each year will be compared to the original extent recorded during the baseline data collection.

**Table 8: Maximum extent of exotic ground layer allowed each year**

Management Zone	Baseline	Year 1 (70%)	Year 2 (65%)	Year 3 (60%)	Year 4 (55%)	Year 6 (50%)	Year 8 (45%)	Year 10 (40%)
Zone 1: Maximum exotic ground layer required	N/A	15.6	14.5	13.4	12.3	11.2	10	8.9
<b>Zone 1: actual groundcover abundance</b>	<b>22.3</b>	<b>42.3</b>	<b>32</b>	-	-	-	-	-
Zone 2: Maximum exotic ground layer required	N/A	49	45.5	42	38.5	35	31.5	28
<b>Zone 2: actual groundcover abundance</b>	<b>70</b>	<b>71.5</b>	<b>97</b>	-	-	-	-	-
Zone 3: Maximum exotic ground layer required	N/A	31.5	29.3	27	24.8	22.5	20.3	18

Management Zone	Baseline	Year 1 (70%)	Year 2 (65%)	Year 3 (60%)	Year 4 (55%)	Year 6 (50%)	Year 8 (45%)	Year 10 (40%)
Zone 3: actual groundcover abundance	45	62.5	82	-	-	-	-	-
Overall Maximum exotic ground layer required	N/A	36.8	34.2	31.6	28.9	26.3	23.7	21
Overall actual groundcover abundance	52.6	61.9	60.5	-	-	-	-	-

Zone 1 has shown a decrease in weed cover since Year 1, but is still higher than both the performance criteria (+17.5%) and baseline levels. If exotic groundcover remains high within Zone 1, it is likely that revegetation will be required. Zones 2 and 3 have shown an increase since Year 1 and Baseline levels and are both significantly higher than their performance criteria (+51.5% and +52.7% respectively). Zone 3 still requires civil works to be undertaken prior to any revegetation so weed control works have been minimal in this zone.. Overall, further intensive exotic groundcover weed control is required across all zones if the site is to get back on track.

The data provided in **Table 9** contains native groundcover abundance for each PCT recorded on site in that respective reporting period measured against the minimum biometric benchmark required for each PCT identified on site.

**Table 9: Performance against PCT native groundcover % benchmark**

PCT	Baseline	Year 1 (40%)	Year 2 (50%)	Year 3 (60%)	Year 4 (65%)	Year 6 (70%)	Year 8 (75%)	Year 10 (80%)
PCT – 849 minimum required	N/A	30.8	38.5	46.2	50	53.9	57.8	61.6
PCT – 849 groundcover abundance	9.7	13.9	34	-	-	-	-	-
PCT – 835 minimum required	N/A	31.2	39	46.8	50.7	54.6	58.5	62.4
PCT – 835 groundcover abundance	10.9	12.5	21	-	-	-	-	-

Native groundcover cover is significantly lower than the required performance criteria in PCT 835 (-18%) however this should increase once additional revegetation works and additional weed control works are undertaken in Year 3. Native groundcover cover in PCT849 has increased since Year 1 and Baseline levels due to the revegetation undertaken but is still slightly below target (-4.5%). Native groundcover should continue to increase with further revegetation and weed control throughout this community.

All monitoring data collected from ELA is provided in **Appendix A**.

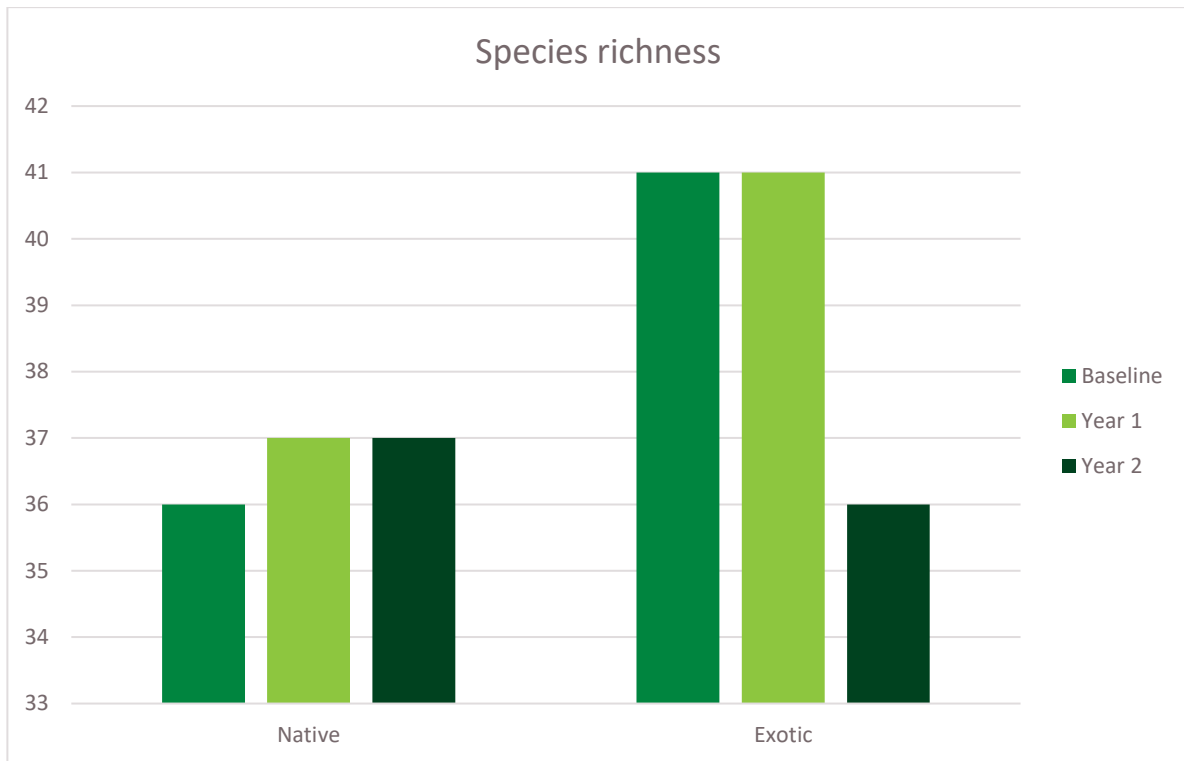


Figure 3: Species richness across all quadrats

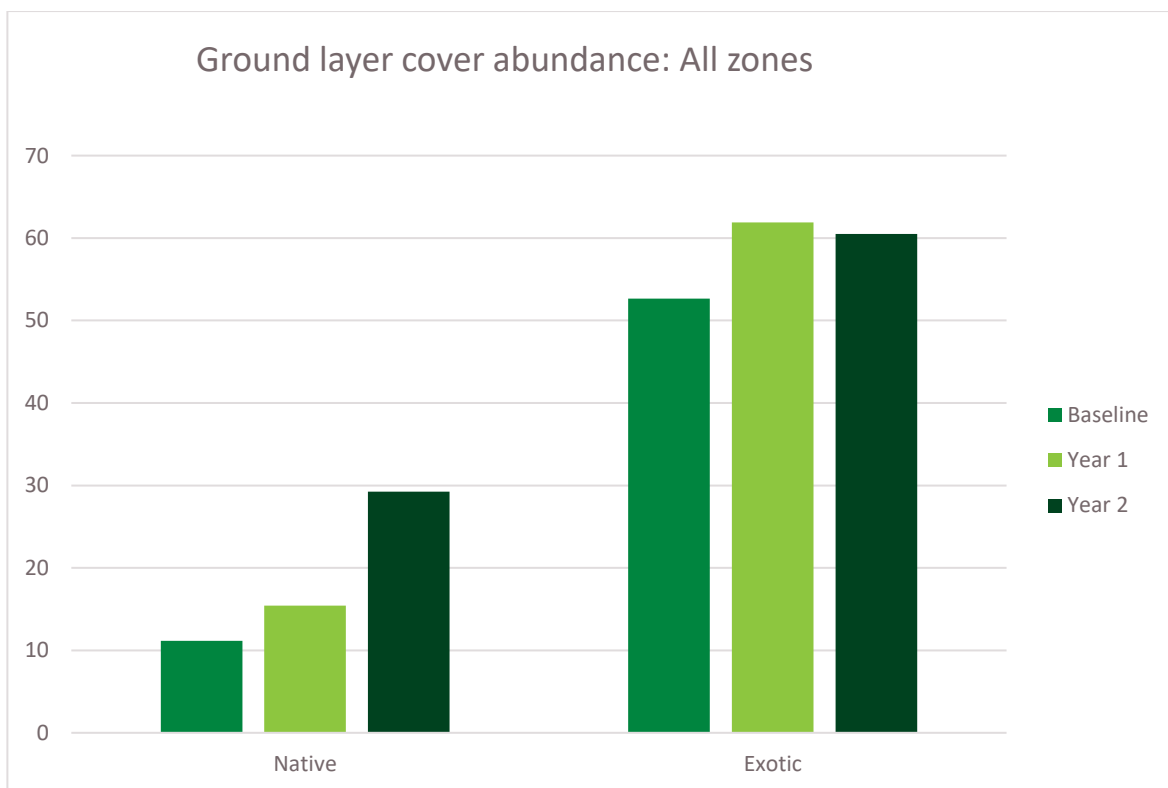


Figure 4: Mean ground layer cover – All zones

## 6. Assessment against the performance criteria

Works concentrated on the removal of woody weeds and vines however regenerating woody weeds remain untreated, mostly mature *Erythrina crista-galli* (Coral Trees) along the creek line. Minimal treatment of exotic groundcover was undertaken given the level of exotic groundcover increased since the Year 1 monitoring data was recorded, in particular *Paspalum dilatatum* (Paspalum), *Eragrostis curvula* (African Lovegrass) *Setaria parviflora* (Pigeon Grass) and *Verbena bonariensis* (Purple Top).

Revegetation works were undertaken in Year 2 as planting in Management Zone 2, further plantings throughout these zones 1 and 2 are scheduled to be undertaken in Year 3.

Table 10 below shows each VMP performance target and whether the targets have been met.

**Table 10: Performance criteria – Year 2**

Performance criteria	Completed	Comment
Commencement or completion of all tasks outlined in the VMP	On Track	All tasks have been commenced or are planned to be commenced in Year 3
Management of priority weeds as per statutory regulations. No Blackberry patches over 4 m <sup>2</sup>	Partial	Small amounts of the priority weeds <i>Senecio madagascariensis</i> and <i>Asparagus asparagoides</i>
Revegetation is to be undertaken with a minimum of 60% of the benchmark levels for species diversity provided in Appendix C	Yes	75% of species provided in Appendix C of the VMP were installed throughout Year 2
At one year post planting, a minimum of 80% survival rate of all vegetation strata planted in each zone (e.g. tree, shrub and groundcover)	No	Not achieved restricted access for the water cart. Survival rate was approximately 50% as of June 2023. Further infill planting required in Year 3.
Any localised plant failure within planting areas are addressed with no area larger than 2 m x 2 m without surviving plants at one year post planting;	No	Not achieved, infill planting to be undertaken in year 3
Maintenance replanting is to replace plants with the same growth form (i.e. tree for tree etc.) and must not decrease species diversity. Any new species to be planted must be from the community being emulated and of local provenance or of provenance for climate change adaptation if required.	N/A	Infill planting has not been undertaken following initial revegetation. Infill planting to be undertaken in year 3
Monitoring and reporting undertaken in accordance with Section 7	Yes	This is the Year 2 monitoring report
Woody weeds and exotic vines to be less than 10% cover, not allowed to set seed and no establishment of new species	Yes	Woody weeds and vines were approximately 5% cover with no seeding plants present.
Exotic ground covers 65% of original extent	No	Exotic groundcover was 60% which is well above the 34% it is required to be by the end of Year 2.
Native vegetation cover no less than 50% of biometric benchmark	No	PCT849 approximately 34% cover PCT835 approximately 21% cover

Performance criteria	Completed	Comment
		Both PCT's are below the required biometric benchmark of 38.5% and 39% respectively.

## 7. Site issues and future works

### 7.1 Site issues

The retention basins (Management Zone 3) require further earthworks prior to revegetation works being undertaken and there is currently no timeframe on when these works will occur. Until all earthworks in the retention basin have been completed, vegetation management works will be limited.

In addition, following the easing of COVID restrictions, works on site re-commenced, however management works have not been able to 'catch up' to meet the performance criteria of the VMP. Minimal treatment of exotic groundcover species has been undertaken throughout Year 2 which has resulted in an increase in exotic groundcover, especially in Zones 2 and 3.

### 7.2 Future works

Future works within the VMP area include:

- Undertake primary and secondary weed control in areas that were not completed in Year 2
- Management of exotic groundcover targeting species such as *Senecio madagascariensis* (Fireweed), *Axonopus fissifolius* (carpet grass), *Sporobolus fertilis* (parramatta grass), *Chloris gayana* (Rhodes Grass), *Eragrostis curvula* (African Love Grass) and *Paspalum dilatatum* (Paspalum).
- Undertake secondary and maintenance weed control across all Management Zones.
- Continue revegetation tasks outlined in the VMP across Management Zones 2 and 3  
Management Zone 1 is to be assessed in Year 3 to determine if revegetation is required
- Continue to undertake photo point and vegetation quadrat monitoring annually
- Continue to produce annual reports, including photos showing the progress of works throughout the VMP

If works cannot catchup sufficiently to meet the performance criteria for Year 3, the VMP implementation timeline may need to be reset while works continue (i.e. repeat Year 2 and extent the management period )

## References

Eco Logical Australia. 2016. *Eastern Creek Retail Centre, Operational Environmental Management Plan Creek*. Prepared for Western Sydney Parklands Trust

Eco Logical Australia 2021. *Eastern Creek Business Hub VMP Baseline Monitoring Report*. Prepared for Western Sydney Parklands Trust

Eco Logical Australia 2021. *Eastern Creek Business Hub – VMP Implementation Progress Annual Report: Year 1 2021* . Prepared for Western Sydney Parklands Trust.'

Eco Logical Australia 2022. *Eastern Creek Retail Centre Vegetation Management Plan*. Prepared for Western Sydney Parklands Trust.'

J. Wyndham Prince. 2012. *Eastern Creek Construction Management Plan*. Prepared for Western Sydney Parklands Trust



## Appendix A Photo points – Monitoring photos

Photo point monitoring was undertaken by ELA during a field survey undertaken on the 21<sup>st</sup> June 2023.



**Figure A1: Photo point 1\_SP1 – Taken 4 March 2021**



**Figure A2: Photo point 1\_SP1 – Taken 21 June 2023**



**Figure A3: Photo Point 2\_SP2 – Taken 4 March 2021**



**Figure A4: Photo Point 2\_SP2 – Taken 21 June 2023**



Figure A5: Photo Point\_SP3 – Taken 5 March 2021



Figure A6: Photo Point 3\_SP3 – Taken 21 June 2023



Figure A7: Photo Point 4\_SP4 – Taken 5 March 2021



Figure A8: Photo Point 4\_SP4 – Taken 21 June 2023



Figure A19: Photo Point 5\_SP5 – Taken 5 March 2021



Figure A10: Photo Point 5\_SP5 – Taken 21 June 2023



Figure A11: Photo Point 6\_SP6 – Taken 5 March 2021



Figure A12: Photo Point 6\_SP6 – Taken 21 June 2023



Figure A13: Photo Point 7\_SP7 – Taken 7 March 2021





Figure A14: Photo Point 7\_SP7 – Taken 21 June 2023



Figure A15: Photo Point 8\_SP8 – Taken 7 March 2021



Point 8\_SP8 – Taken 21 June 2023

Figure A16: Photo

## Appendix B Vegetation monitoring data

### Native vegetation (March 2021)

Species	% Projected foliage cover in quadrats								% Total cover
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	
<i>Acacia falcata</i>						<1			0
<i>Angophora subvelutina</i>						<1			0
<i>Aristida vagans</i>	<1					<1			0
<i>Asperula conferta</i>	<1								0
<i>Brunoniella australis</i>	<1		<1			<1			0
<i>Bursaria spinosa</i>	<1		<1		<1				0
<i>Centella asiatica</i>	<1							<1	0
<i>Cheilanthes sieberi</i>					<1	<1			0
<i>Chloris truncata</i>		<1		<1					0
<i>Chloris ventricosa</i>			<1						0
<i>Commelina cyanea</i>			<1	<1	<1	<1			0
<i>Cyperus gracilis</i>					<1	<1			0
<i>Daviesia ulicifolia</i>						<1			0
<i>Dianella longifolia</i>			<1						0
<i>Dichondra repens</i>	<1		2			<1			0
<i>Digitaria parviflora</i>					<1				0
<i>Einadia nutans</i>			<1			<1			0
<i>Entolasia marginata</i>					<1				0
<i>Eragrostis leptostachya</i>			<1	<1	<1	<1			0

Species	% Projected foliage cover in quadrats								% Total cover
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	
<i>Eriochloa pseudoacrotricha</i>	<1								0
<i>Eucalyptus moluccana</i>	17		1		3	<1			2
<i>Eucalyptus tereticornis</i>	<1		16	<1	20	11			5
<i>Euchiton sphaericus</i>	<1	<1					<1		0
<i>Glycine tabacina</i>	<1		<1		<1	<1			0
<i>Jacksonia scoparia</i>					<1				0
<i>Juncus usitatus</i>		<1			<1		5		1
<i>Lachnagrostis filiformis</i>		<1					<1		0
<i>Microlaena stipoides</i>	<1		30	<1	35	35		10	12
<i>Oxalis perennans</i>				<1					0
<i>Paspalidium distans</i>	<1		<1		<1	<1			0
<i>Persicaria decipiens</i>		<1					<1		0
<i>Rytidosperma sp.</i>		<1				<1			0
<i>Sporobolus creber</i>	<1			<1	<1	<1			0
<i>Themeda triandra</i>	<1				<1	<1			0
<i>Wahlenbergia gracilis</i>				<1		<1			0
<b>Total cover</b>	<b>19</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>64</b>	<b>48</b>	<b>5</b>	<b>10</b>	<b>25</b>
<b>Total species</b>	<b>15</b>	<b>6</b>	<b>13</b>	<b>8</b>	<b>16</b>	<b>20</b>	<b>4</b>	<b>2</b>	<b>36</b>

## Exotic Vegetation (March 2021)

Species	% Projected foliage cover in quadrats								% Total cover
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	
<i>Araujia sericifera</i>	<1		<1		<1	<1			0
<i>Asparagus asparagoides</i>			<1		10	2			1
<i>Asparagus plumosus</i>	<1		<1	<1	<1	<1		<1	0
<i>Axonopus fissifolius</i>								<1	0
<i>Bidens Pilosa</i>	<1			<1	<1		<1		0
<i>Bidens sp.</i>			15		<1				2
<i>Briza subaristata</i>				<1	<1			<1	0
<i>Bromus catharticus</i>			<1						0
<i>Cenchrus clandestinum</i>		<1					<1		0
<i>Cirsium vulgare</i>	<1	<1			<1	<1		<1	0
<i>Conyza sp.</i>	<1	<1		<1	<1	<1	<1	<1	0
<i>Cyclopernum leptophyllum</i>							<1		0
<i>Cynodon dactylon</i>	10	<1	<1	70	<1	<1		30	12
<i>Cyperus eragrostis</i>		5		<1			<1		1
<i>Digitaria sanguinalis</i>							<1		0
<i>Echinochloa colona</i>		<1							0
<i>Ehrharta erecta</i>			<1		<1	<1			0
<i>Eragrostis curvula</i>	<1			<1	<1				0
<i>Erythrina crista-galli</i>									0
<i>Gamochaeta sp.</i>		<1							0
<i>Hypericum perforatum</i>				5					1

Species	% Projected foliage cover in quadrats								% Total cover
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	
<i>Hypochaeris radicata</i>					<1	<1		<1	0
<i>Ligustrum lucidum</i>			<1		<1	<1			0
<i>Ligustrum sinense</i>			<1		<1				0
<i>Lycium ferocissimum</i>			5		<1				1
<i>Medicago polymorpha</i>							<1		0
<i>Modiola caroliniana</i>		<1					<1		0
<i>Olea europaea subsp. cuspidata</i>						<1			0
<i>Paspalum dilatatum</i>	25	10	<1	15	<1	<1	<1	20	8
<i>Plantago lanceolata</i>	<1	<1		<1			<1		0
<i>Polygonum aviculare</i>		<1					<1		0
<i>Rumex crispus</i>		<1		<1			<1		0
<i>Senecio madagascariensis</i>	<1	<1	<1	<1	<1	<1	<1	<1	0
<i>Setaria parviflora</i>	20	<1	<1	<1	<1	<1	<1	<1	2
<i>Sida rhombifolia</i>	<1				5	2			1
<i>Solanum linnaeanum</i>	<1				<1	<1	<1		0
<i>Solanum nigrum</i>	<1				<1	<1			0
<i>Solanum pseudocapsicum</i>			<1		<1	<1			0
<i>Symphytotrichum subulatum</i>	<1	<1		<1			<1	<1	0
<i>Trifolium sp.</i>		<1					15		2
<i>Verbena bonariensis</i>	<1	20		<1			40	<1	7
<i>Verbena rigida</i>								<1	0
<b>Total cover</b>	<b>55</b>	<b>35</b>	<b>21</b>	<b>90</b>	<b>15</b>	<b>4</b>	<b>55</b>	<b>50</b>	<b>55</b>
<b>Total species</b>	<b>16</b>	<b>17</b>	<b>14</b>	<b>15</b>	<b>22</b>	<b>17</b>	<b>18</b>	<b>13</b>	<b>41</b>

## Native vegetation (February 2023)

Species	% Projected foliage cover in quadrats								% Total cover
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	
<i>Acacia falcata</i>						1			0
<i>Acacia implexa</i>				1				1	0
<i>Acacia parramatensis</i>			1						0
<i>Angophora subvelutina</i>						2			0
<i>Aristida vagans</i>						1			0
<i>Arthropodium milleflorum</i>						1			0
<i>Asperula conferta</i>	1								0
<i>Bothriochloa macra</i>		1							0
<i>Brunoniella australis</i>	1					1			0
<i>Bursaria spinosa</i>			1	1	5				1
<i>Centella asiatica</i>								1	0
<i>Cheilanthes sieberi</i>						1			0
<i>Chloris truncata</i>									0
<i>Chloris ventricosa</i>	1	1	1						0
<i>Commelina cyanea</i>									0
<i>Cyperus gracilis</i>	1				1	1		1	1
<i>Daviesia ulicifolia</i>						5			1
<i>Dianella longifolia</i>	1				1				0

Species	% Projected foliage cover in quadrats								% Total cover
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	
<i>Dichondra repens</i>	1		1			1		1	1
<i>Digitaria parviflora</i>									0
<i>Dodonaea viscosa</i>				1				1	0
<i>Einadia nutans</i>									0
<i>Entolasia marginata</i>									0
<i>Eragrostis brownii</i>						1			0
<i>Eragrostis leptostachya</i>	10					1			1
<i>Eriochloa pseudoacrotricha</i>									0
<i>Eucalyptus amplifolia</i>								1	0
<i>Eucalyptus crebra</i>								1	0
<i>Eucalyptus moluccana</i>	20				10			1	4
<i>Eucalyptus tereticornis</i>			60	1	60	20		1	18
<i>Euchiton sphaericus</i>									0
<i>Exocarpus cupressiformis</i>					1				0
<i>Glycine clandestina</i>	1								0
<i>Glycine tabacina</i>	1				1				0
<i>Goodenia hederacea</i>						1			0
<i>Hardenbergia violacea</i>				1					0
<i>Hydrocotyle sp.</i>							1		0

Species	% Projected foliage cover in quadrats								% Total cover
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	
<i>Jacksonia scoparia</i>									0
<i>Juncus usitatus</i>		1		1			30	1	4
<i>Lachnagrostis filiformis</i>									0
<i>Lomandra multiflora</i>			1			1			0
<i>Microlaena stipoides</i>			80	1	25	30			17
<i>Oxalis perennans</i>									0
<i>Paspalidium distans</i>	1								0
<i>Persicaria decipiens</i>									0
<i>Rytidosperma sp.</i>		1							0
<i>Sporobolus creber</i>	10		1			1			2
<i>Themeda triandra</i>	1	1				3			1
<i>Typha orientalis</i>									0
<i>Wahlenbergia gracilis</i>									0
<b>Total cover</b>	<b>50</b>	<b>5</b>	<b>146</b>	<b>7</b>	<b>104</b>	<b>72</b>	<b>31</b>	<b>10</b>	<b>37</b>
<b>Total species</b>	<b>13</b>	<b>5</b>	<b>8</b>	<b>7</b>	<b>8</b>	<b>17</b>	<b>2</b>	<b>10</b>	<b>29</b>



## Exotic Vegetation (February 2023)

Species	% Projected foliage cover in quadrats							% Total cover	
	SP1	SP2	SP3	SP4	SP5	SP6	SP7		SP8
<i>Anagallis arvensis</i>				1					0
<i>Araujia sericifera</i>			1		1	1			0
<i>Asparagus asparagoides*</i>			1		5	1			1
<i>Asparagus plumosus</i>					1				0
<i>Aster subulatus</i>	1	1		1		1	1	1	1
<i>Axonopus fissifolius</i>								85	11
<i>Bidens Pilosa</i>			1			1			0
<i>Bidens sp.</i>	5								1
<i>Briza subaristata</i>				2				1	0
<i>Bromus catharticus</i>		1		1			1		0
<i>Cenchrus clandestinum</i>									0
<i>Cirsium vulgare</i>									0
<i>Conyza sp.</i>				1				1	0
<i>Cyclosporum leptophyllum</i>									0
<i>Cynodon dactylon</i>	10	2	1	77	1	20	1	1	14
<i>Cyperus eragrostis</i>		1		1					0
<i>Digitaria sanguinalis</i>									0
<i>Echinochloa colona</i>									0

Species	% Projected foliage cover in quadrats							% Total cover	
	SP1	SP2	SP3	SP4	SP5	SP6	SP7		SP8
<i>Ehrharta erecta</i>			8			1			1
<i>Eragrostis curvula</i>	15	1		2				3	3
<i>Erythrina crista-galli</i>									0
<i>Gamochaeta sp.</i>									0
<i>Gomphocarpus fruticosus</i>								1	0
<i>Hypericum perforatum</i>									0
<i>Hypochaeris radicata</i>									0
<i>Ligustrum lucidum</i>									0
<i>Ligustrum sinense</i>									0
<i>Lolium temulentum</i>									0
<i>Lotus sp.</i>									0
<i>Lycium ferocissimum*</i>									0
<i>Medicago minara</i>				1					0
<i>Medicago polymorpha</i>							1		0
<i>Modiola caroliniana</i>									0
<i>Olea europaea subsp. cuspidata*</i>									0
<i>Onopordum acanthium</i>			1			1	1		0
<i>Paspalum dilatatum</i>	15	10	1	3		1	10	1	5
<i>Plantago lanceolata</i>	5	5					10		3

Species	% Projected foliage cover in quadrats								% Total cover
	SP1	SP2	SP3	SP4	SP5	SP6	SP7	SP8	
<i>Polygonum aviculare</i>		1		1			1		1
<i>Rumex crispus</i>									0
<i>Senecio madagascariensis*</i>		1					1		0
<i>Setaria parviflora</i>	1			1	1	1	1	1	1
<i>Sida rhombifolia</i>	10	67	1	1		1	8		11
<i>Solanum linnaeanum</i>	1		1	1	2	1	1		1
<i>Solanum nigrum</i>				1	1				0
<i>Solanum pseudocapsicum</i>						1			0
<i>Sporobolus africanus</i>									0
<i>Stenotaphrum secundatum</i>					1	1			0
<i>Symphotrichum subulatum</i>						1			0
<i>Trifolium sp.</i>		1							0
<i>Verbena bonariensis</i>							20		3
<i>Verbena rigida</i>									0
<i>Vicia sativa</i>		1					1		0
<b>Total cover</b>	65	95	16	97	13	33	69	96	60
<b>Total species</b>	11	14	9	17	8	14	16	10	29

## Appendix C : November 2022 Revegetation

Type	Species	Quantity installed
Tree	<i>Acacia parramattensis</i>	40
	<i>Eucalyptus crebra</i>	80
	<i>E. eugenioides</i>	80
	<i>E. moluccana</i>	160
	<i>E. tereticornis</i>	80
	<i>Melaleuca decora</i>	80
	<i>Eucalyptus amplifolia</i>	340
		860
Shrub	<i>Acacia falcata</i>	320
	<i>A. implexa</i>	800
	<i>Breynia oblongifolia</i>	0
	<i>Bursaria spinosa</i>	800
	<i>Daviesia ulicifolia</i>	0
	<i>Dillwynia sieberi</i>	0
	<i>Dodonaea viscosa</i>	800
	<i>Indigofera australis</i>	320
	<i>Jacksonia scoparia</i>	0
	3040	
Vine/Scrambler	<i>Clematis aristata</i>	80
	<i>Convolvulus erubescens</i>	
	<i>Hardenbergia violacea</i>	340
	<i>Kennedia rubicunda</i>	80
	500	
Grass/groundcover	<i>Aristida ramosa</i>	720
	<i>A. vagans</i>	0
	<i>Arthropodium milleflorum</i>	80
	<i>Bothriochloa macra</i>	1350
	<i>Brunoniella australis</i>	400
	<i>Capillipedium spicigerum</i>	0
	<i>Centella asiatica</i>	120
	<i>Cheilanthes sieberi</i>	0
	<i>Chloris truncata</i>	810
	<i>C. ventricosa</i>	1800
<i>Cymbopogon refractus</i>	1710	

Type	Species	Quantity installed
	<i>Desmodium varians</i>	0
	<i>Dichelachne crinita</i>	180
	<i>Dichondra repens</i>	400
	<i>Eremophila debilis</i>	0
	<i>Imperata cylindrica</i>	5000
	<i>Maekawaea rhytidophylla</i>	0
	<i>Microlaena stipoides</i>	1980
	<i>Oxytes brachypoda</i>	0
	<i>Poa labillardierei</i>	0
	<i>Rytidosperma bipartitum</i>	0
	<i>R. setaceum</i>	1080
	<i>Solanum prinophyllum</i>	400
	<i>Sorghum leiocladum</i>	0
	<i>Themeda triandra</i>	0
<b>Total</b>		<b>16030</b>

