Prepared for
Department of Transport
ABN: 69981208782

AECOM

Mernda Rail Extension Project

Matted Flax-lily Annual Summary Report, April 2020 -

09-Jul-2021

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Mernda Rail Extension Project

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Client: Department of Transport

ABN: 69981208782

Prepared by

AECOM Australia Pty Ltd
Level 10, Tower Two, 727 Collins Street, Melbourne VIC 3008, Australia
T +61 3 9653 1234 F +61 3 9654 7117 www.aecom.com
ABN 20 093 846 925

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Reviewed by Dan Haysom

Revision History

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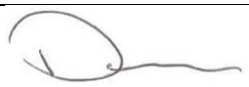
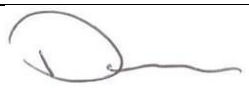
			Name/Position	Signature
1	28-June-2021	Draft	Dan Haysom Principal Environmental Planner	
2	09-Jul-2021	Final	Dan Haysom Principal Environmental Planner	

Table of Contents

Executive Summary

This report documents the results of monitoring the implementation of management actions and condition of the translocated Matted Flax-lily (MFL) populations for the reporting period 4 April 2020 to 3 April 2021.

During the reporting period, six monitoring events were conducted in April 2020, May 2020, June 2020, July 2020, November 2020 and January 2021. Monitoring activities included growth and condition quadrat monitoring, population counts at each recipient site, photo point monitoring, and general site assessments noting threats, management issues, corrective actions, and a nursery audit.

Total survivorship across both recipient sites was 495 (out of a total of 500 translocated plants), representing a 99% survivorship. This meets to the performance management benchmark set for the end of the second year after translocation was > 85% survivorship (minimum 412 plants).

Monitoring results and plant survivorship suggests that both populations are healthy and well managed.

1.0 Introduction

AECOM was initially engaged by the Level Crossing Removal Project (LXRP) to conduct monitoring and prepare an Annual Summary Report detailing the translocation, nursery, and monitoring operations of Matted Flax-lily (MFL) *Dianella amoena* as part of the Mernda Rail Extension Project (the Project). Since October 2020, the Project has formally transferred from LXRP to the Department of Transport (DoT).

The MFL were translocated to two recipient sites, Quarry Hills Park (QHP) and Plenty Gorge Parklands (PGP), as a condition of approval no. 2016/7674 under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for the Mernda Rail Extension Project. This Annual Summary Report is a requirement of the Matted Flax-lily Translocation Plan required as part of approval no. 2016/7674 (AECOM-GHD 2020a – Revision 9).

1.1 Purpose and scope of this report

The report documents the results of the implementation of management and monitoring actions undertaken in relation to the translocated MFL, and the condition of those populations for the period of 4 April 2020 to 3 April 2021. The scope of the report includes:

- Information on conditions at both the recipient sites and the nursery
- Discussion of the survivorship and growth of the plants
- An assessment of the status of the translocation program relative to the established performance benchmarks
- Discussion of occurring or potential threats or management issues and any maintenance or corrective actions taken or proposed
- Rainfall and watering data
- Monitoring forms for each monitoring event
- Quarterly/biannual or yearly photos taken from each established photo point.

1.2 Assumptions and limitations

The following assumptions and limitations apply to the operations outlined in this report:

- It is assumed from conversations with ABZECO (nursery managers) that 250 individuals were translocated into each recipient site in July/August 2019.
- The locations of MFL provided in Appendix A have accuracies of sub-1m (Quarry Hills Park) and <5m (Plenty Gorge Parklands) respectively. Quarry Hills Park required the use of a sub-1m DGPS unit due to the random nature of planting and to allow the monitoring team to re-locate any MFL that had potentially been missed. The <5m accuracy at Plenty Gorge Parklands was suitable as they are planted in clear clusters, making them easy to re-locate.

1.3 Site background

This section provides a brief summary of salvage, nursery and translocation operations to date. More information is provided in the Salvage, Translocation and Monitoring Report (AECOM-GHD JV 2020b) in Appendix C (MFL 2020 Nursery Audit):

- MFLs were salvaged from within the construction footprint of the Mernda Rail Extension Project with the majority of the salvage occurring between 4 and 6 April 2017, with further salvage required on 18 April 2017. The total number of salvaged plants was 121.
- During nursery operations, excess salvaged MFL material of mixed progeny was potted and cloned, resulting in a total number of 125 individual MFL (ABZECO 2020). Each plant was cloned six times, resulting in 750 plants (AECOM-GHD JV 2019). Nursery audits have been

conducted by qualified botanists in May 2017, October 2018, April 2019 and April 2020. Further details of the 2020 audit are provided in Section 2.1 and Appendix C

- Translocation to the two recipient sites, QHP and PGP, was carried out on 23 July 2019 and 30 July 2019 respectively. 250 MFL were translocated at each recipient site (500 pots in total).

1.4 Method

Monitoring activities followed the method set out in Section 7.4 of the Translocation Plan (AECOM-GHD JV 2020a - Revision 9). City of Whittlesea (Sophie Barker pers. comm., 2020/2021) provided information regarding management actions undertaken for both recipient sites for the reporting period.

Monitoring schedule

During the reporting period, 4 April 2020 to 3 April 2021, six monitoring events were conducted as per the modified monitoring timeline set out in the Translocation Plan (AECOM-GHD JV, 2020a - Revision 9), and these are listed below. Raw monitoring sheets are provided in Appendix B.

- 08 April 2020
- 6 May 2020
- 10 June 2020
- 8 July 2020
- 5 November 2020
- 14 January 2021

Monitoring methodology

Monitoring activities followed the method set out in Section 7.4 of the Translocation Plan (AECOM-GHD JV 2020a – Revision 9). Additional notes around methodology used for the growth and condition monitoring quadrats and total population counts are provided below.

Annual growth and condition monitoring quadrats

For the growth and condition monitoring quadrats, the following parameters were used, and modifications made to the original monitoring sheet provided in the Translocation Plan (AECOM-GHD JV 2020a – Revision 9). These are noted for consistency between future annual monitoring events:

- All measurements were taken in mm
- ‘No. shoots’ was removed and replaced by ‘No. leaves/shoots’ with a range where: 1 = 0 - <5 shoots; 2 = 5 – 10 shoots; 3 = >10 shoots
- ‘Buds’ were removed as it was felt that it overlapped with ‘Flowering (1 - 3)’

All other parameters remain the same.

Total population count

Several measures were taken to improve the chances of re-locating MFL at each site including:

- Placing wooden stakes next to MFL that did not have one
- Using marker spray paint to mark the induvial stake of each MFL to indicate which MFL had been counted
- The use of a DGPS with sub 1 m accuracy at Quarry Hills Park to mark the locations of each MFL
- Carrying paper maps with MFL locations marked in the field.

The DGPS was required at Quarry Hills Park due to the random nature of planting and allowed for individual plants to be found if they had been missed. During the total population count, each plant was marked as either ‘Alive’, ‘Stressed’, or ‘Dead’.

2.0 Results

2.1 Summary

Monitoring of the translocated MFL identified a survival rate of 99% (495 of 500) across both sites indicating that the plants are healthy and well managed. No replacement planting is required.

This section summarises the results of the monitoring during the reporting period. Raw field data sheets are provided in Appendix B.

2.2 Nursery conditions

During the reporting period one nursery audit was undertaken by qualified AECOM botanists at the ABZECO nursery in Research, Victoria.

The audit, undertaken on the 7 April 2020, found that all criteria within the translocation plan were being met and that the MFL were observed to be in a healthy condition and well managed. Specifically, the audit identified that:

- 250 pots of live, healthy MFL representing the required number of clones were observed.
- Individuals were clearly labelled and potted in appropriate pots and potting medium, and
- No diseased individuals were observed.

The full audit report for 2020 is provided in Appendix C.

2.3 Site conditions potential threats and management issues

2.3.1 Quarry Hills Park

The translocation area totals 0.42 ha and is fenced by a chain wire mesh exclusion fence with horizontal skirt at base to exclude kangaroos, hares, and rabbits. Monitoring has re-located 246 individuals planted in a rough, unevenly spaced, grid-like pattern; however, it is assumed 250 individuals in total were planted (Section 1.2). Locations of monitoring quadrats and photo monitoring points are provided in Figure 1 Appendix A.

The site is in good condition and is well managed, with relatively minor management issues identified during the course of the monitoring including:

- The eastern end appears to be drier than the remainder of the site and it is here where the majority of the ‘Stressed’ individuals are, although none have so far died.
- Sweet Vernal-grass *Anthoxanthum odoratum,* Yorkshire Fog *Holcus lanatus* and Toowoomba Canary-grass *Phalaris aquatica* have at times been smothering MFL. Spraying and brush cutting activities have appeared to have targeted these species when they have become problematic.
- A small number of Sweet Briar seedlings were identified on site for control and have since been managed.

A summary of management actions required by the Translocation Plan (Rev 9), excluding watering, have been included in Table 1. Management actions, such as weed control is undertaken by a contractor engaged by City of Whittlesea.

Table 1 Management actions undertaken at Quarry Hills Park

Date	Management action	Notes
April 2020 – June 2020	Weed control – Brush cutting, spot-spraying, hand weeding	Control of grassy, herbaceous and woody weeds within the site, with a focus on reducing their density and biomass to give the planting the best chance of success.

Date	Management action	Notes
July 2020 – December 2020	Weed control – Brush cutting, spot-spraying, hand weeding	Targeted weed control of perennial grasses, herbaceous weeds and woody weeds. Biomass reduction through hand weeding to minimise competition around each MFL within 30cm of each plant, brush cutting and spraying further than 30cm.
February 2021	Weed control – Brush cutting, Knapsack spraying, hand weeding	Weed control undertaken at Quarry Hills Park
March 2021	Weed control – Hand weeding	Weed control undertaken at Quarry Hills Park

The key issues impacting the Quarry Hills Park recipient site, identified above, are dryness impacting a small number of plants in the eastern portion of the site, and grassy and shrubby weeds smothering MFL. Management has generally been well targeted to address these issues and resulted in a high survivorship at the site (Section 2.4).

2.3.2 Plenty Gorge Parklands

The translocation area totals 0.42 ha and is fenced by a chain wire mesh exclusion fence with horizontal skirt at base to exclude kangaroos, hares and rabbits. Monitoring has re-located 249 individuals planted in 43 clusters consisting of between four and seven plants; however, it is assumed 250 individuals in total were planted (Section 1.2).

The site is in good condition and is well managed with relatively minor management issues. The main change to the site is the removal of the green shade cloth as it continues to rip and was deemed not effective in excluding weeds seeds.

A summary of management actions (excluding watering) undertaken during the monitoring period have been included in Table 2.

Table 2 Management actions undertaken at Plenty Gorge Parklands

Date	Management action	Note
March 2020 – June 30 2020	Weed control – Brush cutting, spot-spraying, hand weeding	Control of invasive grass and herbaceous weeds with a focus on controlling Chilean Needle Grass *Nassella neesiana* and preventing seed drop.
July 2020 – December 2020	Weed control – Brush cutting, spot-spraying, hand weeding	Weed control around MFL, including hand weeding, brush cutting and selective spot-spraying (not within 30cm of each MFL plant). General weed control across the entire site in preparation for supplementary direct seeding. Repairs to green shade cloth along fence.
January 2021-March 2021	Weed control – Brush cutting, knapsack spraying, hand weeding Green shade cloth removal Installation of 500 locally indigenous tubestock	Fortnightly maintenance undertaken including hand weeding around MFL, brush cutting red gum regeneration and other exotic growth, knapsack spot-spraying of broadleaf weeds and exotic grasses with selective herbicides.

Date	Management action	Note
		Ripped green shade cloth along boundary fence has been removed as it was deemed not effective in excluding weeds seeds. Installation of 500 locally indigenous tubestock as per Translocation Management Plan Rev. 9.

The key issue impacting the Plenty Gorge Parklands recipient site, identified above, are grassy and broadleaf weeds. Management has generally been well targeted to address these issues and has resulted in a high survivorship at the site (Section 2.4).

2.4 Survivorship and growth of plants

2.4.1 Total population count

Total population counts were undertaken six times during the reporting period in May 2020, June 2020, July 2020, November 2020 and January 2021. Individual plants were recorded as either 'Alive, 'Stressed' or 'Dead'. In each monitoring event:

- At Quarry Hills Park, 246 plants were re-located and alive, 4 plants were not re-located and considered dead, and between 0 and 5 plants were stressed during each monitoring event.
- At Plenty Gorge Parklands, 249 plants were re-located and alive, 1 plant was not re-located and considered dead, and between 0 and 1 plants were stressed during each monitoring event.

Table 3 Summary of total population count data at both sites.

Population health (%)	Monitoring Event					
	April 2020	May 2020	June 2020	July 2020	November 2020	January 2021
Quarry Hills Park						
Alive	98.4% (*n* = 246)	98.4% (*n* = 246)	98.4% (*n* = 246)	98.4% (*n* = 246)	98.4% (*n* = 246)	98.4% (*n* = 246)
Alive, but stressed	0.81% (*n* = 2)	1.63% (*n* = 4)	0.41% (*n* = 1)	0.00% (*n* = 0)	1.63% (*n* = 4)	2.03% (*n* = 5)
Dead	1.6% (*n* = 4)	1.6% (*n* = 4)	1.6% (*n* = 4)	1.6% (*n* = 4)	1.6% (*n* = 4)	1.6% (*n* = 4)
Plenty Gorge Parklands						
Alive	99.6 (*n* = 249)	99.6 (*n* = 249)	99.6 (*n* = 249)	99.6 (*n* = 249)	99.6 (*n* = 249)	99.6 (*n* = 249)
Alive, but stressed	0.00 (*n* = 0)	0.00 (*n* = 0)	0.40 (*n* = 1)	0.00 (*n* = 0)	0.00 (*n* = 0)	0.40 (*n* = 1)
Dead	0.4 (*n* = 1)	0.4 (*n* = 1)	0.4 (*n* = 1)	0.4 (*n* = 1)	0.4 (*n* = 1)	0.4 (*n* = 1)

2.4.2 Annual growth and condition monitoring

Annual quadrat monitoring for growth and condition was undertaken once during the reporting period in January 2021, as per the requirements of Section 7.4 of the Translocation Plan (AECOM-GHD JV 2020a – Revision 9).

A summary of average annual growth and condition data for the quadrats at each site is provided in Table 4 and raw data is provided in Appendix B.

The next annual quadrat monitoring event is due to occur in January 2022.

Table 4 Summary of average annual growth and condition monitoring at both sites.

Quadrat no.	Cover abundance (%)	Plant basal diameter (mm)	Max Leaf Length (mm) - height	No. leaves/shoots	Flowering?	Height (mm)	Number of flowers per plant	Number of fruits per plant	Herbivory	Water Stress	Weed encroachment / competition
Quarry Hills Park											
Year 1 (2019-2020)											
Quadrat 1	20	810	392	10+	Yes	650	5-10	5-10	No	Yes	No
Quadrat 2	14	670	393	10+	Yes	607	10+	10+	No	Yes	No
Quadrat 3	15	700	383	10+	Yes	708	10+	5-10	No	No	No
Quadrat 4	2	410	290	0 - <5	Yes	583	0 - <5	0 - <5	No	Yes	No
Year 2 (2020-2021)											
Quadrat 1	23	973	507	10+	No	1013	5-10	5-10	No	No	No
Quadrat 2	17	797	353	10+	No	690	10+	10+	No	No	No
Quadrat 3	20	1085	498	10+	No	693	5-10	10+	No	No	Yes
Quadrat 4	2	585	240	5-10	No	690	5-10	0 - <5	No	Yes	No
Plenty Gorge Parkland											
Year 1 (2019-2020)											
Quadrat 1	19	739	370	10+	Yes	476	10+	10+	No	No	No
Quadrat 2	17	803	358.4	10+	Yes	627	10+	5-10	No	Yes	No
Quadrat 3	12	484	331	10+	Yes	606	5-10	5-10	No	Yes	No
Quadrat 4	12	510	321	5-10	Yes	586	5-10	0 - <5	No	Yes	No
Year 2 (2020-2021)											
Quadrat 1	28	958	512	10+	No	873	10+	5-10	No	No	No
Quadrat 2	29	1206	590	10+	No	922	10+	5-10	No	No	No

Quadrat no.	Cover abundance (%)	Plant basal diameter (mm)	Max Leaf Length (mm) - height	No. leaves/shoots	Flowering?	Height (mm)	Number of flowers per plant	Number of fruits per plant	Herbivory	Water Stress	Weed encroachment / competition
Quarry Hills Park											
Quadrat 3	18	1073	468	10+	No	867	10+	5-10	No	No	No
Quadrat 4	18	933	468	10+	No	942	0 - <5	0 - <5	No	No	No

2.5 Assessment against performance benchmarks

Across both sites, 99% (or 495 of 500) of translocated MFLs are surviving, with:

- 246 at Quarry Hills Park; and
- 249 at Plenty Gorge Parklands.

These survival rates meet a performance standard of 85% (or 412 of 500), as defined in Section 7.2 of the Translocation Plan (AECOM-GHD JV 2020a – Revision 9).

Therefore, no replanting is required, and the project will continue to monitor the survivorship of MFL at both sites against the benchmark criteria.

2.6 Rainfall and watering data

Suggested watering frequency from the Translocation Plan (AECOM-GHD JV 2020a – Revision 9) was based around the time between 'significant rainfall events', i.e. where ≥20 mm of rainfall was received within a 24-hour period. Rainfall data was collected from Yan Yean weather station, located approximately 4.5km from the recipient sites. Dates where rainfall was ≥20 mm include:

- 30th April 2020
- 24th October 2020
- 23rd November 2020
- 26th January 2021
- 30th January 2021

Table 5 summarises the watering requirements for the translocated MFL outlined in Section 5.1 of the Translocation Plan (AECOM-GHD JV 2020a – Revision 9), dates of watering events carried out for each site, and any additional notes.

Table 5 Watering log for Quarry Hills Park and Plenty Gorge Parklands

Watering Date	Months after translocation / period between significant rainfall events that will trigger watering	Actual watering frequency	Notes
April 2020	9-21 / 1-2 months	N/A	No watering occurred during this period, as it was considered necessary due to adequate rainfall.
May 2020	9-21 / 1-2 months		
June 2020	9-21 / 1-2 months		
July 2020	9-21 / 1-2 months		
August 2020	9-21 / 1-2 months		
September 2020	9-21 / 1-2 months		
October 2020	9-21 / 1-2 months		
November 2020	9-21 / 1-2 months		
31 December 2020	9-21 / 1-2 months	1 week	
11 January 2021	9-21 / 1-2 months	1 week	
20 January 2021	9-21 / 1-2 months	1 week	
25 January 2021	9-21 / 1-2 months	1 weeks	
9 February 2021	9-21 / 1-2 months	2 weeks	
16 February 2021	9-21 / 1-2 months	1 week	

Watering Date	Months after translocation / period between significant rainfall events that will trigger watering	Actual watering frequency	Notes
5 March 2021	9-21 / 1-2 months	2 weeks	
18 March 2021	9-21 / 1-2 months	2 weeks	

2.7 Quarterly photo monitoring

During the reporting period, quarterly monitoring photos at both sites were taken in May 2020, July 2020 and January 2021. These photos are provided in Plates 1 to 27, and locations of the photo monitoring points are provided in Appendix A.

Plate 1 Quarry Hills Park Photo Monitoring Point 1 – May 2020

Plate 2 Quarry Hills Park Photo Monitoring Point 1 - July 2020

Plate 3 Quarry Hills Park Photo Monitoring Point 1 – January 2021

Plate 4 Quarry Hills Park Photo Monitoring Point 2 – May 2020

Plate 5 Quarry Hills Park Photo Monitoring Point 2 – July 2020

Plate 6 Quarry Hills Park Photo Monitoring Point 2 – January 2021

Plate 7 Quarry Hills Park Photo Monitoring Point 3 – May 2020

Plate 8 Quarry Hills Park Photo Monitoring Point 3 – July 2020

Plate 9 Quarry Hills Park Photo Monitoring Point 3 – January 2021

Plate 10 Quarry Hills Park Photo Monitoring Point 4 – May 2020

Plate 11 Quarry Hills Park Photo Monitoring Point 4 – July 2020

Plate 12 Quarry Hills Park Photo Monitoring Point Monitoring Point 4 – January 2021

Plate 13 Plenty Gorge Parklands Photo Monitoring Point 1 – May 2020

Plate 14 Plenty Gorge Parklands Photo Monitoring Point 1 – July 2020

Plate 15 Plenty Gorge Parklands Photo Monitoring Point 1 – January 2021

Plate 16 Plenty Gorge Parklands Photo Monitoring Point 2 – May 2020

Plate 17 Plenty Gorge Parklands Photo Monitoring Point 2 – July 2020

Plate 18 Plenty Gorge Parklands Photo Monitoring Point 2 – January 2021

Plate 19 Plenty Gorge Parklands Photo Monitoring Point 3 – May 2020

Plate 20 Plenty Gorge Parklands Photo Monitoring Point 3 – July 2020

Plate 21 Plenty Gorge Parklands Photo Monitoring Point 3 – January 2021

Plate 22 Plenty Gorge Parklands Photo Monitoring Point 4 – May 2020

Plate 23 Plenty Gorge Parklands Photo Monitoring Point 4 – July 2020

Plate 24 Plenty Gorge Parklands Photo Monitoring Point 4 – January 2021

Plate 25 Plenty Gorge Parklands Photo Monitoring Point 5 – May 2020

Plate 26 Plenty Gorge Parklands Photo Monitoring Point 5 – July 2020

Plate 27 Plenty Gorge Parklands Photo Monitoring Point 5 – January 2021

3.0 Conclusion

The survival rates of translocated MFLs at 99% (or 495 of 500) meet the performance standard of 85% (or 412 of 500), as defined in Section 7.2 of the Translocation Plan (AECOM-GHD JV 2020a – Revision 9). Therefore, no additional replanting is required.

4.0 Next steps

Monitoring continues as per the schedule in Sections 6.1.3 and 6.2.3 of the Translocation Plan (AECOM-GHD JV 2020a – Revision 9).

The next Annual Monitoring Report will document results for monitoring events undertaken between 4 April 2021 and 3 April 2022.

5.0 References

AECOM-GHD JV. 2019. Matted Flax Lily Nursery Audit. Memo prepared for the Level Crossing Removal Project, April 2020.

AECOM-GHD JV. 2020a. Mernda Rail Extension Project: EPBC 2016/7674 Matted Flax-lily Translocation Plan Rev 9. Report prepared for the Level Crossing Removal Project, May 2020.

AECOM-GHD JV. 2020b. Salvage, Propagation and Translocation Summary Report - Matted Flax-lily. Report prepared for the Level Crossing Removal Project, March 2020.

Bureau of Meteorology 2021. Yan Yean Weather Station – Daily Rainfall. Australian Government Bureau of Meteorology. Accessed 24/05/2021. http://www.bom.gov.au/climate/data/stations/.

EP. 2010. Translocation and Management Plan for Matted Flax-lily Dianella amoena, South Morang Rail Extension, South Morang, Victoria. Prepared for Department of Transportation, February 2010.

Appendix A

Figures

PMP1

Quadrat 1

PMP2

Quadrat 2

Quadrat 3

PMP5

Quadrat 4

PMP3

PMP4

Legend

- MFL
- Monitoring Quadrat
- Photo Monitoring Points
- Recipient Site

Quarry Hills Park
Recipient Site

Figure 1

LEVEL CROSSING REMOVAL PROJECT

AECOM GHD JOINT VENTURE

0 3.75 7.5 15
Metres

N

Paper Size A3

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

Data source: Data Custodian, Data Set Name/Title, Version/Date. Created by:prachi.kulkarni1

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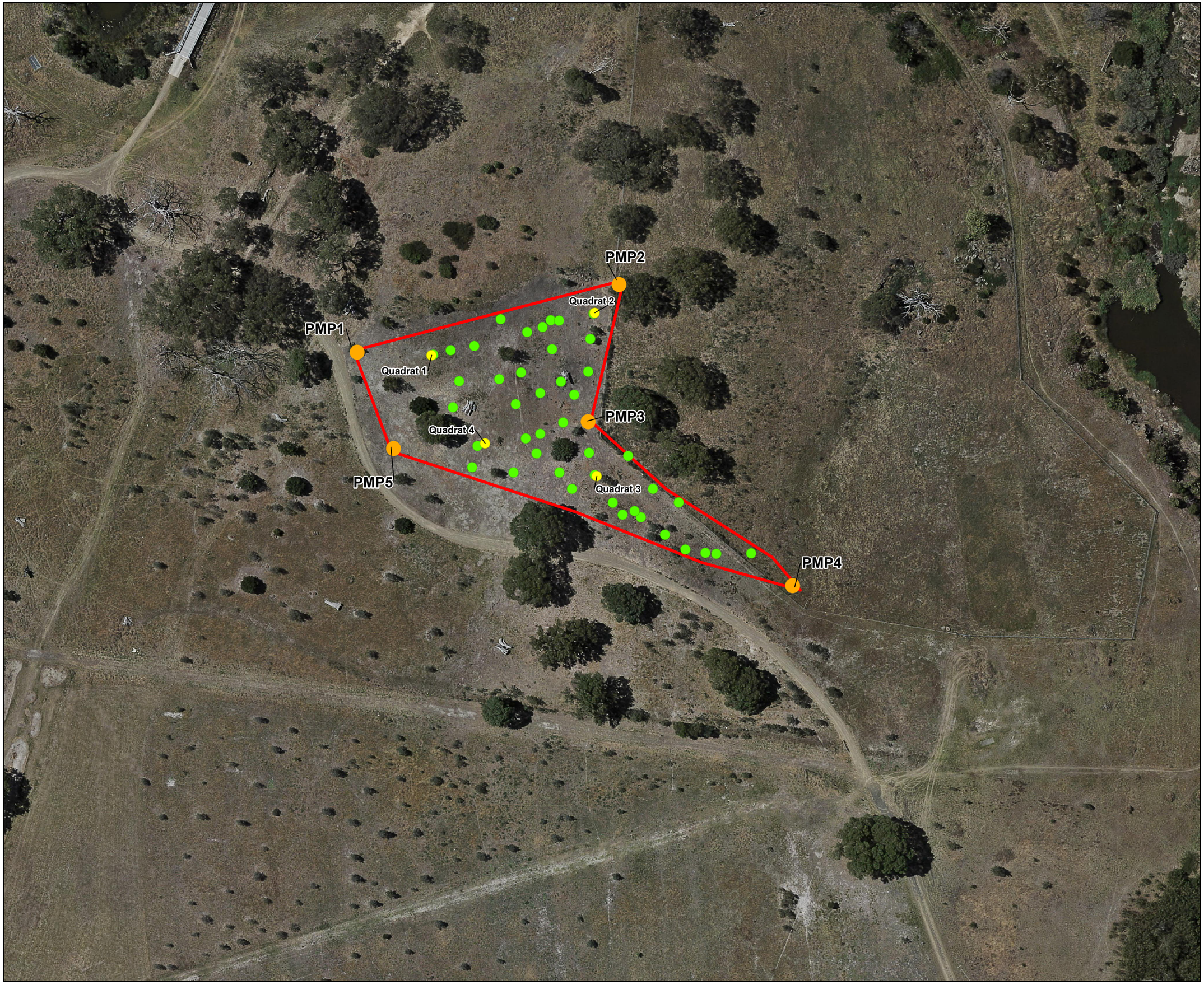

Legend

- Monitoring Quadrat
- Matted Flax-lily Cluster
- Photo Monitoring Points
- Recipient Site

Plenty Gorge Parklands Recipient Site

Figure 2

LEVEL CROSSING REMOVAL PROJECT

AECOM GHD JOINT VENTURE

0 5 10 20
Metres

N

Paper Size A3

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

Data source: Data Custodian, Data Set Name/Title, Version/Date. Created by:prachi.kulkarni1

X:\Project Data\PRGM\GIS\MXD\Mernda\ECOLOGY\20191219_Mernda_Ecology\F3_Plenty_Gorge_Parklands.mxd | prachi.kulkarni1 | Rev A | Date: 17 Feb 2020

Appendix B

Raw field data sheets

Appendix B Raw field data sheets

Quarry Hills Park: Population Total Count					
Date:	8/4/2020				
Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
001-001	L		028-002	L	
001-002	L		029-002	L	
002-001	L		030-001	L	
002-002	L		030-002	L	
003-001	L		031-001	L	
003-002	L		031-002	L	
004-001	L		032-001	L	
004-002	L		032-002	L	
005-001	L		033-001	L	
005-002	L		033-002	L	
006-001	L		034-001	L	
006-002	L		034-002	L	
007-001	L		035-001	L	
007-002	L		035-002	L	
008-001	L		036-001	L	
008-002	L		036-002	L	
009-001	L		037-001	L	
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026-002	L		055-001	L	
027-001	L		055-002	L	
027-002	L		056-001	L	
028-001	L		056-002	L	

Might be 2x 080-001

Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
057-001	L		087-001	L	
057-002	L		087-002	L	
058-001	L		088-001	L	
058-002	L		088-002	L	
059-001	L		089-002	L	
059-002	L		090-001	L	
060-001	L		090-002	L	
060-002	L		091-001	L	
061-001	L		091-002	L	
061-002	L		092-001	L	
062-001	L		092-002	L	
062-002	L		093-001	L	
063-001	L		093-002	L	
063-002	L		094-001	L	
064-001	L		094-002	L	
064-002	L		095-001	L	
065-001	L		095-002	L	
065-002	L		096-001	L	
066-001	L		096-002	L	
066-002	L		097-001	L	
067-001	L		097-002	L	
067-002	L		098-001	L	
068-001	L		098-002	L	
068-002	L		099-001	L	
069-001	L		099-002	L	
069-002	L		100-001	L	
070-001	L		100-002	L	Doesn't have stake - Need millet for m
070-002	L		101-001	L	Check for burrowing - Burrow covered stake
071-001	L		101-002	L	Dead
071-002	L		102-001	L	
072-002	L		102-002	L	
073-001	L		103-001	L	
073-003	L		103-002	L	
074-001	L		104-001	L	
074-002	L		104-002	L	
075-001	L		105-001	L	
075-002	L		105-002	L	
076-002	L		106-001	L	
076-003	L		106-002	L	
077-001	L		107-001	L	
077-002	L		107-002	L	
078-001	L		108-001	L	
078-002	L		108-002	L	
079-001	L		109-001	L	
079-002	L		109-002	L	
080-001	L		110-001	L	
080-002	L		110-002	L	
081-001	L		111-001	L	
081-002	L		111-002	L	
082-001	L		112-001	L	
082-002	L		112-003	L	
083-001	L		113-001	L	
083-002	L		113-002	L	
084-001	L		114-001	L	
084-002	L		114-002	L	
085-001	L		115-001	L	
085-002	L		115-002	L	
086-001	L		116-001	L	
086-002	L		116-002	L	

Add date field

8/4/2020

Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
117-001	L				
117-002	L				
118-001	L				
119-001	L				
119-002	L				
120-001	L				
120-002	L				
121-001	L				
122-001	L				
122-002	L				
123-001	L				
123-002	L				
124-001	L				
124-002	L				
125-001	L				
125-002	L				

Plenty Gorge Parklands: Population Total Count

Date: 8/4/2020

Cluster ID	Plant ID	Live/Dead	Notes	Cluster ID	Plant ID	Live/Dead	Notes
1	002-003	L		12	040-004	L	
1	001-003	L		12	019-004	L	
1	001-004	L		12	045-003	L	
1	002-004	L		13	025-003	L	
1	003-004	L		13	026-004	L	
1	033-004	L		13	033-003	L	
2	004-003	L		13	037-003	L	
2	004-004	L		13	042-003	L	
2	005-004	L		13	071-003	L	
2	006-003	L		14	003-003	L	
2	006-004	L		14	040-003	L	
2	026-003	L		14	041-003	L	
3	007-003	L		14	044-003	L	
3	007-004	L		14	055-003	L	
3	008-003	L		14	055-004	L	
3	008-004	L		15	005-003	L	
3	009-003	L		15	024-003	L	
3	009-004	L		15	028-004	L	
4	010-001	L		15	029-003	L	
4	010-004	L		15	029-004	L	
4	011-003	L		16	025-004	L	
4	011-004	L		16	031-004	L	
4	012-004	L		16	049-003	L	
4	043-004	L		16	050-003	L	
5	012-003	L		16	051-004	L	
5	013-004	L		17	046-003	L	
5	014-003	L		17	050-004	L	
5	063-003	L		17	060-003	L	
5	073-004	L		17	064-003	L	
5	080-003	L		17	070-004	L	
6	016-004	L		17	101-003	L	
6	017-003	L		18	046-004	L	
6	017-004	L		18	051-003	L	
6	018-003	L		18	052-004	L	
6	018-004	L		18	054-003	L	
6	048-003	L		18	058-003	L	
7	019-003	L		18	058-004	L	
7	020-003	L		19	081-003	L	
7	020-004	L		19	081-004	L	
7	021-003	L		19	083-004	L	
7	021-004	L		19	087-004	L	
7	041-004	L		19	093-003	L	
8	013-003	L		19	102-003	L	
8	015-004	L		20	065-003		change to 065-003 - plant order
8	022-003	L		20	057-003	L	
8	022-004	L		20	057-004	L	~~065-003~~
8	023-003	L		20	065-004	L	
8	023-004	L		20	066-003	L	
9	015-003	L		20	066-004	L	
9	024-004	L		21	028-003	L	
9	027-003	L		21	031-003	L	
9	027-004	L		21	032-003	L	
9	044-004	L		21	035-004	L	
10	012-004	L	Cockatoos - looks fine	21	037-004	L	
10	014-004	L		21	038-003	L	
10	043-003	L		22	053-003	L	
10	059-004	L		22	056-003	L	
10	096-004	L		22	062-003	L	
11	047-003	L		22	062-004	L	
11	049-004	L		22	104-004	L	
11	052-003	L		23	059-003		
11	053-004	L		23	060-004		
11	103-003	L		23	061-004		
11	114-004	L		23	063-004		
12	016-003	L		23	064-004		
12	042-004	L		23	073-002		
12	045-004	L		24	086-004	L	
12	048-004	L		24	084-003	L	

update

061-003 add. Not to 112-004

Put in order

Check w/ CoW about recent plantings - new spikey shrubs.

update order

Cluster ID	Plant ID	Live/Dead	Notes	Cluster ID	Plant ID	Live/Dead	Notes
24	104-003	L		36	015-003	L	update to 115-003 & update order
24	084-004	L		36	085-003	L	
24	101-004	L		37	108-003	L	
24	102-004	L		37	109-003	L	
25	076-001	L		37	109-004	L	
25	079-004	L		37	110-004	L	
25	085-004	L		37	113-004	L	
25	089-004	L		37	114-003	L	
26	088-003	L		38	067-003	L	
26	088-004	L		38	069-003	L	
26	099-004	L		38	072-003	L	
26	100-003	L		38	077-004	L	
26	110-003	L		38	080-004	L	
26	111-003	L		38	103-004	L	
27	093-004	L		39	067-004	L	
27	094-004	L		39	068-003	L	
27	095-003	L		39	068-004	L	
27	095-004	L		39	074-003	L	
27	106-003	L		39	078-003	L	
27	106-004	L		40	034-003	L	
28	016-004	L		40	034-004	L	
28	117-003	L		40	035-003	L	
28	117-004	L		40	036-004	L	
28	118-003	L		40	038-004	L	
28	122-004	L		41	030-003	L	
28	123-004	L		41	030-004	L	
29	121-004	L		41	036-003	L	
29	123-003	L		41	039-003	L	
29	124-003	L		41	054-004	L	
29	124-004	L		41	056-004	L	
29	125-003	L		42	069-004	L	
29	125-004	L		42	070-003	L	
30	108-004	L		42	074-004	L	
30	119-004	L		42	075-003	L	
30	120-003	L		42	075-004	L	
30	120-004	L		42	078-004	L	
30	121-003	L		43	032-004	L	
30	122-003	L		43	039-004	L	
31	107-003	L		43	047-004	L	
31	107-004	L		43	071-004	L	
31	111-004	L		43	076-004	L	
31	112-002	L		43	079-003	L	
31	113-003	L					
31	119-003	L					
32	072-004	L					
32	097-004	L					
32	105-003	L					
32	105-004	L					
33	098-003	L					
33	098-004	L					
33	099-003	L					
33	100-004	L					
33	116-003	L					
33	118-004	L					
34	089-003	L					
34	091-004	L					
34	092-003	L					
34	092-004	L					
34	094-003	L					
34	096-003	L					
35	086-003	L					
35	087-003	L					
35	090-003	L					
35	090-004	L					
35	091-003	L					
35	097-003	L					
36	082-003	L					
36	082-004	L					
36	083-003	L					
36	115-004	L					

Quarry Hills Park: Population Total Count					
Date:	6/5/2020				
Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
001-001	L		029-002	L	
001-002	L		030-001	L	
002-001	L		030-002	L	
002-002	L		031-001	L	
003-001	L		031-002	L	
003-002	L		032-001	L	
004-001	L		032-002	L	
004-002	L		033-001	L	
005-001	L		033-002	L	
005-002	L	Shrunk.	034-001	L	
006-001	L		034-002	L	
006-002	L		035-001	L	
007-001	L		035-002	L	
007-002	L		036-001	L	
008-001	L		036-002	L	
008-002	L		037-001	L	
009-001	L		037-002	L	
009-002	L		038-001	L	
010-002	L		038-002	L	
010-003	L		039-001	L	
011-001	L		039-002	L	
011-002	L		040-001	L	
012-001	L		040-002	L	
012-002	L		041-001	L	
013-001	L		041-002	L	
013-002	L		042-001	L	
014-001	L		042-002	L	
014-002	L		043-001	L	
015-001	L		043-002	L	
015-002	L		044-001	L	
016-001	L		044-002	L	
016-002	L		045-001	L	
017-001	L		045-002	L	
017-002	L		046-001	L	
018-001	L		046-002	L	
018-002	L		047-001	L	
019-001	L		047-002	L	
019-002	L		048-001	L	
020-001	L		048-002	L	
020-002	L		049-001	L	
021-001	L		049-002	L	
021-002	L		050-001	L	
022-001	L		050-002	L	
022-002	L		051-001	L	
023-001	L		051-002	L	
023-002	L		052-001	L	
024-001	L		052-002	L	
024-002	L		053-001	L	
025-001	L		053-002	L	
025-002	L		054-001	L	
026-001	L		054-002	L	
026-002	L		055-001	L	
027-001	L		055-002	L	
027-002	L		056-001	L	
028-001	L		056-002	L	
028-002	L		057-001	L	
Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
057-002	L		087-002	L	
058-001	L		088-001	L	

058-002	L		088-002	L	
059-001	L		089-001	L	
059-002	L		089-002	L	
060-001	L		090-001	L	
060-002	L		090-002	L	
061-001	L		091-001	L	
061-002	L		091-002	L	
062-001	L		092-001	L	
062-002	L		092-002	L	
063-001	L		093-001	L	
063-002	L		093-002	L	
064-001	L		094-001	L	
064-002	L		094-002	L	
065-001	L	stunted	095-001	L	
065-002	L	stunted.	095-002	L	
066-001	L		096-001	L	
066-002	L		096-002	L	
067-001	L		097-001	L	
067-002	L		097-002	L	
068-001	L		098-001	L	
068-002	L		098-002	L	
069-001	L		099-001	L	
069-002	L		099-002	L	Stunted. Ant nest.
070-001	L	[redacted]	100-001	L	
070-002	L		100-002	L	
071-001	L		101-001	L	Check for burrowing
071-002	L		101-002	L	
072-002	L	looks like it was stood on while staking	102-001	L	
073-001	L		102-002	L	
073-003	L		103-001	L	
074-001	L		103-002	L	
074-002	L		104-001	L	
075-001	L		104-002	L	
075-002	L		105-001	L	
076-002	L		105-002	L	
076-003	L		106-001	L	
077-001	L		106-002	L	
077-002	L		107-001	L	
078-001	L		107-002	L	
078-002	L		108-001	L	
079-001	L		108-002	L	
079-002	L		109-001	L	
080-001	L		109-002	L	
080-002	L		110-001	L	
081-001	L		110-002	L	
081-002	L		111-001	L	
082-001	L		111-002	L	
082-002	L		112-001	L	
083-001	L		112-003	L	
083-002	L		113-001	L	
084-001	L		113-002	L	
084-002	L		114-001	L	
085-001	L		114-002	L	
085-002	L		115-001	L	
086-001	L		115-002	L	
086-002	L		116-001	L	
087-001	L		116-002	L	

Quarry Hills Park: Population Total Count					
Date:					
Plant ID	**Live/Dead**	**Notes**	**Plant ID**	**Live/Dead**	**Notes**
117-001	L				
117-002	L				
118-001	L				
119-001	L				

119-002	L				
120-001	L				
120-002	L				
121-001	L				
122-001	L				
122-002	L				
123-001	L				
123-002	L				
124-001	L				
124-002	L				
125-001	L				
125-002	L				

Plenty Gorge Parklands: Population Total Count

Date:	6/5/20

Cluster ID	Plant ID	Live/Dead	Notes	Cluster ID	Plant ID	Live/Dead	Notes
1	001-003	L		12	040-004	L	
1	001-004	L		12	042-004	L	
1	002-003	L		12	045-003	L	
1	002-004	L		12	045-004	L	
1	003-004	L		12	048-004	L	
1	033-004	L		13	025-003	L	
2	004-003	L		13	026-004	L	
2	004-004	L		13	033-003	L	
2	005-004	L		13	037-003	L	
2	006-003	L		13	042-003	L	
2	006-004	L		13	071-003	L	
2	026-003	L		14	003-003	L	
3	007-003	L		14	040-003	L	
3	007-004	L		14	041-003	L	
3	008-003	L		14	044-003	L	
3	008-004	L		14	055-003	L	
3	009-003	L		14	055-004	L	
3	009-004	L		15	005-003	L	
4	010-001	L		15	024-003	L	
4	010-004	L		15	028-004	L	
4	011-003	L		15	029-003	L	
4	011-004	L		15	029-004	L	
4	012-004	L		16	025-004	L	
4	043-004	L		16	031-004	L	
5	012-003	L		16	049-003	L	
5	013-004	L		16	051-004	L	
5	014-003	L		16	050-003	L	
5	063-003	L		17	070-004	L	
5	073-004	L		17	060-003	L	
5	080-003	L		17	064-003	L	
6	016-004	L		17	046-003	L	
6	017-003	L		17	050-004	L	
6	017-004	L		17	101-003	L	
6	018-003	L		18	046-004	L	
6	018-004	L		18	051-003	L	
6	048-003	L		18	052-004	L	
7	019-003	L		18	054-003	L	
7	020-003	L		18	058-003	L	
7	020-004	L		18	058-004	L	
7	021-003	L		19	081-003	L	
7	021-004	L		19	081-004	L	
7	041-004	L		19	083-004	L	
8	013-003	L		19	087-004	L	
8	015-004	L		19	093-003	L	
8	022-003	L		19	102-003	L	
8	022-004	L		20	057-003	L	
8	023-003	L		20	057-004	L	
8	023-004	L		20	065-003	L	
9	015-003	L		20	065-004	L	
9	024-004	L		20	066-003	L	
9	027-003	L		20	066-004	L	
9	027-004	L		21	028-003	L	
9	044-004	L		21	031-003	L	
10	059-004	L	Cockatoos	21	032-003	L	
10	112-004	L		21	035-004	L	
10	061-003	L		21	037-004	L	
10	096-004	L		21	038-003	L	
10	043-003	L		22	053-003	L	
10	014-004	L		22	056-003	L	
11	047-003	L		22	062-003	L	
11	049-004	L		22	062-004	L	
11	052-003	L		22	104-004	L	
11	053-004	L		23	059-003	L	
11	103-003	L		23	060-004	L	
11	114-004	L		23	061-004	L	
12	016-003	L		23	063-004	L	
12	019-004	L		23	064-004	L	

Cluster ID	Plant ID	Live/Dead	Notes	Cluster ID	Plant ID	Live/Dead	Notes
23	073-002	L		35	097-003	L	

24	084-003	L		36	082-003	L	
24	084-004	L		36	082-004	L	
24	086-004	L		36	083-003	L	
24	101-004	L		36	085-003	L	
24	102-004	L		36	115-003	L	
24	104-003	L		36	115-004	L	
25	076-001	L		37	108-003	L	
25	079-004	L		37	109-003	L	
25	085-004	L		37	109-004	L	
25	089-004	L		37	110-004	L	
26	088-003	L		37	113-004	L	
26	088-004	L		37	114-003	L	
26	099-004	L		38	067-003	L	
26	100-003	L		38	069-003	L	
26	110-003	L		38	072-003	L	
26	111-003	L		38	077-004	L	
27	093-004	L		38	080-004	L	
27	094-004	L		38	103-004	L	
27	095-003	L		39	067-004	L	
27	095-004	L		39	068-003	L	
27	106-003	L		39	068-004	L	
27	106-004	L		39	074-003	L	
28	016-004	L		39	078-003	L	
28	117-003	L		40	034-003	L	
28	117-004	L		40	034-004	L	
28	118-003	L		40	035-003	L	
28	122-004	L		40	036-004	L	
28	123-004	L		40	038-004	L	
29	121-004	L		41	030-003	L	
29	123-003	L		41	030-004	L	
29	124-003	L		41	036-003	L	
29	124-004	L		41	039-003	L	
29	125-003	L		41	054-004	L	
29	125-004	L		41	056-004	L	
30	108-004	L		42	069-004	L	
30	119-004	L		42	070-003	L	
30	120-003	L		42	074-004	L	
30	120-004	L		42	075-003	L	
30	121-003	L		42	075-004	L	
30	122-003	L		42	078-004	L	
31	107-003	L		43	032-004	L	
31	107-004	L		43	039-004	L	
31	111-004	L		43	047-004	L	
31	112-002	L		43	071-004	L	
31	113-003	L		43	076-004	L	
31	119-003	L		43	079-003	L	
32	072-004	L					
32	097-004	L					
32	105-003	L					
32	105-004	L					
33	098-003	L					
33	098-004	L					
33	099-003	L					
33	100-004	L					
33	116-003	L					
33	118-004	L					
34	089-003	L					
34	091-004	L					
34	092-003	L					
34	092-004	L					
34	094-003	L					
34	096-003	L					
35	086-003	L					
35	087-003	L					
35	090-003	L					
35	090-004	L					
35	091-003	L					

Quarry Hills Park: Population Total Count

Date: 10/6/2020

Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
001-001	L	Black leaf tips	029-002	L	
001-002	L		030-001	L	
002-001	L		030-002	L	
002-002	L	black leaf tips	031-001	L	
003-001	L		031-002	L	
003-002	L	Black leaf tips	032-001	L	
004-001	L		032-002	L	
004-002	L		033-001	L	
005-001	L		033-002	L	
005-002	L	New shoots emerging (any end of site)	034-001	L	
006-001	L		034-002	L	
006-002	L		035-001	L	
007-001	L	Black leaf tips.	035-002	L	
007-002	L		036-001	L	
008-001	L		036-002	L	
008-002	L		037-001	L	
009-001	L		037-002	L	
009-002	L	Black leaf tips	038-001	L	
010-002	L		038-002	L	
010-003	L		039-001	L	Struggling
011-001	L		039-002	L	
011-002	L		040-001	L	
012-001	L		040-002	L	
012-002	L	stressed	041-001	L	
013-001	L		041-002	L	
013-002	L		042-001	L	
014-001	L		042-002	L	
014-002	L		043-001	L	
015-001	L		043-002	L	
015-002	L		044-001	L	
016-001	L		044-002	L	
016-002	L		045-001	L	
017-001	L		045-002	L	
017-002	L		046-001	L	
018-001	L		046-002	L	
018-002	L		047-001	L	
019-001	L		047-002	L	
019-002	L		048-001	L	
020-001	L		048-002	L	
020-002	L		049-001	L	
021-001	L		049-002	L	
021-002	L		050-001	L	
022-001	L		050-002	L	
022-002	L		051-001	L	
023-001	L		051-002	L	
023-002	L		052-001	L	
024-001	L		052-002	L	
024-002	L		053-001	L	
025-001	L		053-002	L	
025-002	L		054-001	L	
026-001	L		054-002	L	
026-002	L		055-001	L	
027-001	L		055-002	L	
027-002	L		056-001	L	
028-001	L		056-002	L	
028-002	L		057-001	L	

was struggling but new shoots emerging

Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
057-002	L		087-002	L	
058-001	L		088-001	L	
058-002	L		088-002	L	
059-001	L		089-001	L	
059-002	L		089-002	L	
060-001	L		090-001	L	
060-002	L		090-002	L	
061-001	L		091-001	L	
061-002	L		091-002	L	
062-001	L		092-001	L	
062-002	L	Black leaf tips	092-002	L	
063-001	L		093-001	L	
063-002	L		093-002	L	
064-001	L		094-001	L	
064-002	L		094-002	L	
065-001	L		095-001	L	
065-002	L		095-002	L	
066-001	L		096-001	L	
066-002	L		096-002	L	
067-001	L		097-001	L	
067-002	L		097-002	L	
068-001	L		098-001	L	
068-002	L		098-002	L	
069-001	L		099-001	L	
069-002	L		099-002	L	Some herbivory.
070-001	L		100-001	L	
070-002	L	Flowering	100-002	L	
071-001	L		101-001	L	Check for burrowing
071-002	L		101-002	L	
072-002	L	Small, herbivory	102-001	L	
073-001	L		102-002	L	
073-003	L		103-001	L	
074-001	L		103-002	L	
074-002	L		104-001	L	
075-001	L		104-002	L	
075-002	L		105-001	L	
076-002	L		105-002	L	
076-003	L		106-001	L	
077-001	L		106-002	L	
077-002	L		107-001	L	
078-001	L		107-002	L	
078-002	L		108-001	L	
079-001	L		108-002	L	
079-002	L		109-001	L	
080-001	L		109-002	L	
080-002	L		110-001	L	
081-001	L		110-002	L	
081-002	L		111-001	L	
082-001	L		111-002	L	
082-002	L		112-001	L	
083-001	L		112-003	L	Seeds forming
083-002	L		113-001	L	Flowering
084-001	L		113-002	L	
084-002	L		114-001	L	
085-001	L		114-002	L	
085-002	L		115-001	L	
086-001	L	Flowering + seeding	115-002	L	
086-002	L	Flowering	116-001	L	
087-001	L		116-002	L	

089-001?

Quarry Hills Park: Population Total Count					
Date:	10/6/2020				
Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
117-001	L				
117-002	L				
118-001	L				
119-001	L				
119-002	L				
120-001	L				
120-002	L				
121-001	L				
122-001	L				
122-002	L				
123-001	L				
123-002	L				
124-001	L				
124-002	L				
125-001	L				
125-002	L				

Plenty Gorge Parklands: Population Total Count

Date:	10/6/2020

Cluster ID	Plant ID	Live/Dead	Notes
1	001-003	L	
1	001-004	L	
1	002-003	L	
1	002-004	L	Seedling
1	003-004	L	Flowering
1	033-004	L	Flowering + Seeding
2	004-003	L	Flowering
2	004-004	L	
2	005-004	L	Flowering
2	006-003	L	
2	006-004	L	Flowering
2	026-003	L	
3	007-003	L	Flowering
3	007-004	L	Flowering
3	008-003	L	
3	008-004	L	Flowering
3	009-003	L	Flowering
3	009-004	L	
4	010-001	L	
4	010-004	L	
4	011-003	L	
4	011-004	L	
4	012-004	L	
4	043-004	L	
5	012-003	L	
5	013-004	L	Flowering
5	014-003	L	
5	063-003	L	Flowering
5	073-004	L	
5	080-003	L	Flowering
6	016-004	L	
6	017-003	L	Flowering
6	017-004	L	Flowering
6	018-003	L	
6	018-004	L	
6	048-003	L	Flowering
7	019-003	L	
7	020-003	L	
7	020-004	L	1 or 2 flowering
7	021-003	L	
7	021-004	L	
7	041-004	L	
8	013-003	L	
8	015-004	L	Encroached on by Holcus
8	022-003	L	
8	022-004	L	
8	023-003	L	
8	023-004	L	
9	015-003	L	Cluster Flowering
9	024-004	L	
9	027-003	L	
9	027-004	L	
9	044-004	L	
10	059-004	L	Cockatoos
10	112-004	L	
10	061-003	L	
10	096-004	L	
10	043-003	L	
10	014-004	L	
11	047-003	L	Cluster Flowering
11	049-004	L	
11	052-003	L	
11	053-004	L	
11	103-003	L	
11	114-004	L	
12	016-003	L	
12	019-004	L	

Cluster ID	Plant ID	Live/Dead	Notes
12	040-004	L	Cluster Flowering
12	042-004	L	
12	045-003	L	
12	045-004	L	
12	048-004	L	
13	025-003	L	Cluster Flowering
13	026-004	L	
13	033-003	L	
13	037-003	L	
13	042-003	L	
13	071-003	L	
14	003-003	L	Cluster Flowering
14	040-003	L	
14	041-003	L	
14	044-003	L	
14	055-003	L	
14	055-004	L	
15	005-003	L	
15	024-003	L	
15	028-004	L	Encroached by Holcus
15	029-003	L	
15	029-004	L	
16	025-004	L	
16	031-004	L	
16	049-003	L	
16	051-004	L	
16	050-003	L	
17	070-004	L	Cluster Flowering
17	060-003	L	
17	064-003	L	
17	046-003	L	
17	050-004	L	
17	101-003	L	
18	046-004	L	Cluster Flowering
18	051-003	L	
18	052-004	L	
18	054-003	L	
18	058-003	L	
18	058-004	L	
19	081-003	L	
19	081-004	L	
19	083-004	L	
19	087-004	L	
19	093-003	L	
19	102-003	L	
20	057-003	L	
20	057-004	L	
20	065-003	L	
20	065-004	L	
20	066-003	L	
20	066-004	L	
21	028-003	L	Encroached by Holcus
21	031-003	L	
21	032-003	L	Cluster Flowering
21	035-004	L	
21	037-004	L	
21	038-003	L	
22	053-003	L	Cluster Flowering
22	056-003	L	
22	062-003	L	
22	062-004	L	
22	104-004	L	
23	059-003	L	Cluster Flowering
23	060-004	L	
23	061-004	L	
23	063-004	L	
23	064-004	L	

Cluster ID	Plant ID	Live/Dead	Notes
23	073-002	L	
24	084-003	L	
24	084-004	L	
24	086-004	L	Cluster Flowering
24	101-004	L	
24	102-004	L	
24	104-003	L	
25	076-001	L	
25	079-004	L	
25	085-004	L	
25	089-004	L	
26	088-003	L	
26	088-004	L	
26	099-004	L	Cluster Flowering
26	100-003	L	
26	110-003	L	
26	111-003	L	
27	093-004	L	
27	094-004	L	
27	095-003	L	Cluster Flowering
27	095-004	L	
27	106-003	L	
27	106-004	L	
28	016-004	L	
28	117-003	L	
28	117-004	L	Cluster Flowering
28	118-003	L	
28	122-004	L	
28	123-004	L	
29	121-004	L	
29	123-003	L	
29	124-003	L	Cluster Flowering
29	124-004	L	
29	125-003	L	
29	125-004	L	
30	108-004	L	
30	119-004	L	
30	120-003	L	
30	120-004	L	
30	121-003	L	
30	122-003	L	
31	107-003	L	
31	107-004	L	Cluster Flowering
31	111-004	L	
31	112-002	L	
31	113-003	L	
31	119-003	L	
32	072-004	L	
32	097-004	L	Cluster Flowering
32	105-003	L	
32	105-004	L	
33	098-003	L	
33	098-004	L	Cluster Flowering
33	099-003	L	
33	100-004	L	
33	116-003	L	
33	118-004	L	
34	089-003	L	
34	091-004	L	Cluster Flowering
34	092-003	L	
34	092-004	L	
34	094-003	L	
34	096-003	L	
35	086-003	L	
35	087-003	L	Cluster Flowering
35	090-003	L	
35	090-004	L	
35	091-003	L	

Cluster ID	Plant ID	Live/Dead	Notes
35	097-003	L	
36	082-003	L	
36	082-004	L	
36	083-003	L	Cluster Flowering
36	085-003	L	
36	115-003	L	
36	115-004	L	
37	108-003	L	
37	109-003	L	
37	109-004	L	
37	110-004	L	
37	113-004	L	
37	114-003	L	
38	067-003	L	
38	069-003	L	
38	072-003	L	
38	077-004	L	
38	080-004	L	
38	103-004	L	
39	067-004	L	
39	068-003	L	
39	068-004	L	
39	074-003	L	
39	078-003	L	
40	034-003	L	
40	034-004	L	
40	035-003	L	
40	036-004	L	
40	038-004	L	
41	030-003	L	
41	030-004	L	Cluster Flowering
41	036-003	L	
41	039-003	L	
41	054-004	L	
41	056-004	L	
42	069-004	L	
42	070-003	L	
42	074-004	L	Cluster Flowering
42	075-003	L	
42	075-004	L	
42	078-004	L	
43	032-004	L	
43	039-004	L	Cluster Flowering
43	047-004	L	
43	071-004	L	
43	076-004	L	
43	079-003	L	

Quarry Hills Park: Population Total Count					
Date:	8/7/2020				
Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
001-001	L		029-002	L	
001-002	L		030-001	L	
002-001	L		030-002	L	
002-002	L		031-001	L	
003-001	L		031-002	L	
003-002	L		032-001	L	
004-001	L		032-002	L	
004-002	L		033-001	L	
005-001	L		033-002	L	
005-002	L		034-001	L	
006-001	L		034-002	L	
006-002	L		035-001	L	
007-001	L		035-002	L	
007-002	L		036-001	L	
008-001	L		036-002	L	
008-002	L		037-001	L	
009-001	L		037-002	L	
009-002	L		038-001	L	
010-002	L		038-002	L	
010-003	L		039-001	L	
011-001	L		039-002	L	
011-002	L		040-001	L	
012-001	L		040-002	L	
012-002	L		041-001	L	
013-001	L		041-002	L	
013-002	L		042-001	L	
014-001	L		042-002	L	
014-002	L		043-001	L	
015-001	L		043-002	L	
015-002	L		044-001	L	
016-001	L		044-002	L	
016-002	L		045-001	L	
017-001	L		045-002	L	
017-002	L		046-001	L	
018-001	L		046-002	L	
018-002	L		047-001	L	
019-001	L		047-002	L	
019-002	L		048-001	L	
020-001	L		048-002	L	
020-002	L		049-001	L	
021-001	L		049-002	L	
021-002	L		050-001	L	
022-001	L		050-002	L	
022-002	L		051-001	L	
023-001	L		051-002	L	
023-002	L		052-001	L	
024-001	L		052-002	L	
024-002	L		053-001	L	
025-001	L		053-002	L	
025-002	L		054-001	L	
026-001	L		054-002	L	
026-002	L		055-001	L	
027-001	L		055-002	L	
027-002	L		056-001	L	
028-001	L		056-002	L	
028-002	L		057-001	L	

Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
057-002	L		087-002	L	
058-001	L		088-001	L	
058-002	L		088-002	L	
059-001	L		089-001	L	
059-002	L		089-002	L	
060-001	L		090-001	L	
060-002	L		090-002	L	
061-001	L		091-001	L	
061-002	L		091-002	L	
062-001	L		092-001	L	
062-002	L		092-002	L	
063-001	L		093-001	L	
063-002	L		093-002	L	
064-001	L		094-001	L	
064-002	L		094-002	L	
065-001	L		095-001	L	
065-002	L		095-002	L	
066-001	L		096-001	L	
066-002	L		096-002	L	
067-001	L		097-001	L	
067-002	L		097-002	L	
068-001	L		098-001	L	
068-002	L		098-002	L	
069-001	L		099-001	L	
069-002	L		099-002	L	
070-001	L		100-001	L	
070-002	L		100-002	L	
071-001	L		101-001	L	Check for burrowing
071-002	L		101-002	L	
072-002	L		102-001	L	
073-001	L		102-002	L	
073-003	L		103-001	L	
074-001	L		103-002	L	
074-002	L		104-001	L	
075-001	L		104-002	L	
075-002	L		105-001	L	
076-002	L		105-002	L	
076-003	L		106-001	L	
077-001	L		106-002	L	
077-002	L		107-001	L	
078-001	L		107-002	L	
078-002	L		108-001	L	
079-001	L		108-002	L	
079-002	L		109-001	L	
080-001	L		109-002	L	
080-002	L		110-001	L	
081-001	L		110-002	L	
081-002	L		111-001	L	
082-001	L		111-002	L	
082-002	L		112-001	L	
083-001	L		112-003	L	
083-002	L		113-001	L	
084-001	L		113-002	L	
084-002	L		114-001	L	
085-001	L		114-002	L	
085-002	L		115-001	L	
086-001	L		115-002	L	
086-002	L		116-001	L	
087-001	L		116-002	L	

Quarry Hills Park: Population Total Count					
Date:					
Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
117-001	L				
117-002	L				
118-001	L				
119-001	L				
119-002	L				
120-001	L				
120-002	L				
121-001	L				
122-001	L				
122-002	L				
123-001	L				
123-002	L				
124-001	L				
124-002	L				
125-001	L				
125-002	L				

Plenty Gorge Parklands: Population Total Count

Date:	8/7/2020

Cluster ID	Plant ID	Live/Dead	Notes
1	001-003	L	
1	001-004	L	
1	002-003	L	
1	002-004	L	
1	003-004	L	
1	033-004	L	
2	004-003	L	
2	004-004	L	
2	005-004	L	
2	006-003	L	
2	006-004	L	
2	026-003	L	
3	007-003	L	
3	007-004	L	
3	008-003	L	
3	008-004	L	
3	009-003	L	
3	009-004	L	
4	010-001	L	
4	010-004	L	
4	011-003	L	
4	011-004	L	
4	012-004	L	
4	043-004	L	
5	012-003	L	
5	013-004	L	
5	014-003	L	
5	063-003	L	
5	073-004	L	
5	080-003	L	
6	016-004	L	
6	017-003	L	
6	017-004	L	
6	018-003	L	
6	018-004	L	
6	048-003	L	
7	019-003	L	
7	020-003	L	
7	020-004	L	
7	021-003	L	
7	021-004	L	
7	041-004	L	
8	013-003	L	Holcus growing with Blackened leaf dieback
8	015-004	L	
8	022-003	L	
8	022-004	L	
8	023-003	L	
8	023-004	L	
9	015-003	L	
9	024-004	L	
9	027-003	L	
9	027-004	L	
9	044-004	L	
10	014-004	L	
10	043-003	L	
10	059-004	L	Cockatoos
10	061-003	L	
10	096-004	L	
10	112-004	L	
11	047-003	L	
11	049-004	L	
11	052-003	L	
11	053-004	L	
11	103-003	L	
11	114-004	L	
12	016-003	L	
12	019-004	L	
12	040-004	L	
12	042-004	L	
12	045-003	L	
12	045-004	L	
12	048-004	L	
13	025-003	L	
13	026-004	L	
13	033-003	L	
13	037-003	L	
13	042-003	L	
13	071-003	L	
14	003-003	L	
14	040-003	L	
14	041-003	L	
14	044-003	L	
14	055-003	L	
14	055-004	L	
15	005-003	L	
15	024-003	L	
15	028-004	L	- Holcus smothering
15	029-003	L	
15	029-004	L	
16	025-004	L	
16	031-004	L	
16	049-003	L	
16	050-003	L	
16	051-004	L	
17	046-003	L	
17	050-004	L	
17	060-003	L	
17	064-003	L	
17	070-004	L	
17	101-003	L	
18	046-004	L	
18	051-003	L	
18	052-004	L	
18	054-003	L	
18	058-003	L	
18	058-004	L	
19	081-003	L	
19	081-004	L	
19	083-004	L	
19	087-004	L	
19	093-003	L	
19	102-003	L	
20	057-003	L	
20	057-004	L	
20	065-003	L	
20	065-004	L	
20	066-003	L	
20	066-004	L	
21	028-003	L	
21	031-003	L	Plant partially submerged smothered by Holcus.
21	032-003	L	
21	035-004	L	
21	037-004	L	
21	038-003	L	
22	053-003	L	
22	056-003	L	
22	062-003	L	
22	062-004	L	
22	104-004	L	
23	059-003	L	
23	060-004	L	
23	061-004	L	
23	063-004	L	
23	064-004	L	

Cluster ID	Plant ID	Live/Dead	Notes
23	073-002	L	
24	084-003	L	
24	084-004	L	
24	086-004	L	
24	101-004	L	
24	102-004	L	
24	104-003	L	
25	076-001	L	
25	079-004	L	
25	085-004	L	
25	089-004	L	
26	088-003	L	
26	088-004	L	
26	099-004	L	
26	100-003	L	
26	110-003	L	
26	111-003	L	
27	093-004	L	
27	094-004	L	
27	095-003	L	
27	095-004	L	
27	106-003	L	
27	106-004	L	
28	016-004	L	
28	117-003	L	
28	117-004	L	
28	118-003	L	
28	122-004	L	
28	123-004	L	
29	121-004	L	
29	123-003	L	
29	124-003	L	
29	124-004	L	
29	125-003	L	
29	125-004	L	
30	108-004	L	
30	119-004	L	
30	120-003	L	
30	120-004	L	
30	121-003	L	
30	122-003	L	
31	107-003	L	Slight submerged flowering
31	107-004	L	
31	111-004	L	
31	112-002	L	
31	113-003	L	
31	119-003	L	
32	072-004	L	flowering
32	097-004	L	
32	105-003	L	
32	105-004	L	
33	098-003	L	
33	098-004	L	
33	099-003	L	
33	100-004	L	
33	116-003	L	
33	118-004	L	
34	089-003	L	
34	091-004	L	
34	092-003	L	
34	092-004	L	
34	094-003	L	
34	096-003	L	
35	086-003	L	
35	087-003	L	
35	090-003	L	
35	090-004	L	
35	091-003	L	
35	097-003	L	
36	082-003	L	flowering
36	082-004	L	
36	083-003	L	
36	085-003	L	
36	115-003	L	
36	115-004	L	
37	108-003	L	
37	109-003	L	
37	109-004	L	
37	110-004	L	
37	113-004	L	
37	114-003	L	
38	067-003	L	
38	069-003	L	Smothered by Moths
38	072-003		
38	077-004		
38	080-004	L	
38	103-004	L	
39	067-004	L	
39	068-003	L	
39	068-004	L	
39	074-003	L	
39	078-003	L	
40	034-003	L	
40	034-004	L	
40	035-003	L	
40	036-004	L	
40	038-004	L	
41	030-003	L	
41	030-004	L	
41	036-003	L	
41	039-003	L	
41	054-004	L	
41	056-004	L	
42	069-004	L	fruiting
42	070-003	L	
42	074-004	L	
42	075-003	L	
42	075-004	L	
42	078-004	L	
43	032-004	L	
43	039-004	L	
43	047-004	L	
43	071-004	L	
43	076-004	L	
43	079-003	L	

Quarry Hills Park: Population Total Count

Date: 5/11/2024

Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
001-001	L		029-002	L	
001-002	L		030-001	L	
002-001	L		030-002	L	
002-002	L		031-001	L	
003-001	L		031-002	L	
003-002	L		032-001	L	
004-001	L		032-002	L	
004-002	L		033-001	L	
005-001	L		033-002	L	
005-002	L		034-001	L	
006-001	L		034-002	L	
006-002	L		035-001	L	
007-001	L		035-002	L	
007-002	L		036-001	L	
008-001	L		036-002	L	
008-002	L		037-001	L	
009-001	L		037-002	L	
009-002	L		038-001	L	
010-002	L		038-002	L	
010-003	L		039-001	L	
011-001	L		039-002	L	
011-002	L		040-001	L	
012-001	L		040-002	L	
012-002	L		041-001	L	
013-001	L		041-002	L	
013-002	L		042-001	L	
014-001	L		042-002	L	
014-002	L		043-001	L	
015-001	L		043-002	L	
015-002	L		044-001	L	
016-001	L		044-002	L	
016-002	L		045-001	L	
017-001	L		045-002	L	
017-002	L		046-001	L	
018-001	L		046-002	L	
018-002	L		047-001	L	
019-001	L		047-002	L	
019-002	L		048-001	L	
020-001	L		048-002	L	
020-002	L		049-001	L	
021-001	L		049-002	L	
021-002	L		050-001	L	
022-001	L		050-002	L	
022-002	L		051-001	L	
023-001	L		051-002	L	
023-002	L		052-001	L	
024-001	L		052-002	L	
024-002	L		053-001	L	
025-001	L		053-002	L	
025-002	L		054-001	L	
026-001	L		054-002	L	
026-002	L		055-001	L	
027-001	L	can't find tag	055-002	L	
027-002	L		056-001	L	
028-001	L		056-002	L	
028-002	L		057-001	L	

Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
057-002	L		087-002	L	
058-001	L		088-001	L	
058-002	L		088-002	L	
059-001	L		089-001	L	
059-002	L		089-002	L	
060-001	-	smothered - maybe D	090-001	L	
060-002	L		090-002	L	
061-001	L		091-001	L	
061-002	L		091-002	L	
062-001	L		092-001	L	
062-002	L		092-002	L	
063-001	L		093-001	L	
063-002	L		093-002	L	
064-001	L		094-001	L	
064-002	L		094-002	L	
065-001	L		095-001	L	
065-002	L		095-002	L	
066-001	L		096-001	L	
066-002	L		096-002	L	
067-001	L		097-001	L	
067-002	L		097-002	L	
068-001	L		098-001	L	
068-002	L		098-002	L	
069-001	L		099-001	L	
069-002	L		099-002	L	
070-001	L		100-001	L	
070-002	L		100-002	L	
071-001	L		101-001	L	Check for burrowing NO
071-002	L		101-002	L	
072-002	L		102-001	L	
073-001	L		102-002	L	
073-003	L		103-001	L	
074-001	L		103-002	L	
074-002	L		104-001	L	
075-001	L		104-002	L	
075-002	L		105-001	L	
076-002	L		105-002	L	
076-003	L		106-001	L	
077-001	L		106-002	L	
077-002	L		107-001	L	
078-001	L		107-002	L	
078-002	L		108-001	L	
079-001	L		108-002	-	smothered - potentially D
079-002	L		109-001	L	
080-001	L		109-002	L	
080-002	L		110-001	L	
081-001	L		110-002	L	
081-002	L		111-001	L	smothered/struggling
082-001	L		111-002	L	
082-002	L		112-001	L	
083-001	L		112-003	L	
083-002	L		113-001	L	
084-001	L		113-002	L	
084-002	L		114-001	L	
085-001	L		114-002	L	
085-002	L		115-001	L	
086-001	L		115-002	L	

086-002	L		116-001	L	
087-001	L		116-002	L	
Quarry Hills Park: Population Total Count					
Date:					
Plant ID	**Live/Dead**	**Notes**	**Plant ID**	**Live/Dead**	**Notes**
117-001	L	smothered			
117-002	L				
118-001	L				
119-001	L				
119-002	L				
120-001	L				
120-002	L				
121-001	L				
122-001	L				
122-002	L				
123-001	L				
123-002	L				
124-001	L				
124-002	L				
125-001	L				
125-002	L				

Plenty Gorge Parklands: Population Total Count

Date:	5/11/20

Cluster ID	Plant ID	Live/Dead	Notes	Cluster ID	Plant ID	Live/Dead	Notes
1	001-003	L		12	040-004	L	
1	001-004	L		12	042-004	L	
1	002-003	L		12	045-003	L	
1	002-004	L		12	045-004	L	
1	003-004	L		12	048-004	L	
1	033-004	L		13	025-003	L	
2	004-003	L		13	026-004	L	
2	004-004	L		13	033-003	L	
2	005-004	L		13	037-003	L	
2	006-003	L		13	042-003	L	
2	006-004	L		13	071-003	L	
2	026-003	L		14	003-003	L	
3	007-003	L		14	040-003	L	
3	007-004	L		14	041-003	L	
3	008-003	L		14	044-003	L	
3	008-004	L		14	055-003	L	
3	009-003	L		14	055-004	L	
3	009-004	L		15	005-003	L	
4	010-001	L		15	024-003	L	
4	010-004	L		15	028-004	L	
4	011-003	L		15	029-003	L	
4	011-004	L		15	029-004	L	
4	012-004	L		16	025-004	L	
4	043-004	L		16	031-004	L	
5	012-003	L		16	049-003	L	
5	013-004	L		16	051-004	L	
5	014-003	L		16	050-003	L	
5	063-003	L		17	070-004	L	
5	073-004	L		17	060-003	L	
5	080-003	L		17	064-003	L	
6	016-004	L		17	046-003	L	
6	017-003	L		17	050-004	L	
6	017-004	L		17	101-003	L	
6	018-003	L		18	046-004	L	
6	018-004	L		18	051-003	L	
6	048-003	L		18	052-004	L	
7	019-003	L		18	054-003	L	
7	020-003	L		18	058-003	L	
7	020-004	L		18	058-004	L	
7	021-003	L		19	081-003	L	
7	021-004	L		19	081-004	L	
7	041-004	L		19	083-004	L	
8	013-003	L		19	087-004	L	
8	015-004	L		19	093-003	L	
8	022-003	L		19	102-003	L	
8	022-004	L		20	057-003	L	
8	023-003	L	small, not found	20	057-004	L	
8	023-004	L		20	065-003	L	
9	015-003	L		20	065-004	L	
9	024-004	L		20	066-003	L	
9	027-003	L		20	066-004	L	
9	027-004	L		21	028-003	L	
9	044-004	L		21	031-003	L	
10	059-004	L	Cockatoos	21	032-003	L	
10	112-004	L		21	035-004	L	
10	061-003	L		21	037-004	L	
10	096-004	L		21	038-003	L	
10	043-003	L		22	053-003	L	
10	014-004	L		22	056-003	L	
11	047-003	L		22	062-003	L	
11	049-004	L		22	062-004	L	
11	052-003	L		22	104-004	L	
11	053-004	L		23	059-003	L	
11	103-003	L		23	060-004	L	
11	114-004	L		23	061-004	L	
12	016-003	L		23	063-004	L	
12	019-004	L		23	064-004	L	

Cluster ID	Plant ID	Live/Dead	Notes	Cluster ID	Plant ID	Live/Dead	Notes
23	073-002	L		35	097-003	L	
24	084-003	L		36	082-003	L	
24	084-004	L		36	082-004	L	
24	086-004	L		36	083-003	L	
24	101-004	L		36	085-003	L	
24	102-004	L		36	115-003	L	
24	104-003	L		36	115-004	L	
25	076-001	L		37	108-003	L	
25	079-004	L		37	109-003	L	
25	085-004	L		37	109-004	L	
25	089-004	L		37	110-004	L	
26	088-003	L		37	113-004	L	
26	088-004	L		37	114-003	L	
26	099-004	L		38	067-003	L	
26	100-003	L		38	069-003	L	
26	110-003	L		38	072-003	L	
26	111-003	L		38	077-004	L	
27	093-004	L		38	080-004	L	
27	094-004	L		38	103-004	L	
27	095-003	L		39	067-004	L	
27	095-004	L		39	068-003	L	
27	106-003	L		39	068-004	L	
27	106-004	L		39	074-003	L	
28	016-004	L		39	078-003	L	
28	117-003	L		40	034-003	L	
28	117-004	L		40	034-004	L	
28	118-003	L		40	035-003	L	
28	122-004	L		40	036-004	L	
28	123-004	L		40	038-004	L	
29	121-004	L		41	030-003	L	
29	123-003	L		41	030-004	L	
29	124-003	L		41	036-003	L	
29	124-004	L		41	039-003	L	
29	125-003	L		41	054-004	L	
29	125-004	L		41	056-004	L	
30	108-004	L		42	069-004	L	
30	119-004	L		42	070-003	L	
30	120-003	L		42	074-004	L	
30	120-004	L		42	075-003	L	
30	121-003	L		42	075-004	L	
30	122-003	L		42	078-004	L	
31	107-003	L		43	032-004	L	
31	107-004	L		43	039-004	L	
31	111-004	L		43	047-004	L	
31	112-002	L		43	071-004	L	
31	113-003	L		43	076-004	L	
31	119-003	L		43	079-003	L	
32	072-004	L					
32	097-004	L					
32	105-003	L					
32	105-004	L					
33	098-003	L					
33	098-004	L					
33	099-003	L					
33	100-004	L					
33	116-003	L					
33	118-004	L					
34	089-003	L					
34	091-004	L					
34	092-003	L					
34	092-004	L					
34	094-003	L					
34	096-003	L					
35	086-003	L					
35	087-003	L					
35	090-003	L					
35	090-004	L					
35	091-003	L					

Plenty Gorge Parklands: Population Total Count

Date: 14/1/21

Cluster ID	Plant ID	Live/Dead	Notes
1	001-003	L	
1	001-004	L	
1	002-003	L	
1	002-004	L	
1	003-004	L	
1	033-004	L	
2	004-003	L	
2	004-004	L	
2	005-004	L	
2	006-003	L	
2	006-004	L	
2	026-003	L	
3	007-003	L	
3	007-004	L	
3	008-003	L	
3	008-004	L	
3	009-003	L	
3	009-004	L	
4	010-001	L	
4	010-004	L	
4	011-003	L	
4	011-004	L	
4	012-004	L	
4	043-004	L	
5	012-003	L	
5	013-004	L	
5	014-003	L	
5	063-003	L	
5	073-004	L	
5	080-003	L	
6	016-004	L	
6	017-003	L	
6	017-004	L	
6	018-003	L	
6	018-004	L	
6	048-003	L	
7	019-003	L	
7	020-003	L	
7	020-004	L	
7	021-003	L	
7	021-004	L	
7	041-004	L	
8	013-003	L	
8	015-004	L	
8	022-003	L	
8	022-004	L	
8	023-003	L	very small, leaves only
8	023-004	L	
9	015-003	L	
9	024-004	L	
9	027-003	L	
9	027-004	L	
9	044-004	L	small, leaves only
10	059-004	L	
10	112-004	L	
10	061-003	L	
10	096-004	L	
10	043-003	L	
10	014-004	L	
11	047-003	L	
11	049-004	L	
11	052-003	L	
11	053-004	L	
11	103-003	L	
11	114-004	L	
12	016-003	L	
12	019-004	L	

Cluster ID	Plant ID	Live/Dead	Notes
12	040-004	L	
12	042-004	L	
12	045-003	L	
12	045-004	L	
12	048-004	L	
13	025-003	L	
13	026-004	L	
13	033-003	L	
13	037-003	L	
13	042-003	L	
13	071-003	L	
14	003-003	L	
14	040-003	L	
14	041-003	L	
14	044-003	L	small
14	055-003	L	
14	055-004	L	
15	005-003	L	
15	024-003	L	
15	028-004	L	
15	029-003	L	
15	029-004	L	
16	025-004	L	
16	031-004	L	
16	049-003	L	
16	051-004	L	
16	050-003	L	
17	070-004	L	
17	060-003	L	
17	064-003	L	
17	046-003	L	
17	050-004	L	
17	101-003	L	
18	046-004	L	
18	051-003	L	
18	052-004	L	
18	054-003	L	
18	058-003	L	
18	058-004	L	
19	081-003	L	
19	081-004	L	
19	083-004	L	
19	087-004	L	
19	093-003	L	
19	102-003	L	
20	057-003	L	
20	057-004	L	
20	065-003	L	
20	065-004	L	
20	066-003	L	
20	066-004	L	
21	028-003	L	
21	031-003	L	
21	032-003	L	
21	035-004	L	
21	037-004	L	
21	038-003	L	
22	053-003	L	
22	056-003	L	
22	062-003	L	
22	062-004	L	
22	104-004	L	
23	059-003	L	
23	060-004	L	
23	061-004	L	
23	063-004	L	
23	064-004	L	

Cluster ID	Plant ID	Live/Dead	Notes
23	073-002	L	
24	084-003	L	
24	084-004	L	
24	086-004	L	
24	101-004	L	
24	102-004	L	
24	104-003	L	
25	076-001	L	
25	079-004	L	
25	085-004	L	
25	089-004	L	
26	088-003	L	
26	088-004	L	
26	099-004	L	
26	100-003	L	
26	110-003	L	
26	111-003	L	
27	093-004	L	
27	094-004	L	
27	095-003	L	
27	095-004	L	
27	106-003	L	
27	106-004	L	
28	016-004	L	
28	117-003	L	
28	117-004	L	
28	118-003	L	
28	122-004	L	
28	123-004	L	
29	121-004	L	
29	123-003	L	
29	124-003	L	
29	124-004	L	
29	125-003	L	
29	125-004	L	
30	108-004	L	
30	119-004	L	
30	120-003	L	
30	120-004	L	
30	121-003	L	
30	122-003	L	
31	107-003	L	
31	107-004	L	
31	111-004	L	
31	112-002	L	
31	113-003	L	
31	119-003	L	
32	072-004	L	
32	097-004	L	
32	105-003	L	
32	105-004	L	
33	098-003	L	
33	098-004	L	
33	099-003	L	
33	100-004	L	
33	116-003	L	
33	118-004	L	
34	089-003	L	
34	091-004	L	
34	092-003	L	
34	092-004	L	
34	094-003	L	
34	096-003	L	
35	086-003	L	
35	087-003	L	
35	090-003	L	
35	090-004	L	
35	091-003	L	
35	097-003	L	
36	082-003	L	
36	082-004	L	
36	083-003	L	
36	085-003	L	
36	115-003	L	
36	115-004	L	
37	108-003	L	
37	109-003	L	
37	109-004	L	
37	110-004	L	
37	113-004	L	
37	114-003	L	
38	067-003	L	
38	069-003	L	
38	072-003	L	
38	077-004	L	
38	080-004	L	
38	103-004	L	
39	067-004	L	flattened
39	068-003	L	"
39	068-004	L	"
39	074-003	L	"
39	078-003	L	"
40	034-003	L	
40	034-004	L	
40	035-003	L	
40	036-004	L	
40	038-004	L	
41	030-003	L	
41	030-004	L	
41	036-003	L	
41	039-003	L	small
41	054-004	L	
41	056-004	L	
42	069-004	L	
42	070-003	L	
42	074-004	L	
42	075-003	L	
42	075-004	L	
42	078-004	L	
43	032-004	L	
43	039-004	L	
43	047-004	L	
43	071-004	L	
43	076-004	L	
43	079-003	L	

Quarry Hills Park: Population Total Count

Date: 7/1/2021

Plant ID	Live/Dead	Notes	Plant ID	Live/Dead	Notes
001-001	L		029-002	L	
001-002	L		030-001	L	
002-001	L		030-002	L	
002-002	L		031-001	L	
003-001	L		031-002	L	
003-002	L		032-001	L	
004-001	L		032-002	L	
004-002	L		033-001	L	
005-001	L		033-002	L	
005-002	L		034-001	L	
006-001	L		034-002	L	
006-002	L		035-001	L	
007-001	L		035-002	L	
007-002	L		036-001	L	
008-001	L		036-002	L	
008-002	L		037-001	L	
009-001	L		037-002	L	
009-002	L		038-001	L	
010-002	L		038-002	L	
010-003	L		039-001	L	Water stressed
011-001	L		039-002	L	Water stressed
011-002	L		040-001	L	
012-001 *	L		040-002 *	L	
012-002	L		041-001	L	
013-001	L		041-002	L	
013-002	L		042-001	L	
014-001	L		042-002	L	
014-002	L		043-001	L	
015-001	L		043-002	L	
015-002	L		044-001	L	
016-001	L		044-002	L	
016-002	L		045-001	L	
017-001	L		045-002	L	
017-002	L		046-001	L	
018-001	L		046-002	L	Water stressed
018-002	L		047-001	L	
019-001	L		047-002	L	
019-002	L		048-001	L	
020-001	L		048-002	L	
020-002	L		049-001	L	
021-001	L		049-002	L	
021-002	L		050-001 *	L	
022-001	L		050-002	L	
022-002	L		051-001	L	
023-001	L		051-002	L	
023-002	L		052-001	L	
024-001	L		052-002	L	
024-002	L		053-001	L	
025-001	L		053-002	L	
025-002	L		054-001	L	
026-001	L		054-002	L	
026-002	L		055-001	L	
027-001	L		055-002	L	
027-002	L		056-001	L	
028-001	L		056-002	L	
028-002	L		057-001	L	

Plant ID	Live/Dead	Notes
057-002	L	
058-001	L	
058-002	L	
059-001	L	
059-002	L	
060-001	L	
060-002	L	
061-001	L	
061-002	L	
062-001	L	
062-002	L	
063-001	L	
063-002	L	
064-001	L	
064-002	L	
065-001	L	
065-002	L	
066-001	L	
066-002	L	
067-001	L	
067-002	L	
068-001	L	
068-002	L	
069-001	L	
069-002	L	
070-001	L	
070-002	L	
071-001	L	
071-002	L	
072-002	L	
073-001	L	
073-003	L	
074-001	L	
074-002	L	
075-001	L	
075-002	L	
076-002	L	
076-003	L	
077-001	L	
077-002	L	
078-001	L	
078-002	L	
079-001	L	
079-002	L	
080-001	L	
080-002	L	
081-001	L	
081-002	L	
082-001	L	
082-002	L	
083-001	L	
083-002	L	
084-001	L	
084-002	L	
085-001	L	
085-002	L	
086-001	L	

Plant ID	Live/Dead	Notes
087-002	L	
088-001	L	
088-002	L	
089-001	L	
089-002	L	
090-001	L	
090-002	L	
091-001	L	
091-002	L	
092-001	L	
092-002	L	
093-001	L	
093-002	L	
094-001	L	
094-002	L	
095-001	L	
095-002	L	
096-001	L	
096-002	L	
097-001	L	
097-002	L	
098-001	L	
098-002	L	
099-001	L	
099-002	L	
100-001	L	
100-002	L	
101-001	L	
101-002	L	
102-001	L	
102-002	L	
103-001	L	
103-002	L	
104-001	L	
104-002	L	
105-001	L	
105-002	L	
106-001	L	
106-002	L	
107-001	L	
107-002	L	
108-001	L	
108-002	L	
109-001	L	Water stressed
109-002	L	
110-001	L	
110-002	L	
111-001	L	
111-002	L	
112-001	L	
112-003	L	
113-001	L	
113-002	L	
114-001	L	
114-002	L	
115-001	L	
115-002	L	

086-002	L	
087-001	L	

Quarry Hills Park: Population Total Count

Date:	14/1/21	
Plant ID	**Live/Dead**	**Notes**
117-001		found tag, no MFL, measured and assumed dead
117-002	L	
118-001	L	
119-001	L	
119-002	L	
120-001	L	
120-002	L	
121-001	L	
122-001	L	
122-002	L	
123-001	L	
123-002	L	
124-001	L	
124-002	L	
125-001	L	
125-002	L	

116-001	L	
116-002	L	

Plant ID	**Live/Dead**	**Notes**

Plenty Gorge Parklands: Quadrat Monitoring

Date:	14/11/21	Surveyors:	

1 = 0 - 5	2 = >5 - 10	3 = 10+

Quadrat 1 (Cluster 1)

Plant ID	Cover-abundance	Plant basal diameter (mm)	Max Leaf Length (mm) - height	No. leaves/shoot (1 - 3)	Inflorescence/infructescence				Evidence of...			Other Comments
					Flowering? (Y/N)	Height (mm)	Flowering (1 - 3)	Fruiting (1-3)	Herbivory (Y/N)	Water Stress (Y/N)	Weed encroachment/competition (Y/N)	
002-003	20	830	460	3	N	940	3	2	N	N	N	
001-004	25	710	490	3	N	780	3	2	N	N	N	
002-004	10	900	450	3	N	950	3	1	N	N	N	
001-003	25	920	500	3	N	850	3	1	N	N	N	
003-004	45	1200	640	3	N	930	3	1	N	N	N	
033-004	45	1110	500	3	N	810	3	1	N	N	N	

* dry ground - cracked

* all finished fruiting / flowering

Height (mm)

Quadrat 2 (Cluster 9)

Plant ID	Cover-abundance	Plant basal diameter (mm)	Max Leaf Length (mm) - height	No. leaves/shoot (1 - 3)	Inflorescence/infructescence				Evidence of...			Other Comments
					Flowering? (Y/N)	Height (mm)	Flowering (1 - 3)	Fruiting (1-3)	Herbivory (Y/N)	Water Stress (Y/N)	Weed encroachment/competition (Y/N)	
027-004	25	1320	650	3	N	1010	3	-	N	N	N	
024-004	60	1360	640	3	~~N~~ Y	1160	3	-	N	N	N	
044-004	1	900	420	3	N	1330	-	~~-~~ 1	N	N	N	one flower
015-003	35	1130	600	3	N	860	3	3	N	N	N	small, encroached by others
027-003	25	1320	640	3	N	1050	3	2	N	N	N	

Quadrat 3 (Cluster 37)

Plant ID	Cover-abundance	Plant basal diameter (mm)	Max Leaf Length (mm) - height	No. leaves/shoot (1 - 3)	Inflorescence/infructescence				Evidence of...			Other Comments
					Flowering? (Y/N)	Height (mm)	Flowering (1 - 3)	Fruiting (1-3)	Herbivory (Y/N)	Water Stress (Y/N)	Weed encroachment/competition (Y/N)	
109-004	50	1230	480	3	Y	950	3	-	Y	Y	Y	
113-004	10	900	410	3	Y	800	2	-	Y	Y	Y	
109-003	40	1140	500	3	Y	840	3	2	Y	Y	Y	
110-004	10	850	310	3	Y	680	2	2	Y	Y	Y	
108-003	35	1170	590	3	Y	1030	3	3	Y	Y	Y	
114-003	8	1150	520	3	Y	900	2	-	Y	Y	Y	

Quadrat 4 (Cluster 21)

Plant ID	Cover-abundance	Plant basal diameter (mm)	Max Leaf Length (mm) - height	No. leaves/shoot (1 - 3)	Inflorescence/infructescence				Evidence of...			Other Comments
					Flowering? (Y/N)	Height (mm)	Flowering (1 - 3)	Fruiting (1-3)	Herbivory (Y/N)	Water Stress (Y/N)	Weed encroachment/competition (Y/N)	
038-003	5	810	390	3	Y	1020	2	-	Y	Y	Y	
031-003	40	1150	660	3	Y	970	3	2	Y	Y	Y	
035-004	7	870	390	3	Y	1040	3	-	Y	Y	Y	
032-003	10	790	440	3	Y	990	3	-	Y	Y	Y	
037-004	1	940	410	3	Y	740	2	-	Y	Y	Y	
028-003	40	1030	520	3	Y	890	3	-	Y	Y	Y	one flower

Quarry Hills Park: Quadrat Monitoring

Date:	14	1	21	Surveyors:	JRS + AN

1 = 0 - 5	2 = >5 - 10	3 = 10+

Quadrat 1

Plant ID	Cover-abundance	Plant basal diameter (mm)	Max Leaf Length (mm) - height	No. leaves/shoot (1 - 3)	Inflorescence/infructescence				Evidence of...			Other Comments
					Flowering? (Y/N)	Height (mm)	Flowering (1 - 3)	Fruiting (1-3)	Herbivory (Y/N)	Water Stress (Y/N)	Weed encroachment/competition (Y/N)	
012-001	25	1110	460	3	N	1300	3	2 *	N	N	N	
018-002	~~1~~ 3	960	530	3	N	770	3 ~~1~~	2 ~~1~~ R	N	N	N	
022-002	15	850	~~850~~ 530	3	N	970	1 ~~1~~	3 *	N	N	N	

* All have finished flowering and seeding

Quadrat 2

Plant ID	Cover-abundance	Plant basal diameter (mm)	Max Leaf Length (mm) - height	No. leaves/shoot (1 - 3)	Inflorescence/infructescence				Evidence of...			Other Comments
					Flowering? (Y/N)	Height (mm)	Flowering (1 - 3)	Fruiting (1-3)	Herbivory (Y/N)	Water Stress (Y/N)	Weed encroachment/competition (Y/N)	
028-002	20	630	390	3	N	680	2	3	N	Y	Y	
096-003	10	960	350	3	N	700	3	2	N	N	Y	
105-001	20	800	420	3	N	690	3	3	N	N	Y	

* All finished fruiting and seeding

B5

Quadrat 3

	Plant ID	Cover-abundance	Plant basal diameter (mm)	Max Leaf Length (mm) - height	No. leaves/shoot (1 - 3)	Inflorescence/infructescence				Evidence of...			Other Comments
						Flowering? (Y/N)	Height (mm)	Flowering (1 - 3)	Fruiting (1-3)	Herbivory (Y/N)	Water Stress (Y/N)	Weed encroachment/competition (Y/N)	
*	029-002	20	850	420	3	Y	630	2	3	Y	Y	Y	
*	033-002	15	1170	430	3	Y	600	1	2	Y	Y	Y	
	106-001	25	1050	520	3	Y	750	2	3	Y	Y	Y	
*	095-002	20	1270	570	3	Y	590	1	3	Y	Y	Y	

* * Finished seeding and fruiting

Quadrat 4

Plant ID	Cover-abundance	Plant basal diameter (mm)	Max Leaf Length (mm) - height	No. leaves/shoot (1 - 3)	Inflorescence/infructescence				Evidence of...			Other Comments
					Flowering? (Y/N)	Height (mm)	Flowering (1 - 3)	Fruiting (1-3)	Herbivory (Y/N)	Water Stress (Y/N)	Weed encroachment/competition (Y/N)	
039-001	<1	540	290	2	N	640	1	1	N	Y	N	Very water stressed
039-002	1	NA	NA	None	N	770	1	1	N	Y	N	No leaves, very water stressed
057-001	3	630	190	2	N	660	3	1	N	Y	N	Very water stressed

* All have finished seeding/flowering

Appendix C

Nursery Audit

Appendix C Nursery Audit

AECOM GHD JOINT VENTURE

Memorandum

21 April 2020

To	**LEVEL CROSSING REMOVAL PROJECT**
Copy to	James.david@levelcrossings.vic.gov.au Joseph.sevillano@levelcrossings.vic.gov.au
From	Helen Vickers
Site	**Mernda Rail Extension**
Subject	Matted Flax-lily Audit - **105 Gumtree Road, Research**
Memo Number	

LEVEL CROSSING REMOVAL AUTHORITY

VICTORIA State Government

AECOM GHD

JOINT VENTURE

Memorandum

1. Introduction

The AECOM-GHD Joint Venture (JV) was engaged by the Level Crossing Removal Project (LXRP) to undertake regular audits of a population of Matted Flax-lily *Dianella amoena* salvaged from the construction footprint of the Mernda Rail Extension Project in April 2017. The plants subject to this audit are managed at ABZECO nursery as 'insurance stock' to ensure that plants translocated in July/August 2019 can be supplemented if necessary to achieve an overall survival rate of at least 85%. This 'insurance stock' is in the care of ABZECO consultants, who will manage and maintain the plants until the maintenance period is over (between two and 10 years) at which time any remaining plants will be provided to Parks Victoria and/or other local agencies for revegetation projects within the region. It should be noted that plants already translocated are subject to a separate audit and are not within the scope of this memo. The salvage, maintenance and final translocation of the Matted Flax-lily to their recipient sites are guided by the EPBC 2016/27674 Matted Flax-lily Translocation Plan (LXRA-MNDA-00-PA-RPT-004 Revision: 9) released on 9 March 2020 (updated from the EPBC 2016/7674 Matted Flax-lily Translocation Plan, Rev 8,September 2018).

1.1 Purpose

This memorandum provides a summary of the current status of the Matted Flax-lily 'insurance stock' as a result of the most recent audit. Specifically, the memorandum will detail:

- The current management and number of transplants available as 'insurance stock'
- Evidence of correct labelling and documentation maintained throughout the propagation and management period
- Evidence of the appropriate sized pot usage
- Evidence of the health, growth and survivorship of clones created from parent plants
- Evidence of weed and pest control
- Evidence of 'hardening' off if required for future translocations.

2. Results of April 2020 audit

On the 7th April 2020, a senior botanist, graduate ecologist and a representative from LXRP met with Jack Latti, the nursery manager of ABZECO consulting. The nursery is located at 105 Gumtree Road, Research.

The audit found that all criteria documented within the translocation plan were being met and the 'insurance stock' Matted Flax-lilies were observed to be in a healthy condition and well managed. Specifically;

- 250 pots of live, healthy Matted Flax-lily representing the required number of clones were observed,
- individuals were clearly labelled and potted in appropriate pots and potting medium, and
- no diseased individuals were observed.

Results are described in greater detail in Table 1 and supported by Plate 1 to Plate 4.

Memorandum

Table 1 Results of 2020 audit

Item	Details
The required number of clones are available for translocation • 6 clones to be created per salvaged plant where possible • 4 clones per salvaged plant available for translocation • 2 clones per salvaged plant maintained in nursery conditions	250 pots containing clones of the original salvaged plants were observed at the nursery. These represented a minimum of 2 (more in some instances) clones per salvaged plant which are maintained at the nursery as 'insurance stock'. This observation was further supported by the spreadsheet detailed in ABZECO (2020) which tracked the translocation of plants to the recipient sites and the plants remaining at the nursery.
Labelling of clones with staked metal nursery tags in addition to labelling of pot with permanent marker in the format of 001 (patch number) – 001 (clone number)	The 'insurance stock' clones were clearly labelled with a metal tag and permanent marker on the outside of the pot. Labels represented the patch and clone number as required.
Clones to be in good health with minimal individuals showing signs of stress or having senesced, evidence of growth	Clones were observed to be in good health, having recently been cleared of thatch (last year's growth which had dried off and been left in place during summer as a form of mulch and to assist with water retention). Some individuals, as anticipated were larger in form than others which is attributed to genetic variation.
Evidence of disease	No evidence of disease was observed.
Pest control actively managed (e.g. thrips, rabbits, deer)	Rabbit proof fencing had been removed at the time of the audit. The nursery manger reported that they had not seen a rabbit within the vicinity of the nursery and that the boundary fence of the property was sufficient to keep out deer and rabbits. The presence of a dog which patrolled the nursery and surrounds is also likely to keep animal pests at bay. Some evidence of thrip attack on the flowering heads of some plants was observed. Due to the vegetative nature of the species, this was not considered to be a concern.
Weed control actively managed (e.g. hand weeded during winter months or as needed)	No weeds were observed within the pots. The nursery manager confirmed that hand weeding occurred on a regular basis, especially during winter months.
Propagation material appropriate (e.g. sandy loam etc.)	The nursery manager identified that the potting material originally used for the clones had been changed from typical potting mix used for native vegetation to a sandy-loam mix which had resulted in less drying out of pots and better water retention.
Pot size appropriate (e.g. minimum of 14 cm diameter pot)	Pot sizes were observed to be within the recommended range.
Watering and fertilizer regime appropriate (e.g. reflective of climatic conditions where appropriate, fertilisation in advance of translocation)	The nursery manager confirmed that application of fertilizer occurs on an annual basis. At the time of the audit, plants had not been actively watered or fertilised in keeping with hardening-off of plants. Watering will continue to occur on an irregular basis, with the exception of hot dry spells that occur during summer where water is applied as necessary. As the nursery is located outdoors,

Memorandum

	watering by hand is considered supplementary to rainfall.
Evidence of 'hardening off' of plants prior to translocation	Plants occur outdoors and are exposed to climatic conditions.
Additional observations (e.g. thatch kept/removed to assist with water retention etc.)	Thatch had been removed.

Memorandum

Plate 1 Insurance stock

Plate 2 Healthy plants with thatch removed

Plate 3 Evidence of minor thrip attack

Plate 4 Labelling of clones

3. Next Steps

The 'insurance stock' Matted Flax-lilies should continue to be monitored on an annual basis as per the schedule in Table 2. An auditor's checklist is provided below in Table 3 to provide consistency and assist

with future audits. Results of the nursery audits should be included in the translocation program's annual report.

Table 2 Audit schedule

Year	Audit 1	Audit 2
Salvage	April 2017	
Year 1		
6 monthly audit	September 2017	April 2018
Year 2		
6 monthly audit	September 2018	April 2019
Year 3	April 2020	
Year 4	April 2021	
Year 5	April 2022	
Year 6	April 2023	
Year 7	April 2024	
Year 8	April 2025	
Year 9	April 2026	
Year 10	April 2027	

Table 3 Auditor's checklist

Item	Details
The required number of clones are available for translocation • 6 clones to be created per salvaged plant where possible • 4 clones per salvaged plant available for translocation • 2 clones per salvaged plant maintained in nursery conditions	
Labelling of clones with staked metal nursery tags in addition to labelling of pot with permanent marker in the format of 0001 (patch number) – 001 (clone number)	
Clones to be in good health with minimal individuals showing signs of stress or having senesced, evidence of growth	
Evidence of disease	
Pest control actively managed (e.g. thrips, rabbits, deer)	
Weed control actively managed (e.g. hand weeded during winter months or as needed)	
Propagation material appropriate (e.g. sandy loam etc.)	
Pot size appropriate (e.g. minimum of 14 cm diameter pot)	
Watering and fertilizer regime appropriate (e.g. reflective of climatic conditions where appropriate, fertilisation in advance of translocation)	
Evidence of 'hardening off' of plants prior to translocation	
Additional observations (e.g. thatch kept/removed to assist with water retention etc.)	

AECOM GHD JOINT VENTURE

Memorandum

4. References

AECOM-GHD Joint Venture. 2018. Mernda Rail Extension Project – EPBC 2016/7674 Matted Flax-lily Translocation Plan (LXRA-MNDA-00-PA-RPT-0004) Revision 8.

AECOM-GHD Joint Venture. 2020b. Mernda Rail Extension Project: EPBC 2016/7674 Matted Flax-lily Translocation Plan. Report prepared for the Level Crossing Removal Authority, Revision 9, March 2020.

Kind regards

Dr Helen Vickers
Senior Ecologist
AECOM-GHD Joint Venture