La Trobe University offset site 41026

Year 4 ecological monitoring

Final Report

Prepared for La Trobe University

15 April 2025

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Biosis staff involved in this project were:

- Hayley Sime (field assistance)
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Biosis acknowledges the Aboriginal and Torres Strait Islander peoples as Traditional Custodians of the land on which we live and work.

We pay our respects to the Traditional Custodians and Elders past and present and honour their connection to Country and ongoing contribution to society.

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1 Introduction

1.1 Background

Biosis Pty Ltd (Biosis) is engaged by La Trobe University (La Trobe) to undertake annual ecological monitoring of the La Trobe University offset site in accordance with the approved Offset Management Plan (OMP) (Biosis 2020). The offset site is located in the south-western corner of the campus, just west of Sports Field Lake (Figure 1).

The site was established to offset the removal of 3.203 hectares of native vegetation, 23 Matted Flax-lily *Dianella amoena* plants and 1.26 hectares of suitable Matted Flax-lily habitat for the development of the La Trobe University Sports Precinct (Stage 3). Matted Flax-lily is listed as endangered under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and critically endangered under the Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act).

The offset site is known to provide habitat for Matted Flax-lily. One Matted Flax-lily was recorded within the offset site in 2019 (Biosis 2019) an additional two were recorded during the 2022 survey (Biosis 2023), a further three MFL were recorded in 2023 and two further in 2024. The 2.81 hectare offset site meets the quantity and quality requirements for an offset of Matted Flax-lily habitat as determined by the Australian Government Department of Climate Change, Energy, the Environment and Water (DCCEEW) under the EPBC Act in association with the approval conditions for EPBC 2018/8343 for the La Trobe University Sports Precinct Stage 3.

The Offset Management Plan (Biosis 2020) specifies a range of management actions for the offset site, including weed management, revegetation works, ecological burning and protection of the habitat values from degradation by development and unauthorised access. Management of the offset site will involve protection and active ecological management of 2.81 hectares of vegetation, which is potential Matted Flax-lily habitat and supports remnant Matted Flax-lily individuals and patches of Plains Grassy Woodland Ecological Vegetation Class (EVC) 55.

Ecological monitoring and reporting in accordance with the OMP was undertaken by Biosis in 2021 (Year 1, Biosis 2021), 2022 (Year 2, Biosis 2023), 2023 (Year 3, Biosis 2023) and 2024 (Year 4, Biosis 2025). The current report presents the results of the fourth year of OMP implementation in 2024 (Year 4). The report includes the findings of the ecological monitoring activities and a summary of compliance against management actions specified in the OMP.

1.2 Purpose

This report details the findings of the fourth year of ecological monitoring undertaken in November 2024. The monitoring is undertaken in accordance with the OMP (Biosis 2020) and focusses on vegetation management. Where further actions are required to meet OMP management targets, recommendations are provided. This report documents:

- Management measures commenced and completed during the reporting period.
- Changes in management measures and rationale for changes.
- Detailed description of the baseline monitoring program.
- Results and analysis of baseline monitoring data.

- Discussion of baseline ecological monitoring results.
- Recommendations for management and/or additional monitoring.

1.3 Relationship to other documents

This monitoring report is to be read in conjunction with the following documents:

- The endorsed OMP (Biosis 2020), which identifies the targets to manage the offset site.
- *Vegetation condition assessment and offset suitability for Matted Flax-lily* (Biosis 2019) that details the biodiversity values of the offset site.

1.4 The offset site

The offset site (approximately 2.81 hectares) is located in the south-western corner of the La Trobe University Bundoora campus, just west of Sports Field Lake. It occurs on a portion of land otherwise known as 906 Plenty Road, Bundoora (Figure 1). The property is currently zoned as Public Use Zone 2 (PUZ2) and is covered by Environmental Significance Overlay – Schedule 2 (ESO2).

The broader land parcel includes areas that support modified Plains Grassy Woodland EVC 55 and areas that have been cleared for the development of a variety of sporting fields and related infrastructure. The offset site has been designated as suitable Matted Flax-lily habitat based on presence of the original topsoil and some native vegetation in the ground layer. While some parts of the offset area are dominated by weeds, Matted Flax-lily has been known to persist in these habitats. The offset site includes four habitat zones surrounded by areas dominated by introduced species. All areas, including sections dominated by introduced vegetation, will be managed to provide the Matted Flax-lily offsets for development of the Stage 3 Sporting Precinct (EPBC Referral 2018/8343).

The study area is within the:

- Victorian Volcanic Plain Bioregion
- Yarra River Basin
- Management area of Melbourne Water
- Darebin Shire
- Traditional lands of the Wurundjeri.

1.4.1 Landscape context

The offset site is within the La Trobe University Bundoora campus and is near residential housing, university buildings and other facilities. The campus provides several important values for native wildlife including a corridor of native vegetation between Darebin Creek and Gresswell Forest Nature Conservation Reserve and a large (30 hectare) Wildlife Sanctuary. Much of the remnant vegetation around the university campus (including the offset site) is known habitat for Matted Flax-lily. Land immediately south of the proposed offset area managed by the City of Banyule also supports a remnant population of Matted Flax-lily.

Additionally, Darebin Creek is approximately 30 metres from the western boundary of the offset site, flowing south. The creek is an important habitat feature in north-east Melbourne providing connectivity for wildlife between the suburbs and the larger Yarra River corridor.

1.4.2 Ecological values

Flora and fauna species recorded from the offset site are detailed in Appendix 1 of the OMP and an updated list (including 2024 records) is provided in Appendix 1 of this report.

Significant ecological values in the offset area were recorded in 2019 prior to the creation of the OMP (Biosis 2019). These values are still present in 2024 and include:

- 1.28 ha of native vegetation classified as Plains Grassy Woodland EVC 55 which has a bioregional conservation status of endangered.
- Known habitat for Matted Flax-lily, listed as threatened under the EPBC Act and FFG Act. Seven individuals are known to occur within the offset site (Figure 4).

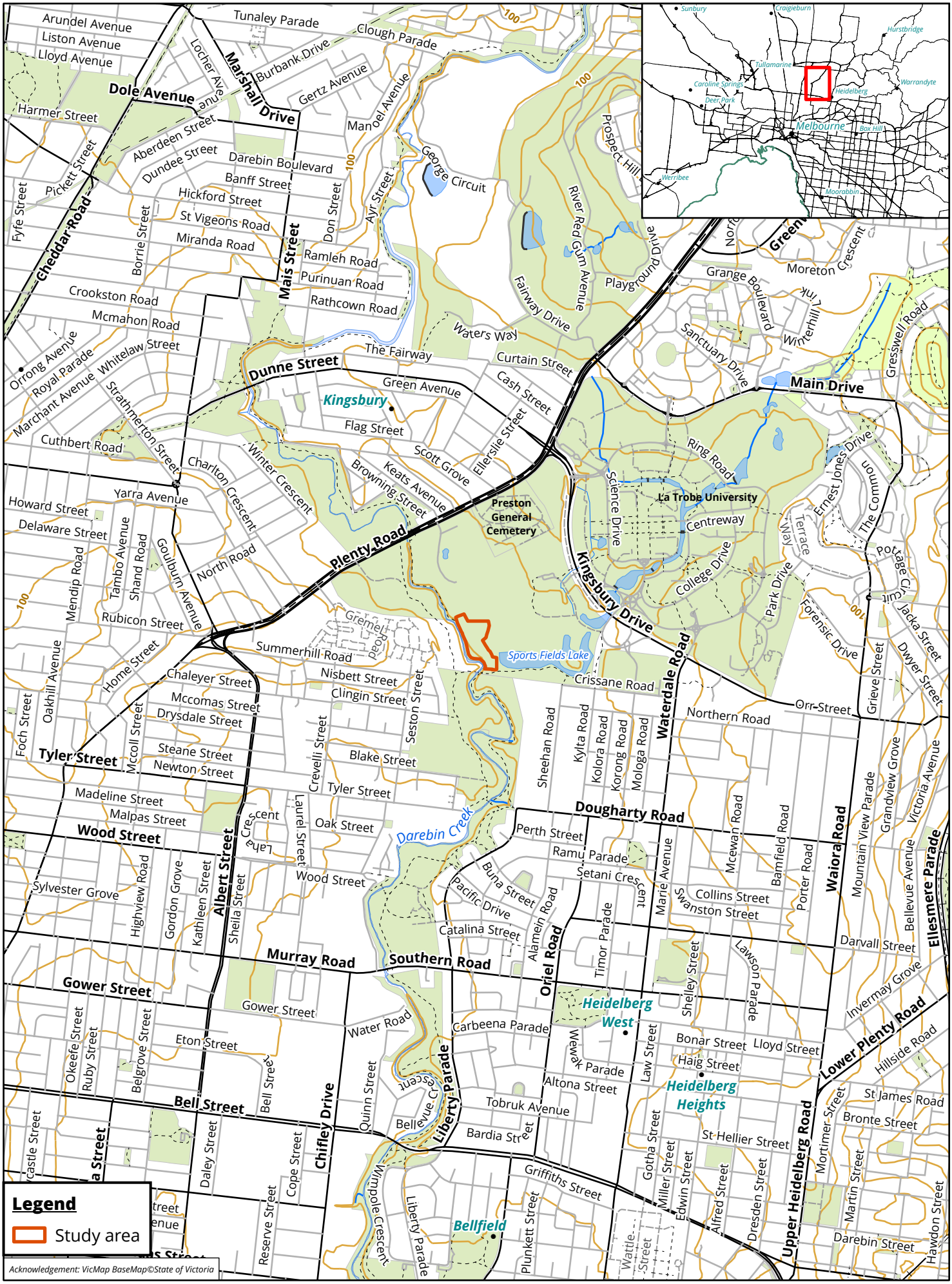

Figure 1 Location of the offset area - LaTrobe University Sports Precinct, Bundoora, Victoria

Matter: 41026,
Date: 07 January 2025 ,
Prepared for: TH, Prepared by: SKM, Last edited by: smitchell
Layout: 41026_F1_Locality
Project: P:\41000s\41026\Mapping\41026_LTU_OffsetMonitoring_2024.aprx

0 250 500 750 1,000
Metres
Scale: 1:25,000 @ A4
Coordinate System GDA2020 MGA Zone 55

N

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2 Compliance and reporting requirements

2.1 Responsibilities of La Trobe University

La Trobe University is responsible for the implementation of the OMP and the management of the offset site in perpetuity via a covenant. Management are detailed in the OMP and include:

- Implementing the OMP.
- Ensuring all staff and contractors comply with all OMP requirements.
- Ensuring preparation of ongoing management audit/review.
- Ensuring preparation of annual management objectives for the next year including targets and standards.
- Appointing of consultant ecologist and specialist bushland management contractor to implement responsibilities management of the site.
- Reporting to Trust for Nature (TfN) and DCCEEW as required.

Each of these tasks will be undertaken by dates specified in the OMP (Biosis 2020). La Trobe's compliance with the OMP is addressed in Section 3.2 of this report.

An annual report will be prepared based on annual monitoring that details the works completed and provides an assessment against the targets established in the OMP. The works program was audited at the end of years 1 to 4 and will be audited again in year 5.

2.2 Responsibilities of all staff or contractors on site

All staff or contractors working within the offset site must:

- Undertake all works in accordance with the OMP.
- Report any issues or incidents to the Project Manager.

For the current reporting year (Year 4; 2024), all staff and contractors worked in accordance with the OMP and all issues or incidents were reported to the Project Manager.

2.3 Environmental approvals

Vegetation removal associated with the construction of the La Trobe University Sports Precinct Stage 3 has been authorised under the EPBC Act approval (EPBC 2018/8343). Vegetation proposed for removal is described in the biodiversity assessment report prepared by Biosis (2019).

2.4 Enforcement

Compliance with the approved OMP is mandatory under the EPBC Act approval and will be subject to enforcement by DCCEEW.

2.5 Reporting

Unless otherwise advised by the Minister, the landowner, via the approval holder (La Trobe), must submit a report annually to TfN and DCCEEW for the period of the approval (i.e. until 2040). Reports are to be submitted at least two months prior to the anniversary date of the execution of the OMP to allow time for compliance to be assessed before the anniversary date. Reports will also be published on the La Trobe website within three months of every 12-month anniversary.

The annual report will address progress against the commitments set out in the OMP. Annual reports will provide enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of or progress towards the management commitments and completion criteria for the offset site.

The annual report will include:

- Details of management actions, including on ground works, undertaken within the reporting period.
- Results of monitoring activities, including fence condition, weeds, pest animals, habitat quality, vegetation quality and ground cover biomass accumulation / the cover of open ground.
- Tracking of results in comparison to management performance targets and completion criteria.
- Site photographs including those from five permanent photo point locations.
- Details of compliance or non-compliance with the schedule of management actions (Table 1).
- Details of compliance or non-compliance with performance targets (Section 3.2).
- Details of any incidents or new and emerging management issues, with recommendations for corrective action and plan review in order to obtain the offset completion criteria.
- Any triggers exceeded and which corrective actions were implemented.
- Results of Matted Flax-lily monitoring events.

2.6 Data management

The qualified ecologist undertaking ecological components of the monitoring program will retain all monitoring data in an appropriate database format. Spatial data will be maintained within an appropriate GIS file format (e.g. ESRI shape file). All flora and fauna records will be submitted to DEECA for incorporation into the Victorian Biodiversity Atlas (VBA) as per the requirements of relevant licences.

La Trobe will ensure all records of inductions, inspections and monitoring are stored safely and are readily accessible for auditing. Types of records relevant to this plan include:

- All monitoring, inspection and compliance reports.
- Induction and training records.
- Correspondence with public authorities.
- Reports on incidents impacting on biodiversity values and follow-up actions.
- Spatial data.

3 Monitoring compliance results with management actions

3.1 Approach to monitoring

This report details the findings of annual monitoring during Year 4 (2024). Monitoring at the end of Year 4 aimed to determine whether the management actions specified in the OMP are being undertaken and La Trobe is compliant. Evidence of compliance was monitored and includes factors such as:

- Fence and gate condition
- Extent of weed cover (especially high threat and woody weeds)
- Biomass levels
- Native vegetation quality.

3.2 Management actions completed at year 4 (2024)

A 2025 OMP Resourcing Plan (developed by the Nagak Tamboree Wildlife Sanctuary, with the Narrap unit as well as the Darebin Creek Management Committee in December 2024 and finalised in early 2025 satisfactorily addresses the areas of non-conformance and the recommendations below.

Management actions specified in the approved OMP for the current reporting period (calendar year 2024) are listed in Table 1 alongside a compliance assessment for Year 4. Cells shaded green indicates compliance, cells shaded orange indicates partial compliance, and cells shaded red indicates non-compliance. Where non-compliance was reported, recommendations are provided to ensure compliance going forward.

Notably, the majority of relevant actions specified for this period have been completed or are ongoing in accordance with the OMP in 2024. While woody weeds persist within the offset area, evidence of extensive weed removal and treatment was observed during the Biosis site visit. La Trobe University should continue to focus on weed management within the offset site. In summary, La Trobe University has satisfactorily complied with the OMP during the 2024 reporting year.

Table 1 Year 4 progress against management actions for the offset site as outlined in the OMP

Management item	Year 4 action (Biosis 2020)	Progress at end of Year 4
Long-term protection	The offset area will be secured in-perpetuity via a covenant as to part Section 3A Victorian Conservation Trust Act 1972, to be registered on the title prior to the commencement of development associated with the Stage 3 Sporting Precinct.	Compliant; covenant with Trust for Nature was established on 10 May 2023.

Management item	Year 4 action (Biosis 2020)	Progress at end of Year 4
Annual works program	Prior to any works being undertaken each year an annual works program will be developed by an experienced bushland regenerator.	Compliant; Annual works program prepared by Darebin Creek Management Committee.
Fencing, information and access control	Establish fencing and or other access control devices (i.e. gates) to control access to the offset site and repair promptly if damage occurs.	Compliant; Fencing and access control has been established and maintained.
	Establish posts to mark the boundary of the offset site for management and monitoring purposes under supervision from a qualified ecologist.	Compliant; Posts to mark the boundary of the offset site have been established.
	Control access and any passive use to minimise impacts on native vegetation.	Compliant; offset site is fenced, southern gate did not appear to have a lock upon site inspection in November 2023 but has been rectified as of November 2024.
	Provide access for management vehicles into the offset site, using the existing track network. No additional vehicle access is to be established.	Compliant; No new tracks have been established within the offset site. The existing track network is used for vehicle access.
	Surveys of the offset boundary and any associated access control infrastructure will be conducted quarterly, and when visiting the site to conduct other monitoring or management actions.	Compliant; Fencing was in good condition during the Year 4 compliance monitoring.

Management item	Year 4 action (Biosis 2020)	Progress at end of Year 4
Weed control	Treat all existing infestations of woody weeds within 12 months, and eradicate within three years. Continuous follow-up control to eradicate woody weed seedlings and other regeneration.	Non-compliant; Evidence of extensive weed removal and treatment was observed during the Biosis site visit. However, many infestations of woody weeds still occur within the site such as Gorse *Ulex europaeus* (See Figure 7). Woody weeds have not been eradicated in four years and require management to bring them under control within the next 12 months.
	Spot spraying of weeds with appropriate herbicide will be undertaken, particularly through spring and early summer.	Compliant; There is evidence of weed management on the site including spraying of weeds.
	Target weeds will be treated before seed set; this requires repeated monitoring and treatment during the growing season.	Ongoing; Weeds are still present, however, management is underway in accordance with the OMP Resourcing Plan.
	Ensure the absence of high threat woody weeds within the offset area through monitoring and where found to occur, control and eliminate promptly. Preferably control nearby infestations to prevent the spread of these species.	Ongoing; Weeds are still present, however, management is underway in accordance with the OMP Resourcing Plan.
	Control works will ensure that the total cover of perennial weeds will be reduced to no more than 2% and preferably eliminated. Specific targets include: a reduction of high threat weeds in accordance with Table 4; perennial grassy weeds will be reduced to less than 1% total cover; and broadleaf weeds reduced to no more than 2% cover.	Partially compliant; Weeds are still present however, management is underway. Cover of weeds across the offset site is much higher than the goals specified in the OMP (average cover of 56.8 % in the quadrats), weed cover has not reduced substantially relative to previous years. The OMP Resourcing Plan outlines the priorities for removal over the coming 12 months.
	Total weed cover (annual and perennial weeds) reduced from 50% cover to 20% cover.	Ongoing; High threat weeds throughout the offset site and weed covers in quadrats have been subject to control efforts, however total cover is still higher than 20%. Total weed cover is 67.2% based on quadrats. The OMP Resourcing Plan outlines priorities for the coming 12 months.

Management item	Year 4 action (Biosis 2020)	Progress at end of Year 4
	Monitoring will be undertaken to demonstrate the effectiveness of weed control works and the results are to be used to adapt future control works and targets.	Ongoing; Year 4 monitoring complete.
	Any populations of new and emerging high threat weeds will be treated promptly and eliminated. This will be done in consultation with TfN.	Ongoing; Land management team have undertaken regular weed control throughout the 4th year of management.
	Any other significant environmental weeds identified during the ongoing site monitoring will also be controlled in consultation with TfN.	Ongoing; As above.
	During weed control, natural regeneration of indigenous flora will be protected from off-target damage.	Ongoing; No evidence of damage to indigenous flora was observed during the monitoring events.
Weed monitoring	Weed monitoring conducted annually in spring as part of the annual monitoring event.	Compliant; results of weed monitoring included in this report.
Pest animals	Control and seek to locally eliminate European Hares, European Rabbits, cats and foxes using appropriate control techniques including poison baits or similar methods, without significant soil disturbance (i.e. ripping of warrens is not acceptable).	Compliant; Several rabbit warrens observed during a survey, however, there were no signs of activity.

Management item	Year 4 action (Biosis 2020)	Progress at end of Year 4
	Fumigate rabbit warrens within three weeks of detection. Fumigation works will be conducted by a suitably qualified operator.	Compliant: No active rabbit warrens were observed in 2024.
Pest animal monitoring	Pest animal monitoring will occur annually in November. This will include a systematic survey of the offset site lasting no longer than thirty minutes.	Compliant: A night survey was undertaken and no rabbits or hares were observed within the offset site. One fox was observed to the south of the study area.
Biomass/ organic litter	Engage a qualified contractor to produce a fire management plan which allows for an ecological burning regime described in the following dot points:	Compliant: Planned burns in sections of the offset site were undertaken in 2023.
	Undertake ecological burning over the offset area (or parts there-of) so that no area is burnt more frequently than every two years;	
	When planning burns, liaise with any relevant regulator regarding appropriate planning and permits in a timely manner;	
	Plan and conduct ecological burning within different seasons to promote regeneration of a variety of species and remove debris created by the control of woody weeds.	
Understorey diversity and recruitment	Active weed management to be undertaken as outlined in Section 3.8.2 of the OMP.	Compliant; The land management team have visited site on a several occasions and undertaken weed management, i.e. spraying and woody weed removal. Refer to weed control items above for compliance.

Management item	Year 4 action (Biosis 2020)	Progress at end of Year 4
	Biomass will be managed to enhance recruitment.	Partially compliant (ongoing); Planned burns were undertaken in 2023. Organic litter cover is currently 16% which is above the acceptable range (<10%) as outlined in Section 3.8 of the OMP. The OMP Resourcing Pan outlines priorities for removal over the coming 12 months.
Revegetation	Once weed and biomass control activities have established areas with a low cover of weeds, these areas will be sown with a variety of suitable native graminoids (Appendix 1). This direct seeding will target a minimum establishment density of five grasses per square metre.	Ongoing – Some plantings have been established within areas of existing vegetation. Further weeding and biomass control is required to expand these into areas of introduced vegetation. The OMP Resourcing Plan outlines priorities for removal over the coming 12 months.
Baseline site condition monitoring	Within three months approval of the OMP and prior to the commencement of any management activities a suitably experienced botanist will systematically survey the site and collect information on flora species by the establishment of five permanent five by five metre monitoring quadrats.	Compliant; Baseline monitoring of the offset site was undertaken on 21 October 2021.
Continuous monitoring	Regular site inspections (of about two hours at least every two months) will be undertaken to provide general condition observations. The Landowner must keep a diary of any works conducted within the offset site and record any observations which could influence or initiate a management response.	Compliant; land management group keeps records of daily works and general condition observations. Daily works records are available for review.
Woodland monitoring	The condition of the Plains Grassy Woodland will be assessed annually during spring. This will be done using the offset site as a single unit and using the habitat hectare method.	Compliant – Vegetation Quality Assessment undertaken during Year 4 of monitoring.
Matted Flax-lily monitoring	Surveys of translocated Matted Flax-lily individuals to occur annually during late spring to early summer.	Compliant ongoing - Translocation of Matted Flax-lily individuals has taken place and monitoring is ongoing.

Management item	Year 4 action (Biosis 2020)	Progress at end of Year 4
Revegetation monitoring	Monitoring of the revegetation works will commence in the spring of Year 4.	Compliant ongoing – The first year of revegetation monitoring commenced in November 2024.
Reporting	La Trobe must submit a report annually to TfN and DCCEEW for the period of the approval (i.e. until 2040). Reports are to be submitted at least two months prior to the anniversary date of the execution of the OMP. The annual report will address progress against commitments set out in the OMP.	Compliant once the 2024 monitoring report (this report) is submitted to TfN and DCCEEW.

4 Key offset outcomes and vegetation monitoring methods

4.1 Key offset outcomes

The key environmental outcomes / criteria to be achieved through protection and management of the offset site are:

- Permanent legal protection of 2.81 hectares of Matted Flax-lily habitat.
- Physical protection of the habitat area from manageable threats including grazing by domestic stock, weed infestations and degradation by pest animals.
- Attainment of Matted Flax-lily habitat condition completion criteria (below), as measured by habitat monitoring.

4.1.1 Future site condition – completion criteria

The 2.81 hectare offset site must achieve the following:

- Be dominated by good quality native vegetation (target Vegetation Quality Assessment [VQA] site condition score of 30–45/75).
- Support a population of Matted Flax-lily with a density of at least 2 to 5 plants per hectare.

4.2 Methods

The Year 4 flora assessment was undertaken on 7 November 2024 by Tom Hewitt (Botanist) and Hayley Sime (Botanist). Five permanent 5 x 5 metre quadrats were monitored during the assessment. The quadrat locations are shown in Figure 3 and their placement within the offset site is explained in the OMP (Biosis 2020).

4.2.1 Photo point monitoring

Photo points were established at each quadrat in 2020 and photos are taken annually. Four photos were taken facing into the quadrat from each corner and photos were digitally labelled with the quadrat number and orientation (e.g. Q1 NW to denote the north-west corner of quadrat 1). Each photo was taken standing approximately 1.5 metres back from each corner of the quadrat. See Appendix 3 for photos.

There were issues with consistency of photo points between 2020 and 2022. As a result, permanent pickets were installed in the remaining three corners in 2023.

4.2.2 Vegetation monitoring

The following attributes were recorded at each 5 x 5 metre monitoring quadrat:

- Flora species, noting whether the species is native or introduced and/or a high threat weed.
- Total percent cover of each species using a modified Braun-Blanquet cover abundance scale (Table 2).
- Total native vegetation cover (%).
- Total weed cover (%).

- Cover of bare ground, leaf litter, soil crust, bryophytes and inter-tussock space (%).
- Vegetation height (cm).
- Biomass

Table 2 Modified Braun-blanquet cover abundance categories.

Value	Cover and abundance	Low %	Mid %	High %
+	Cover <5%, less than 3 individuals	1	2.5	4
1	Cover <5%, 3 or more individuals	1	2.5	4
2	Cover 5–25%, any number of individuals	5	14.5	24
3	Cover 25–50%, any number of individuals	25	35.5	50
4	Cover 50–75%, any number of individuals	50	65.5	74
5	Cover 75–100%, any number of individuals	75	87.5	100

Vegetation height

A measuring stick was placed vertically at 1 metre intervals inside each quadrat 16 times (Figure 2).

At each interval the height of the tallest vegetation touching the stick was recorded.

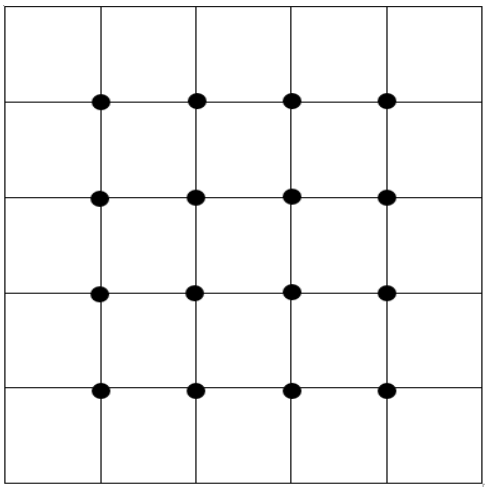


Figure 2 Locations of vegetation height measurements taken at 1 metre intervals

Biomass assessment

Four samples of biomass accumulation were recorded at each of the five quadrats. The golf ball biomass assessment method (Williams et al. 2015) was used to measure how open or dense vegetation is. A 1 x 1 metre quadrat was placed at each corner of the 5 x 5 metre quadrats. Eighteen golf balls were randomly dropped into the 1 x 1 metre quadrat from a height of 1.3 metres. The visibility of the golf balls from a standing position above the quadrat was scored as follows:

- Any golf ball that was more than 90% visible was given a score of 1.
- Any golf ball that was 33% to 90% visible was given a score of 0.5.
- Any golf ball that was less than 33% visible was given a score of 0.

Average golf ball scores for a given 5 x 5 metre quadrat can be categorised as follows (Morgan 2015):

- High biomass (0–5): low golf ball visibility, which suggests that biomass reduction (e.g. through fire and/or grazing) is required.
- Moderate biomass (6–14): moderate golf ball visibility, which suggests that the need for biomass reduction should continue to be closely monitored.
- Low biomass (15–18): high golf ball visibility, which suggests that biomass reduction is not required.

4.2.3 General site inspection and walkover

During the offset suitability assessment in September 2019, a preliminary flora species list was collected for the offset site. The flora species list is updated annually during monitoring with new species observations.

While the current species list is relatively comprehensive, it is not exhaustive. Some species may not have been observed due to their very low abundance, dormancy or seasonal conditions. Though the timing of the November 2024 monitoring captured the peak flowering period for many species, some had recently finished flowering or were not yet flowering, making it difficult to identify some specimens to species level. Species will be continually added to the species list with each year of monitoring.

During the site visit, relevant management issues were noted and, where appropriate, their locations were mapped using a GPS-enabled tablet, typically to an accuracy of 3 metres. Where relevant, the location of woody weeds, new and emerging weeds and evidence of pest animals was mapped.

4.2.4 Vegetation Quality Assessment

A Vegetation Quality Assessment (VQA) was undertaken for all patches of native vegetation based on DEECA's habitat hectare method (DSE 2004) and the Guidelines (DELWP 2017). The entire offset site was assigned a single VQA score as prescribed within the OMP.

4.2.5 Remnant Matted Flax-lily location and health

A targeted survey for Matted Flax-lily was undertaken within all suitable habitat throughout the offset site. Any Matted Flax-lily plants encountered were assigned a number and mapped using GPS enabled tablets. The following health attributes were measured for each of the Matted Flax-lily observed in the offset site:

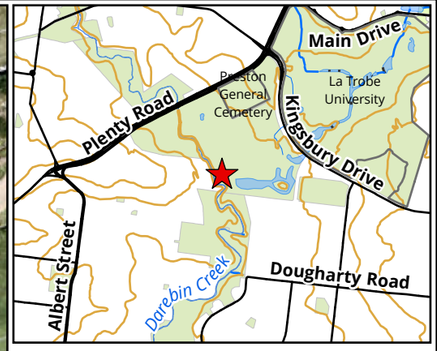
- Foliage health
- Maximum leaf length
- Maximum leaf width
- Number of leaf tufts (ramets)
- Number of inflorescences
- Weed cover, native cover and bare ground cover within a 1-metre radius.

4.2.6 Data management

A project database has been established and will be maintained allowing for data storage and protection, data extraction, quality control, analysis, interpretation, reporting and presentation.

4.2.7 Future monitoring

Future annual ecological monitoring must follow the methods outlined in the OMP, whilst incorporating the specific methods outlined above.



Legend

- Offset area
- Quadrat

Figure 3 Location of quadrats

0 10 20 30 40 50

Metres

Scale: 1:1,200 @ A3

Coordinate System: GDA2020 MGA Zone 55

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biosis

APEMGroup

Matter: 41026,
Date: 23 January 2025 ,
Prepared for: TH, Prepared by: SKM, Last edited by: smitchell
Layout: 41026_OffsetSite
Project: P:\41000s\41026\Mapping\
41026_LTU_OffsetMonitoring_2024.aprx

Acknowledgements: VicMap BaseMap©State of Victoria, Nearmap imagery October 2024

5 Results of vegetation monitoring

A summary of targets as outlined in the OMP and the status of these targets during the Year 4 (2024) monitoring event of the offset site is provided in Table 3.

Table 3 Summary of progress against targets at end of Year 4

Item	Year 10 target	Outcome at end of Year 4
Weeds	Eliminate woody weeds	Woody woods recorded within offset area. Most woody weeds encountered in the offset site are young recruits (see Figure 7 for locations of woody weeds). Mature woody weeds are currently limited.
	Cover of perennial grassy weeds to no more than 2% cover across the site	Cover of perennial grassy weeds currently 42%, much greater than the goal of 2% across the site. Grassy weed levels have remained steady relative to previous years.
	Cover of broad leaf weeds to no more than 2% cover across the site	Cover of broad leaf weeds currently 4% across the monitoring quadrats. This is above 2% across the site.
	No mature woody weeds present within the offset area at the completion of Year 2. Maintain cover of woody weeds at negligible levels in perpetuity.	Mature woody weeds are present within offset area. Most woody weeds encountered in the offset site are young recruits. Very few mature woody weeds were recorded.
Revegetation	Revegetation should increase the cover of native vegetation to greater than 25% across the offset site.	Large areas remain with <25% native vegetation cover.
Vegetation quality	Offset site to be dominated by good quality native vegetation (VQA site condition score of 30–45/75)	VQA score of the offset site as a single habitat zone is 42/75.
Matted Flax-lily	Support a population of Matted Flax-lily (MFL) with a density of at least 2 to 5 plants per hectare. Maintain or improve the size and health of the remnant MFL population within the offset site.	Translocation of MFL took place in 2024. A MFL monitoring report for the translocated individuals will be available in February 2025. Annual survey undertaken and seven healthy remnant MFL plants recorded. This is an increase from the five MFLs recorded in 2023.

5.1 General Vegetation quality

The offset site must be dominated by high quality native vegetation (VQA site condition score of 30–45/75) by the end of Year 10 as per Section 3.4.1 of the OMP.

The initial site condition report (Biosis 2019) identified four habitat zones within the offset area. These zones are shown in Figure 4 and Figure 7 and the 2019 VQA scores are presented in Table 4.

The OMP states that a VQA is to be undertaken on an annual basis using the offset site as a single habitat zone. The results of the Year 4 (2024) VQA are presented in Table 5.

Table 4 VQA results of native vegetation within the offset site (Biosis 2019)

Habitat Zone ID			4.2	7	8	A
EVC #: Name			Plains Grassy Woodland EVC 55			
		Max Score	**Score**	**Score**	**Score**	**Score**
Site Condition	Large Trees	10	0	0	0	0
	Canopy Cover	5	0	5	5	0
	Lack of Weeds	15	4	4	4	4
	Understorey	25	5	5	5	5
	Recruitment	10	5	5	0	5
	Organic Litter	5	3	3	3	3
	Logs	5	0	0	0	0
	Total Site Score		**17**	**22**	**17**	**17**
Landscape Value	Patch Size	10	1	1	1	1
	Neighbourhood	10	0	0	0	0
	Distance to Core	5	0	0	0	0
	Total Landscape Score		1	1	1	1
Habitat points = #/100		100	**18**	**23**	**18**	**18**
CONDITION SCORE		1	0.18	0.23	0.18	0.18

Table 5 VQA results of the offset site as a single habitat zone 2024

EVC #: Name		Plains Grassy Woodland EVC 55
	Max Score	**Score**
Site Condition	Large Trees	10	2
	Tree Canopy Cover	5	4
	Lack of Weeds	15	0
	Understorey	25	15
	Recruitment	10	10

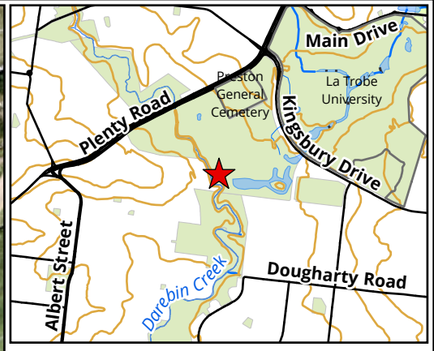
EVC #: Name			Plains Grassy Woodland EVC 55
		Max Score	Score
	Organic Litter	5	5
	Logs	5	5
	Total Site Score		**41**
Landscape Value	Patch Size	10	1
	Neighbourhood	10	0
	Distance to Core Area	5	0
	Total Landscape Score		1
Habitat points = #/100		100	**42**
CONDITION SCORE		1	0.42

5.2 Matted Flax Lily Health monitoring

The entire offset site was surveyed for the presence of remnant Matted Flax-Lily individuals. Each Matted Flax-lily was measured for several health attributes (see Table 6) and the location of each plant mapped using a GPS enabled tablet (Figure 4).

Table 6 Matted Flax Lily health

Plant No / Clone No	Foliage health rating	Max length (cm)	Max width (cm)	Number of leaf tufts(ramets)	Number of inflorescences	Weed cover within 1 m radius (%)	Native cover within 1 m radius (%)	Bare ground within 1 m radius (%)	Management required?
1	Moderate	20	0.5	5	2	80	5	10	Weed control
2	Poor	9	0.2	2	3	2	70	20	Not currently
3	Moderate	27	1	14	11	70	15	5	Weed control
4	Good	39	1.5	9	14	25	5	2	Not currently
5	Not found								
6	Moderate	20	1.1	108	51	5	70	5	Not currently
7	Poor	25	0.2	1	2	35	25	40	Not currently



Legend

- Offset area
- Matted Flax-lily - *Dianella amoena* (Biosis 2023/24)

Figure 4 Distribution of Matted Flax-lily - *Dianella amoena*

0 10 20 30 40 50

Metres

Scale: 1:1,200 @ A3

Coordinate System: GDA2020 MGA Zone 55

N

biosis

APEM Group

Matter: 41026,
Date: 07 January 2025 ,
Prepared for: TH, Prepared by: SKM, Last edited by: smitchell
Layout: 41026_OffsetSite
Project: P:\41000s\41026\Mapping\41026_LTU_OffsetMonitoring_2024.aprx

Acknowledgements: VicMap BaseMap©State of Victoria, Nearmap imagery October 2024

5.3 Quadrat monitoring

Quadrat monitoring was undertaken on 7 November 2024, which is an appropriate time to survey, as many of the species at La Trobe were in flower or fruit and were readily identifiable. The results of the quadrat monitoring are discussed here and displayed in Appendix 2.

5.3.1 Flora species

A total of 47 flora species were recorded during the Year 4 monitoring (within each of the quadrats) (Appendix 1). This list includes 14 native species and 33 introduced species.

One threatened flora species was recorded: Matted Flax-lily *Dianella amoena* (listed as endangered under the EPBC Act and critically endangered under the FFG Act). This species was recorded in quadrat 2. Six individuals were recorded throughout the offset site in 2024 (Figure 4).

5.3.2 Life forms

Vegetation quality assessments assign native species into lifeforms and each benchmark VQA score has an expected number and cover of lifeforms. A high VQA score is assigned to a patch of vegetation that supports a diversity and cover of lifeforms that is similar to the benchmark.

In year four, 12 of the 13 expected lifeforms were recorded during the VQA assessment across the offset site with only large herbs being absent. Lifeforms such as medium herbs have a much lower diversity and cover in the offset site than the VQA benchmark and therefore result in a low Understorey score.

5.3.3 Vegetation diversity and cover

The number of native species (Figure 5) and cover of native species (Figure 6) within the monitoring quadrats in 2024 remains lower than the diversity and cover of weed species in 2024 with the exception of quadrat 4 which recorded a greater proportion of indigenous species. Overall, species richness of indigenous flora remains low, ranging from three to eight species within the five 5 x 5 metre quadrats.

Cover of introduced species in 2024 increased slightly to 67.2% from 65.2% in 2023. Introduced vegetation cover was higher than native cover for four of the five quadrats. Cover of indigenous flora is low within each of the quadrats, ranging between 3% to 31% in 2024. Quadrat 4 supports the highest native vegetation cover at 31% and was the only quadrat to have a higher proportion of native vegetation cover than introduced (22%). A very slight increase in the overall mean native vegetation cover was observed across all quadrats with mean cover increasing to 13% in 2024 compared to 10.6% in 2023.

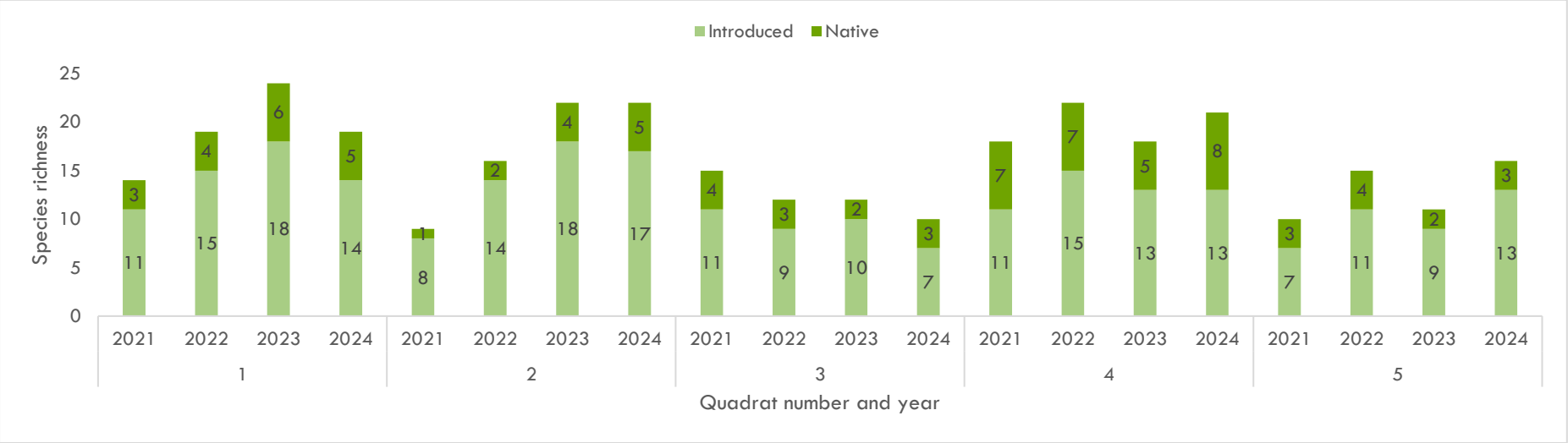


Figure 5 Number of indigenous and introduced flora species in each quadrat in 2021, 2022, 2023 & 2024.

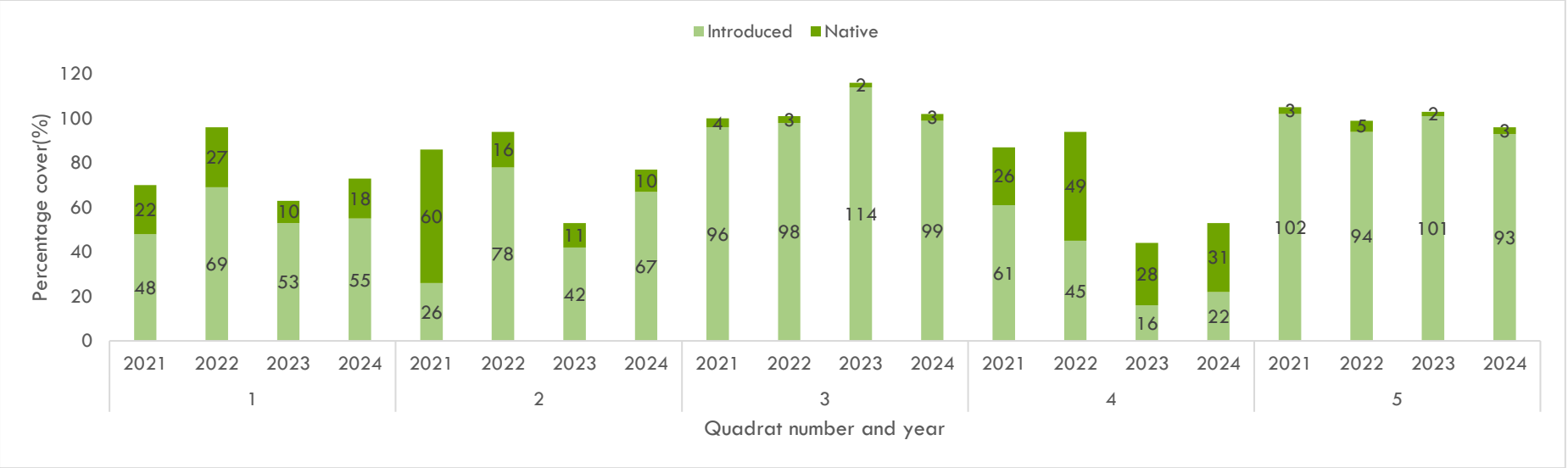


Figure 6 Cover of indigenous and introduced flora species in each quadrat in 2021, 2022, 2023 & 2024.

5.3.4 Weed management

A key performance target, to assist in attainment of a habitat score of at least 30–45/70, is to eliminate woody weeds and reduce the abundance of perennial, introduced pasture grasses such as Chilean Needle-grass *Nassella neesiana*, Toowoomba Canary-grass *Phalaris aquatica* and Cocksfoot *Dactylis glomerata.*

The weed reduction target for introduced perennial grasses is set at <2% total cover. In Year 4, perennial grass cover within each of the quadrats ranged from 90% in quadrat 3 to 11% in quadrat 4. The average perennial grass cover across all quadrats was 51.6%. This is an increase in the cover of perennial grass cover relative to 2023. Annual grass cover was sparce with an average score of 0.4% across the five quadrats. Other priority weed species recorded at low densities of <1% cover include Bridal Creeper *Asparagus asparagoides,* Kikuyu *Cenchrus clandestinus,* Spear thistle *Cirsium vulgare,* Paterson's curse *Echium plantagineum,* Angled Onion *Allium triquetrum* and Twiggy Mullein *Verbascum virgatum.* Soursob *Oxalis pes-capre* was not recorded during the site visit.

Mean total weed cover within the five monitoring quadrats during Year 4 monitoring in November 2024 was 67.2% which is similar to the 2023 survey (65.2%). Significant management will be required to reach the 2% cover target that is specified for the offset site in the OMP.

Toowoomba Canary-grass, Cocksfoot and Chilean Needle-grass are the dominant perennial weed species across the study area. Other notable weed infestations include Serrated Tussock *Nassella trichotoma*, Montpellier Broom *Genista monspessulana,* Common Blackberry *Rubus anglocandicans* and Gorse *Ulex europaeus*. Gorse is beginning to establish within Zones 1 and 3 but has not yet set seed. One Briar Rose was also recorded along the edge of the offset site (Figure 7).

Improving the lack of weeds score by reducing the cover of weed species throughout the offset site will provide opportunities for additional understorey lifeforms to establish. These outcomes will elevate the offset site condition score to the required level to achieve the defined completion criteria.

The declared noxious weeds recorded during years 1–4 are listed in Table 7. These weed species should be the focus of future weed management programs at La Trobe University.

Table 7 List of declared noxious weeds and high threat weeds recorded during Year 1-4 within the offset site

CaLP Act status	Scientific name	Common name
R	*Asparagus asparagoides*	Bridal Creeper
R	*Allium triquetrum*	Angled Onion
RC	*Cirsium vulgare*	Spear Thistle
RC	*Crataegus monogyna*	Hawthorn
RC	*Echium plantagineum*	Paterson's Curse
RC	*Genista monspessulana*	Montpellier Broom
RC	*Lycium ferocissimum*	African Box Thorn
R	*Nassella neesiana*	Chilean Needle-grass

CaLP Act status	Scientific name	Common name
RC	*Nassella trichotoma*	Serrated Tussock
R	*Oxalis pes-caprae*	Soursob
RC	*Rosa rubiginosa*	Sweet Briar
RC	*Rubus anglocandicans*	Common Blackberry
RC	*Ulex europaeus*	Gorse

5.3.5 Woody Weeds

Several infestations of woody weeds were observed within the study area. Gorse was the most extensive of these species, but these are young individuals that have not yet set seed. In addition, Desert ash *Fraxinus angustifolia,* Hawthorn *Crataegus monogyna,* Prunus *Prunus spp.,* Common Blackberry, Briar Rose, Drooping Cassinia *Cassinia sifton,* Montpellier broom and Olive *Olea europaea* were recorded in the north of the offset site. The presence of these species means the site is not yet compliant with the goal of eliminating woody weeds. Olive and Hawthorn are both large and established trees but do not appear to have seedlings at the time of the site visit. Several desert ash seedlings were recorded beneath the parent tree in the north of the site. All these species must be controlled to ensure compliance with the OMP.

La Trobe University is coordinating with environment management contractors to address the extent of woody weeds on the site and address areas of noncompliance.

Locations of woody weeds are shown in Figure 7.

5.3.6 Biomass accumulation

Where there is a sustained build up in ground cover biomass over any one year, resulting in a reduction of grass inter- tussock space to an average of less than 30%, biomass will need to be actively reduced. Inter-tussock space is important for plant recruitment and is used as a collective term for bare ground, bryophytes, lichens and soil crust, all of which provide a medium upon which plant recruitment can occur (DSE 2004).

Across all quadrats there was an average of 6% cover inter-tussock space, a 2% increase relative to 2023 but still significantly lower than the target of 30%.

This result corresponded with a mean golf ball score of 9 which indicates there is a moderate cover of biomass within the offset site.

A low golf ball score is indicative of high biomass across the offset site. This is evident in Quadrat 5, which is dominated by introduced species such as Toowoomba Canary-grass and Cocksfoot, which can both grow to 1 metre in height.

Table 8 summarises the biomass accumulation results for each of the five quadrats.

Table 8 Mean inter-tussock space, golf ball score and maximum vegetation height for the five permanent monitoring quadrats in Year 4

Quadrat	Cover of inter tussock space (%)	Mean golf ball score	Mean maximum vegetation height (cm)

1	3	12 – moderate biomass	29
2	12	11 – moderate biomass	36
3	0	7 – high biomass	28
4	13	16 – low biomass	19
5	2	2 – high biomass	37
MEAN	**6**	**9 – moderate biomass**	**30**
TARGET	**30 (+/-10)**	**≥15 – low biomass**	**≤25**

5.4 Management zones

Five broad management zones were identified during the site survey based on the types of weeds present and the management actions required. These are summarised below.

Zone 1 – The largest management zone in the reserve made up of areas of Plains Grassy Woodland. Management in this area is likely to require the targeted spraying of grassy weeds including Chilean Needle-grass, Cocksfoot and Toowoomba Canary-grass which is abundant. Areas of Serrated Tussock are also present and should be controlled as a priority. Some woody weeds such as Prunus should also be controlled.

Zone 2 – Zone 2 includes the slope between Darebin Creek and the upper access track**.** Grassy weeds are highly abundant within this zone with approximately 80% of vegetation cover attributed to grassy weeds including Chilean Needle-grass, Toowoomba Canary-grass and Cocksfoot. Slashing will be required followed by burning to bring this area under control and remove excess biomass. Herbaceous weeds including Spear Thistle *Cirsium vulgare,* Paterson's Curse *Echium plantagineum,* Ribwort *Plantago lanceolata* and Great Mullein *Verbascum thapsus* are also present and should be controlled by spot spraying.

Zone 3 – Located in the northwest corner of the study area this is a high priority area for control as it is the location of high numbers of woody weeds. Gorse and Montpellier Broom are prevalent in this area and require control. These areas have not yet set seed, but these seedlings should be controlled as a priority though spraying or physical removal. Introduced grasses are present at low densities and may be able to be controlled through targeted spraying with herbicide.

Zone 4 – Located in the northeast corner of the study area this management zone contains a number of woody weed species. These include Olive *Olea europaea,* Desert Ash *Fraxinus angustifolia* and Hawthorn *Crataegus monogyna* which should all be controlled. As all are large mature trees their removal is likely to require the services of an arborist or experienced tree removal expert. Grassy weeds are also highly abundant throughout this zone with an estimated 90% total cover. Control through slashing and ultimately burning will be required to bring this area under control.

Zone 5 - Located in the southeast corner of the site this area includes the area of recently translocated Matted Flax-lily and an area of recent planting. Burning has reduced the level of introduced weeds within the zone and Kangaroo Grass *Themeda triandra* is dominant. Weeds are still present, particularly in the northern portion of the zone where native plantings have taken place. Ribwort was the most abundant species at 6%

cover with Chilean Needle-grass, Serrated Tussock, Toowoomba Canary-grass and Paterson's Curse also present at low abundance. Spot spraying and hand weeding is appropriate for these areas with care taken to avoid impacts on Matted Flax-lily through spray drift.

5.5 Pest animal control

There must be no active rabbit warrens or fox dens within the offset site (Objective 9 of the OMP) and new and emerging pest animals must be controlled (Objective 10 of the OMP). No active rabbit warrens or fox dens were recorded during monitoring in November 2024. One fox was sighted outside of the offset site during the November survey, but no activity was detected within the reserve.

Surveys for active warrens, rabbits and hares were undertaken in 2024. The pest animal monitoring report is provided in Appendix 5.

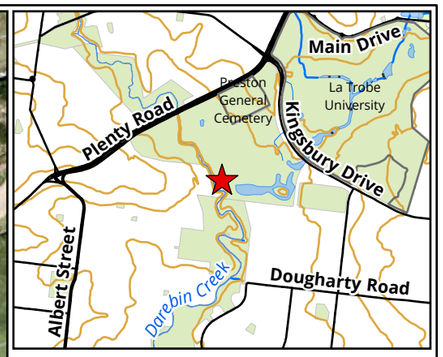
5.6 Revegetation

Some native revegetation work has taken place within the offset site with native shrubs. Survival of these plants in November was estimated at between 50% and 80%. The highest observed survival was in the wooded northernmost planting (Figure 7). In the OMP it is recommended that plantings take place outside the existing habitat zones however to date all plantings have been within existing habitat zones. Plants were of predominantly woody lifeforms and small shrubs with some climbing species. Among the observed planted species were Creeping Myoporum *Myoporum parvifolium* and Ruby Saltbush *Enchylaena tomentosa*.

5.7 General site condition

Weed cover remains high within the offset site, while there is some evidence of weed control weed levels are still much higher that the target values specified in the OMP. Significant weed control efforts will be required to meet the offset targets for weeds. Ecological burns have taken place in previous years which has stimulated the growth of native grasses in some areas however biomass (especially biomass of perennial weedy grasses) remains high throughout the site.

Fencing is in good condition and rubbish is absent from the site.



Legend

- Offset area
- Weed management zone
- Revegetation plantings

Woody weed locations

- *Rubus anglocandicans* - Common Blackberry
- *Prunus* spp. - Prunus
- *Cassinia sifton* - Drooping Cassinia
- *Fraxinus angustifolia* - Desert Ash
- *Olea europaea* - Olive
- *Crataegus monogyna* - Hawthorn
- *Ulex europaeus* - Gorse
- *Rosa rubiginosa* - Sweet Briar

Figure 7 Weed management zones

0 10 20 30 40 50

Metres

Scale: 1:1,200 @ A3

Coordinate System: GDA2020 MGA Zone 55

N

biosis

APEM Group

Matter: 41026,
Date: 23 January 2025 ,
Prepared for: TH, Prepared by: SKM, Last edited by: smitchell
Layout: 41026_OffsetSite
Project: P:\41000s\41026\Mapping\
41026_LTU_OffsetMonitoring_2024.aprx

6 Discussion and recommendations

6.1 Conclusion

La Trobe University satisfactorily complied with 24 of the 31 OMP requirements and were partially compliant with three of the requirements during the 2024 reporting year however there are several requirements which must be actioned.

Total weed cover within each of the quadrats was relatively unchanged from the previous years monitoring and is well above the target cover levels for most weed categories. Perennial grass weeds are much higher than the <2% target specified in the OMP. Additionally, cover of woody weeds remains high across the site comprising mostly new recruits.

Biomass levels at the site are significantly higher than the OMP target which requires inter-tussock space to be maintained at least 30% cover or greater. The mean inter-tussock space score across the five quadrats was 6% which is an increase of 2% from the previous monitoring period however this is still below the 30% target.

Some progress is needed towards meeting certain management objectives and targets over the coming years. Particular attention will need to be given to ensuring that vegetation quality and weed control targets are met. This will require diligent implementation of the OMP (e.g. weed control actions), regular monitoring of progress and adapting of management actions accordingly, where relevant. Management of declared noxious weeds should be a high priority in the next two to three years and biomass control using planned burns where possible should be utilised. Where not possible brush cutting should be undertaken to reduce overall biomass levels.

6.2 Recommendations

6.2.1 Management recommendations

Based on results of the Year 4 monitoring, the following management actions in accordance with the OMP will assist in ensuring the 10-year targets for vegetation quality and Matted Flax-lily are met:

- Continue the development of a comprehensive weed management program with a particular emphasis on controlling infestations of wood weeds before they set seed.
- Monitor for any new and emerging weeds and continuously treat those weeds to avoid further seed set, dispersal and infestation.
- Undertake biomass reduction works through burning where possible.
- Maintain a progressive annual works plan which caters to current conditions and prescribes ongoing management with an emphasis on controlling high threat weeds including perennial grasses and woody weeds.
- Implement revegetation planting in areas outside of existing habitat patches following weed control and biomass reduction works. Ensure all plantings are site-indigenous.
- The OMP outlines several specific weed targets for the offset area. As with the 2023 monitoring report we have used the target of <2% cover of perennial introduced grasses and broadleaf weeds. This target is highly ambitious and unlikely to be achieved in the short term. Other targets outlined in the OMP may be more achievable. i.e. an overall reduction in perennial weed cover to 20%.

6.3 Management actions for Year 5 (2025)

Refer to Table 5 of the OMP for management actions specified for Year 5 and beyond.

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Appendices

Appendix 1 Flora

Abbreviations and symbols:

Code	Meaning	Reference
National listings (EPBC Act)		
EX	Extinct	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)
CR	Critically endangered	
EN	Endangered	
VU	Vulnerable	
PMST	Protected Matters Search Tool	
State listings (FFG Act)		
x	Extinct	Victorian *Flora and Fauna Guarantee Act 1988* (FFG Act)
cr	Critically endangered	
e	Endangered	
v	Vulnerable	
P	Protected (public land only)	
Weed status (CaLP Act)		
SP	State prohibited species	Victorian *Catchment and Land Protection Act 1994* (CaLP Act)
RP	Regionally prohibited species	
RC	Regionally controlled species	
R	Restricted species	
RU	Restricted use	

Appendix 1.1 Flora species recorded from the study area

Table 9 Flora species recorded from the study area

Status	Scientific name	Common name
Indigenous species		
	Acacia implexa	Lightwood
RU	*Acacia mearnsii*	Black Wattle
	Acacia melanoxylon	Blackwood
	Acaena echinata	Sheep's Burr
	Allocasuarina verticillata	Drooping sheoak
	Amyema quandang var. *quandang*	Grey Mistletoe
	Anthosachne scabra s.l.	Common Wheat-grass
	Arthropodium sp. 3 (aff. *strictum*)	Small Chocolate-lily
	Asperula conferta	Common Woodruff
	Atriplex semibaccata	Berry Saltbush
	Carex sp.	Sedge
	Carex tereticaulis	Poong'ort
	Crassula spp.	Crassula
EN e cr P	*Dianella amoena*	Matted Flax-lily
	Eleocharis acuta	Spike Sedge
	Eucalyptus camaldulensis	River Red-gum
	Eucalyptus melliodora	Yellow Box
	Eucalyptus ovata	Swamp Gum
	Euchiton japonicus s.s.	Creeping Cudweed
	Exocarpos cupressiformis	Cherry ballart
	Juncus spp.	Rush
	Lepidosperma laterale	Variable Sword-sedge
	Melaleuca ericifolia	Swamp Paperbark
	Oxalis perennans	Grassland Wood-sorrel
	Poa labillardierei var. *labillardierei*	Common Tussock-grass
	Rytidosperma pilosum	Velvet Wallaby-grass

Status	Scientific name	Common name
	Rytidosperma setaceum	Bristly Wallaby-grass
	Rytidosperma spp.	Wallaby Grass
	Senecio quadridentatus	Cotton Fireweed
	Themeda triandra	Kangaroo Grass
Introduced species		
	Aira elegantissima	Delicate Hair-grass
	Allium neapolitanum	Naples Onion
R	*Allium triquetrum*	Angled Onion
	Anthoxanthum odoratum	Sweet Vernal-grass
	Arctotheca calendula	Cape Weed
R	*Asparagus asparagoides*	Bridal Creeper
	Avena barbata	Bearded Oat
	Briza maxima	Large Quaking-grass
	Briza minor	Lesser Quaking-grass
	Bromus hordeaceus	Soft Brome
	Cassinia sifton	Drooping Cassinia
	Cenchrus clandestinus	Kikuyu
	Centaurium erythraea	Common Centaury
	Cerastium spp.	Mouse-ear Chickweed
RC	*Cirsium vulgare*	Spear Thistle
RC	*Crataegus monogyna*	Hawthorn
	Cynodon dactylon	Couch
	Cyperus eragrostis	Drain Flat-sedge
	Dactylis glomerata	Cocksfoot
RC	*Echium plantagineum*	Paterson's Curse
	Ehrharta erecta	Panic Veldt-grass
	Ehrharta longiflora	Annual Veldt-grass
	Erigeron bonariensis	Flaxleaf Fleabane
	Erigeron spp.	Fleabane

Status	Scientific name	Common name
	Fraxinus angustifolia	Desert Ash
	Galium aparine	Cleavers
RC	*Genista monspessulana*	Montpellier Broom
	Geranium dissectum	Cut-leaf Crane's-bill
	Helminthotheca echioides	Ox-tongue
	Holcus lanatus	Yorkshire Fog
	Hypochaeris radicata	Flatweed
	Lactuca serriola	Prickly Lettuce
	Linum trigynum	French Flax
	Lysimachia arvensis	Pimpernel
RC	*Lycium ferocissimum*	African Box-thorn
R	*Nassella neesiana*	Chilean Needle-grass
RC	*Nassella trichotoma*	Serrated Tussock
R	*Oxalis pes-caprae*	Soursob
	Paspalum dilatatum	Paspalum
	Phalaris aquatica	Toowoomba Canary-grass
	Plantago lanceolata	Ribwort
	Romulea rosea	Onion Grass
RC	*Rosa rubiginosa*	Sweet Briar
RC	*Rubus anglocandicans*	Common Blackberry
	Rumex crispus	Curled Dock
	Rumex spp.	Dock
	Sonchus asper s.s.	Rough Sow-thistle
	Sonchus oleraceus	Common Sow-thistle
	Trifolium spp.	Clover
RC	*Ulex europaeus*	Gorse
	Verbascum spp.	Mullein
	Vicia sativa	Common Vetch
	Vicia spp.	Vetch

Status	Scientific name	Common name
	Vulpia bromoides	Squirrel-tail Fescue
	Vulpia myuros	Rat's-tail Fescue
RC	*Rubus anglocandicans*	Common Blackberry
	Rumex crispus	Curled Dock
	Rumex spp.	Dock
	Sonchus asper s.s.	Rough Sow-thistle
	Sonchus oleraceus	Common Sow-thistle
	Trifolium spp.	Clover
RC	*Ulex europaeus*	Gorse
	Verbascum spp.	Mullein
	Vicia sativa	Common Vetch
	Vicia spp.	Vetch

Appendix 2 Vegetation diversity and cover results

Table 10 Quadrat vegetation cover and diversity using percentage cover and modified Braun-Blanquet (BB) cover.

Quadrat 1		2021		2022		2023		2024	
Scientific name	**Common name**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**
Native species									
Crassula spp.	Crassula					1	+		
Euchiton japonicus	Creeping Cudweed			1	1				
Microlaena stipoides var. *stipoides*	Weeping Grass					1	1		
Oxalis perennans	Grassland Wood-sorrel					1	+	1	1
Poa labillardierei var. labillardierei	Common Tussock-grass	10	2	15	2	3	+	10	2
Rytidosperma spp.	Wallaby Grass	2	1	1	1			1	1
Senecio quadridentatus	Cottony Fireweed							1	1
Senecio spp.	Groundsel					1	1		
Themeda triandra	Kangaroo Grass	10	2	10	2	3	1	5	2
Introduced species									
Acetosella vulgaris	Sheep Sorrell			1	+				
Aira elegantissima	Delicate Hair-grass	1	1	1	1	1	1	1	1
Avena barbata	Bearded Oat	10	2	2	1	2	1	2	1
Briza maxima	Large Quaking-grass	1	1	1	+	1	1	1	1
Bromus hordeaceus						3	1	2	1
Centaurium erythraea	Common Centaury			1	1	1	1		
Cerastium spp.	Mouse-ear Chickweed	1	1			1	1		
Cirsium vulgare	Spear Thistle					1	+		
Dactylis glomerata	Cocksfoot			1	1			7	2
Echium plantagineum	Patersons Curse			1	1	1	+	1	1
Ehrharta longiflora	Annual Veldt-grass	1	1	1	1	1	+	1	1

Quadrat 1		2021		2022		2023		2024	
Scientific name	**Common name**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**
Erigeron sp.	Fleabane			1	+				
Hypochaeris radicata	Flatweed					2	1		
Lactuca serriola	Prickly Lettuce					1	+	1	1
Nassella neesiana	Chilean Needle-grass	20	2	45	3	15	2	15	2
Nassella trichotoma	Serrated Tussock	10	2	10	2	2	1	5	1
Sonchus asper	Rough Sow-thistle	1	+			2	1		
Sonchus oleraceus	Common Sow-thistle			1	1			1	1
Trifolium spp.	Clover			1	1	1	1	2	1
Vicia spp.	Vetch	1	1	1	1	2	1	1	1
Vulpia myuros	Rat's-tail Fescue			1	1	15	2	15	2

Quadrat 2		2021		2022		2023		2024	
Scientific name	**Common name**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**
Native species									
Crasula sp.	Crassula							1	+
Dianella amoena	Matted Flax-lily			1	+			1	+
Eucalyptus melliodora	Yellow Box					1	+	2	1
Microlaena stipoides var. stipoides	Weeping Grass					2	1		
Oxalis perennans	Grassland Wood-sorrel					1	+		
Rytidosperma sp.	Wallaby grass							1	1
Themeda triandra	Kangaroo Grass	60	4	15	2	7	2	5	1
Introduced species									
Aira elegantissima	Delicate Hair-grass	1	1	1	1	1	1	1	1
Avena barbata	Bearded Oat					1	1	2	1
Briza maxima	Large Quaking-grass			2	1	4	1	1	1

Quadrat 2		2021		2022		2023		2024	
Scientific name	**Common name**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**
Briza minor	Lesser Quaking-grass					2	1	1	1
Bromus hordeaceus	Soft Brome	1	1			2	1	1	1
Centaurium erythraea	Common Centaury			1	1	1	+		
Dactylis glomerata	Cocksfoot	10	2	1	1	1	+	1	1
Echium plantagineum	Paterson's Curse							1	1
Genista monspessulana	Montpellier Broom							1	1
Hypochaeris radicata	Flatweed			1	1	1	+	1	1
Lactuca serriola	Prickly Lettuce					1	1		
Linum trigynum	French Flax					1	1	1	1
Nassella neesiana	Chilean Needle-grass	5	2	40	3	10	2	40	3
Nassella trichotoma	Serrated Tussock	2	1	10	2	3	1	1	1
Phalaris aquatica	Toowoomba Canary-grass					2	1		
Paspalum dilatatum	Paspalum			1	1				
Phalaris aquatica	Toowoomba Canary-grass	5	2	15	2	2	1		
Plantago lanceolata	Ribwort	1	1	1	1	2	1	2	1
Sonchus oleraceus	Common sow-thistle							1	1
Sonchus asper s.s.	Rough Sow-thistle			1	+	1	+		
Trifolium spp.	Clover			1	1	3	1	10	2
Vicia spp.	Vetch	1	1	2	1	4	1	1	1
Vulpia myuros	Rat's-tail Fescue			1	1	2	1	1	1

Quadrat 3		2021		2022		2023		2024	
Scientific name	**Common name**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**
Native species									
Carex sp.	Carex							1	1

Quadrat 3		2021		2022		2023		2024	
Scientific name	**Common name**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**
Carex tereticaulis	Poong'ort			1	+				
Cyperus sp.	Flat Sedge					1	1		
Eragrostis spp.	Love Grass	1	+						
Eucalyptus melliodora	Yellow Box					1	+	1	+
Eucalyptus ovata	Swamp Gum			1	+				
Galium spp.	Bedstraw	1	+						
Oxalis perennans	Grassland Wood-sorrel	1	+						
Poa labillardierei var. labillardierei	Common Tussock-grass			1	1			1	1
Rytidosperma setaceum	Bristly Wallaby-grass	1	+						
Rytidosperma	Wallaby-grass								
Introduced species									
Agrostis capillaris	Brown-top Bent					1	+		
Allium triquetrum	Angled Onion	3	1			1	+	1	1
Briza minor	Lesser Quaking-grass	1	+						
Cenchrus clandestinus	Kikuyu			20	2				
Centaurium erythraea	Common Centaury			1					
Cerastium spp.	Mouse-ear Chickweed	2	1						
Cynodon dactylon	Couch	1	1			40	3	30	3
Cyperus eragrostis	Drain Flat-sedge					2	1	1	1
Dactylis glomerata	Cocksfoot	80	5					5	2
Helminthotheca echioides	Ox-tongue			1	+	1	+		
Hypochaeris radicata	Flatweed	1	+						
Oxalis pes-caprae	Soursob					1	+		
Paspalum dilatatum	Paspalum			2	1				
Phalaris aquatica	Toowoomba Canary-grass			70	4	65	4	60	4
Plantago lanceolata	Ribwort	1	+	1	1	1	+	1	1

Quadrat 3		2021		2022		2023		2024	
Scientific name	**Common name**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**
Rumex spp.	Dock			1	1	1	+		
Sonchus asper s.s.	Rough Sow-thistle	1	+	1	1				
Sonchus oleraceus	Common Sow-thistle	1	+	1	1				
Trifolium spp.	Clover	2	1						
Vicia spp.	Vetch	3	1			1	+	1	1

Quadrat 4		2021		2022		2023		2024	
Scientific name	**Common name**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**
Native species									
Acacia implexa	Lightwood							1	+
Anthosachne scabra s.l.	Common Wheat-grass	1	1						
Asperula conferta	Common woodruff							1	1
Asperula spp.	Woodruff	1	1	15	2	6	2		
Eucalyptus camaldulensis	River Red-gum	1	+	1	+	10	2	5	2
Juncus spp.	Rush	1	+						
Oxalis perennans	Grassland Wood-sorrel	1	1			1	+	1	1
Poa labillardierei var. labillardierei	Common Tussock-grass	20	2	25	2	10	2	20	2
Rytidosperma spp.	Wallaby Grass			1	1	1	+	1	1
Senecio quadridentatus	Cottony Fireweed			1	1			1	1
Themeda triandra	Kangaroo Grass	1	1	5	1			1	1
Introduced species									
Asparagus asparagoides	Bridal Creeper	3	1			1	+	1	1
Avena barbata	Bearded Oat	2	1						
Briza minor	Lesser Quaking-grass			1	1				
Bromus diandrus	Great Brome					1	+		

Quadrat 4		2021		2022		2023		2024	
Scientific name	**Common name**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**
Bromus hordeaceus	Soft brome							1	1
Centaurium erythraea	Common Centaury			1	1				
Cirsium vulgare	Spear Thistle	1	+			1	1	1	1
Dactylis glomerata	Cocksfoot	20	2	30	3	2	1	7	2
Ehrharta erecta	Panic Veldt-grass	1	1	1	1	1	+	3	1
Ehrharta longiflora	Annual Veldt-grass					2	1	1	1
Erigeron bonariensis	Flaxleaf fleabane							1	1
Erigeron sp.	Fleabane			1	1	1	1		
Hypochaeris radicata	Flatweed	1	+	1	1				
Lactuca serriola	Prickly Lettuce					1	+		
Lycium ferocissimum	African Box-thorn			1	1				
Lysimachia arvensis	Scarlet Pipernel			1	1				
Nassella leucotricha	Texas Needle-grass	1	1						
Nassella neesiana	Chilean Needle-grass	5	2			1	1	1	1
Nassella trichotoma	Serrated Tussock	25	2					1	1
Paspalum dilatatum	Paspalum			1	1				
Phalaris aquatica	Toowoomba Canary-grass			2	1	2	1	2	1
Plantago lanceolata	Ribwort					1	+		
Sonchus asper s.s.	Rough Sow-thistle	1	+	1	1				
Sonchus oleraceus	Common Sow-thistle	1	+	1	1	1	1	1	1
Trifolium spp.	clover			1	1			1	1
Ulex europaeus	Gorse			1	1				
Vicia sativa	Vetch							1	1
Vicia spp.	Vetch			1	1	1	+		

Quadrat 5		2021		2022		2023		2024	
Scientific name	**Common name**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**	**% cover**	**BB cover**
Native species									
Asperula conferta	Common Woodruff	1	1	1	1			1	1
Carex tereticaulis	Poong'ort			1	1				
Eucalyptus camaldulensis	River Red-gum			2	1			1	1
Juncus spp.	Rush			1	1				
Geranium spp.	Crane's Bill	1	+						
Rumex spp.	Dock	1	+						
Poa labillardierei var. labillardierei	Common Tussock-grass							1	1
Introduced species									
Anthoxanthum odoratum	Sweet Vernal-grass			1	+			2	1
Briza maxima	Large Quaking-grass							1	1
Briza minor	Lesser Quaking-grass			1	+				
Cenchrus clandestinus	Kikuyu					15	2		
Centaurium erythraea	Common Centaury			1	1				
Cirsium vulgare	Spear Thistle	1	1						
Dactylis glomerata	Cocksfoot	95	5	5	2	25	2	40	3
Erigeron bonariensis	Flaxleaf Fleabane					1	+		
Genista monspessulana	Montpellier Broom					1	+	2	1
Helminthotheca echioides	Ox-tongue					1	+		
Holcus lanatus	Yorkshire fog							1	1
Hypochaeris radicata	Flatweed	1	1	1	1			1	1
Juncus sp.	Rush							1	1
Paspalum dilatatum	Paspalum			1	1				
Phalaris aquatica	Toowoomba Canary-grass			80	5	55	4	40	3
Plantago lanceolata	Ribwort	1	1	1	1	1	1	1	1
Rosa rubiginosa	Sweet Briar			1	+			1	1

Quadrat 5		2021		2022		2023		2024	
Scientific name	Common name	% cover	BB cover	% cover	BB cover	% cover	BB cover	% cover	BB cover
Rumex crispus	Curled dock							1	1
Rumex spp.	dock			1	1				
Sonchus oleraceus	Common Sow-thistle	1	1	1	1	1	+		
Trifolium spp.	Clover			1	1			1	1
Ulex europaeus	Gorse	1	1						
Vicia sativa	Common vetch							1	1
Vicia spp.	Vetch	2	1			1	1		

Appendix 3 Quadrat monitoring photos

1. Photo points – Quadrat 1 – 2021, 2022, 2023, 2024

			
Quadrat 1 NW, 2021	Quadrat 1 NE, 2021	Quadrat 1 SE, 2021	Quadrat 1 SW, 2021
			
Quadrat 1 NW, 2022	Quadrat 1 NE, 2022	Quadrat 1 SE, 2022	Quadrat 1 SW 2022
			
Quadrat 1 NW, 2023	Quadrat 1 NE, 2023	Quadrat 1 SE, 2023	Quadrat 1 SW 2023
			
Quadrat 1 NW, 2024	Quadrat 1 NE , 2024	Quadrat 1 SE, 2024	Quadrat 1 SW, 2023

2. Photo points – Quadrat 2 - 2021, 2022, 2023, 2024

			
Quadrat 2 NW, 2021	Quadrat 2 NE, 2021	Quadrat 2 SE, 2021	Quadrat 2 SW, 2021
			
Quadrat 2 NW, 2022 – no photo	Quadrat 2 NE, 2022	Quadrat 2 SE, 2022	Quadrat 2 SW, 2022
			
Quadrat 2 NW, 2023	Quadrat 2 NE, 2023	Quadrat 2 SE, 2023	Quadrat 2 SW, 2023
			
Quadrat 2 NW, 2024	Quadrat 2 NE 2024	Quadrat 2 SE, 2024	Quadrat 2 SW, 2024

3. Photo points – Quadrat 3 - 2021, 2022, 2023, 2024

			
Quadrat 3 NW, 2021	Quadrat 3 NE, 2021	Quadrat 3 SE, 2021	Quadrat 3 SW, 2021
			
Quadrat 3 NW, 2022	Quadrat 3 NE, 2022	Quadrat 3 SE, 2022	Quadrat 3 SW, 2022
			
Quadrat 3 NW, 2023	Quadrat 3 NE, 2023	Quadrat 3 SE, 2023	Quadrat 3 SW, 2023
			
Quadrat 3 NW, 2024	Quadrat 3 NE, 2024	Quadrat 3 SE, 2024	Quadrat 4 SW, 2024

4. Photo points – Quadrat 4 - 2021, 2022, 2023, 2024

			
Quadrat 4 NW, 2021	Quadrat 4 NE, 2021	Quadrat 4 SE, 2021	Quadrat 4 SW, 2021
			
Quadrat 4 NW, 2022	Quadrat 4 NE, 2022	Quadrat 4 SE, 2022	Quadrat 4 SW, 2022
			
Quadrat 4 NW, 2023	Quadrat 4 NE, 2023	Quadrat 4 SE, 2023	Quadrat 4 SW, 2023
			
Quadrat 4 NW, 2024	Quadrat 4 NE, 2024	Quadrat 4 SE, 2024	Quadrat 4 SW, 2024

5. Photo points – Quadrat 5 - 2021, 2022, 2023, 2024

			
Quadrat 5 NW, 2021	Quadrat 5 NE, 2021	Quadrat 5 SE, 2021	Quadrat 5 SW, 2021
			
Quadrat 5 NW, 2022	Quadrat 5 NE, 2022	Quadrat 5 SE, 2022	Quadrat 5 SW, 2022
			
Quadrat 5 NW, 2023	Quadrat 5 NE, 2023	Quadrat 5 SE, 2023	Quadrat 5 SW, 2023
			
Quadrat 5 NW, 2024	Quadrat 5 NE, 2024	Quadrat 5 SE, 2024	Quadrat 5 SW, 2024

Appendix 4 Trust for Nature Annual Report Form

TRUST FOR NATURE

Landowner(s): LA TROBE UNIVERSITY
Site Reference: GPN6504 - Off-INT13593-Plenty Road-Bundoora
Year: 2024

Management Actions –Fencing, Photopoints, Erosion, Signage, Grazing, Burning

Year	**Management action to be completed**	**Standard to be achieved** (from OMP)	**Description of action from OMP** (Management actions and Targets are found listed in the Offset Management Plan appended to your Deed of Covenant)	**Timing** (From the OMP) (What time of year?)	**Actions completed this year (yes/no)** (if no state % completed)	**Description of Action** (What method of control did you use? E.g. Hand weeding/spot spray using glyphosate)	**Comments and Observations** (Have you noticed any changes in the vegetation, fauna or other features of the site e.g. have you found new species, have the weed/pest increased/ decreased/ remained the same?)
	Annual Works Plan	TfN approved annual works plan in place.	Develop annual works plan.	Completed within 1 month of commencement of this OMP.	**Yes**		
2021	**Photopoints**	5 photopoints	Photo points will be located to adequately characterise the current vegetation condition. Using a selected marker point for the vegetation monitoring quadrat, a photo will be taken facing the four points of the compass (N, S, E & W).	Annually in Late Spring	**Yes**	**Refer to section 4.2.1**	
2021	**Fencing**	Exclude unauthorised vehicles from offset area. Exclude unauthorised access and firewood collection. Maintain access control infrastructure around the offset site. Any new infrastructure, if required to control threats to ecological values, will be	Prevent unauthorised activities and vehicle access. Ensure access to the offset site is appropriately controlled to exclude unplanned disturbances. Access control infrastructure to be monitored and maintained in functional condition. No additional vehicle access is to be established.	Completed within 1 month of commencement of this OMP.	**Yes**	**Refer to section 5.6**	

*** Please email this form along with your photopoints to offsetsreporting@tfn.org.au or post them to Trust for Nature, Level 5/379 Collins Street, Melbourne VIC 3000**

Year	Management action to be completed	Standard to be achieved (from OMP)	Description of action from OMP (Management actions and Targets are found listed in the Offset Management Plan appended to your Deed of Covenant)	Timing (From the OMP) (What time of year?)	Actions completed this year (yes/no) (if no state % completed)	Description of Action (What method of control did you use? E.g. Hand weeding/spot spray using glyphosate)	Comments and Observations (Have you noticed any changes in the vegetation, fauna or other features of the site e.g. have you found new species, have the weed/pest increased/ decreased/ remained the same?)
		constructed to an appropriate standard.					
2021	**Monitoring**	Establish baseline monitoring sites including quadrats and photo points (5) and reassess annually in late spring	Five permanent five by five metre monitoring quadrats will be established within the offset site, having regard for the nature and variability of the offset site. The minimum of five plots was selected on the basis of the extent of the site (provide at least 1 plot per 0.5 hectares), the topographic variation present (floodplain, rocky slope and elevated plain) and the variation in site conditions (across a spectrum of weed dominated to patch vegetation).	Assess annually in late spring	**Yes**	**Refer to section 5.3**	
2024	**Revegetation**	Achieve nominated density of indigenous plant life-forms. Revegetate areas dominated by introduced species. This planting component of the revegetation works will target of one: • large shrub per 100 square metres; • climber per 50 square metres;	At least two cycles of spring weed elimination will be required prior to seed sowing or planting. During the minimum period of one year required for site preparation, species targeted for reintroduction will be subject to seed collection and propagation. At least two cycles of spring weed elimination will be required prior to seed sowing or planting. During the minimum period of one year required for site preparation, species targeted for reintroduction (see Appendix 1a	All areas not identified as a patch of native vegetation will be ready for revegetation sowing and planting two years after the initiation of this plan. Ongoing.	**No**	**Refer to section 5.6**	

*** Please email this form along with your photopoints to offsetsreporting@tfn.org.au or post them to Trust for Nature, Level 5/379 Collins Street, Melbourne VIC 3000**

Year	Management action to be completed	Standard to be achieved (from OMP)	Description of action from OMP (Management actions and Targets are found listed in the Offset Management Plan appended to your Deed of Covenant)	Timing (From the OMP) (What time of year?)	Actions completed this year (yes/no) (if no state % completed)	Description of Action (What method of control did you use? E.g. Hand weeding/spot spray using glyphosate)	Comments and Observations (Have you noticed any changes in the vegetation, fauna or other features of the site e.g. have you found new species, have the weed/pest increased/ decreased/ remained the same?)
		• medium shrub per 50 square metres; • small shrub per 20 square metres; • prostrate shrub per 20 square metres; • large herb per five square metres; • medium herb two square metres; and • small herb per square metre.	and 1b for a non-exhaustive list of native species suitable for use in the revegetation works) will be subject to seed collection and propagation.				
	Manage Biomass	Maintain an open tussock grassy ground cover with inter-tussock spaces covering about 30% (+/- 10%).	Engage a qualified contractor to produce a fire management plan Undertake ecological burning over the offset area (or parts there-of) so that no area is burnt more frequently than every two years; When planning burns, liaise with any relevant regulator regarding appropriate planning and permits in a timely manner; Plan and conduct ecological burning within different seasons to promote regeneration of a variety of species and remove debris created by the control of woody weeds	Ongoing - No portion of the offset area is to be burnt more frequently than once every two years.	**No**	**Refer to section 5.3.6**	

*** Please email this form along with your photopoints to offsetsreporting@tfn.org.au or post them to Trust for Nature, Level 5/379 Collins Street, Melbourne VIC 3000**

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Management Actions –Pest animals

Year	Site and Zone(s) (e.g. 001/A)	Management action to be completed	Standard to be achieved (from OMP)	Description of action from OMP (Management actions and Targets are found listed in the Offset Management Plan appended to your Deed of Covenant)	Timing (From the OMP) (What time of year?)	Actions completed this year (yes/no) (if no state % completed)	Description of Action (What method of control did you use? E.g. Hand weeding/spot spray using glyphosate)	Comments and Observations (Have you noticed any changes in the vegetation, fauna or other features of the site e.g. have you found new species, have the weed/pest increased/ decreased/ remained the same?)
2024		European Hares		Control and seek to locally eliminate European Hares using appropriate control techniques including poison baits or similar methods, without significant soil disturbance. Formal monitoring for the presence of pest animals will occur annually in November. This will include a systematic spotlight survey of the offset site lasting no less than thirty minutes.		**Yes**	**Refer to section 5.5**	
2024		European Rabbits	No fresh ground disturbance by pest animals (particularly rabbits) observed in the offset area. No active rabbit warrens within offset area, minimal surface harbour for rabbits and hares present (excluding natural harbour such as logs and rocks).	Control and seek to locally eliminate European Rabbits using appropriate control techniques including poison baits or similar methods, without significant soil disturbance (i.e. ripping of warrens is not acceptable). Fumigate rabbit warrens within three weeks of detection. Fumigation works will be conducted by a suitably qualified operator. Formal monitoring for the presence of pest animals will occur annually in November. This will include a systematic spotlight survey of the offset site lasting no less than thirty minutes. Rabbits to be managed in accordance with BushBroker Information Sheet 7 (DSE 2012a).		**Yes**	**Refer to section 5.5**	

*** Please email this form along with your photopoints to offsetsreporting@tfn.org.au or post them to Trust for Nature, Level 5/379 Collins Street, Melbourne VIC 3000**

TRUST FOR NATURE

Year	Site and Zone(s) (e.g. 001/A)	Management action to be completed	Standard to be achieved (from OMP)	Description of action from OMP (Management actions and Targets are found listed in the Offset Management Plan appended to your Deed of Covenant)	Timing (From the OMP) (What time of year?)	Actions completed this year (yes/no) (if no state % completed)	Description of Action (What method of control did you use? E.g. Hand weeding/spot spray using glyphosate)	Comments and Observations (Have you noticed any changes in the vegetation, fauna or other features of the site e.g. have you found new species, have the weed/pest increased/ decreased/ remained the same?)
2024		Cats		Control and seek to locally eliminate cats using appropriate control techniques, without significant soil disturbance. Formal monitoring for the presence of pest animals will occur annually in November. This will include a systematic spotlight survey of the offset site lasting no less than thirty minutes.		**Yes**	**Refer to section 5.5**	
2024		Foxes	No fresh ground disturbance by pest animals (particularly rabbits) observed in the offset area. No active fox dens within offset area, if present they are to be destroyed through fumigation and hand collapse.	Control and seek to locally eliminate foxes using appropriate control techniques including poison baits or similar methods, without significant soil disturbance. Formal monitoring for the presence of pest animals will occur annually in November. This will include a systematic spotlight survey of the offset site lasting no less than thirty minutes.		**Yes**	**Refer to section 5.5**	
2024		Pest Animals	Control numbers of any new and emerging pests.	Formal monitoring for the presence of pest animals will occur annually in November. This will include a systematic spotlight survey of the offset site lasting no less than thirty minutes.		**Yes**	**Refer to Section 5.5**	

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Management Actions –Introduced plant species

*New and emerging weeds should also be documented here

The targets of either to control or eliminate should be reached by the end of the 10 year offset period

Year	Site and Zone(s) (e.g. 001/A)	Species	Baseline Cover abundance (%)	Standard to be achieved (from OMP)	Description of action from OMP (Management actions and Targets are found listed in the Offset Management Plan appended to your Deed of Covenant)	Timing (From the OMP) (What time of year?)	Actions completed this year (yes/no) (if no state % completed)	Description of Action (What method of control did you use? E.g. Hand weeding/spot spray using glyphosate)	Comments and Observations (Have you noticed any changes in the vegetation, fauna or other features of the site e.g. have you found new species, have the weed/pest increased/ decreased/ remained the same?)
Woody Weeds									
2024		*Eucalyptus cladocalyx* Sugar Gum	<5	**Eradication -** Weeds to be managed in accordance with BushBroker Information Sheet 8 – Standards for Management – Weeds (DSE 2012b)	Cut down mature individuals and paint stump with neat herbicide. Hand pull seedlings. Minimise off-target damage (avoid all native plants). Record and control any woody weed regeneration / re-colonisation.	Treated within one year and eradicated within three years of Offset Commencement	**Yes**	**No sugar gum present in study area**	
2024		*Eucalyptus maculata* Spotted Gum	<1	**Eradication -** Weeds to be managed in accordance with BushBroker Information Sheet 8 – Standards for Management – Weeds (DSE 2012b)	Cut down mature individuals and paint stump with neat herbicide. Hand pull seedlings. Minimise off-target damage (avoid all native plants). Record and control any woody weed regeneration / re-colonisation.	Treated within one year and eradicated within three years of Offset Commencement	**Yes**	**No spotted gum present in study area**	
2024		*Fraxinus angustifolia* Desert Ash	<1	**Eradication -** Weeds to be managed in accordance with BushBroker Information Sheet 8 – Standards for	Cut down mature individuals and paint stump with neat herbicide. Hand pull seedlings. Minimise off-target damage (avoid all native plants). Record and control any woody	Treated within one year and eradicated within three years of Offset Commencement	**No**	**Refer to section 5.3.5**	

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TRUST FOR NATURE

Year	Site and Zone(s) (e.g. 001/A)	Species	Baseline Cover abundance (%)	Standard to be achieved (from OMP)	Description of action from OMP (Management actions and Targets are found listed in the Offset Management Plan appended to your Deed of Covenant)	Timing (From the OMP) (What time of year?)	Actions completed this year (yes/no) (if no state % completed)	Description of Action (What method of control did you use? E.g. Hand weeding/spot spray using glyphosate)	Comments and Observations (Have you noticed any changes in the vegetation, fauna or other features of the site e.g. have you found new species, have the weed/pest increased/ decreased/ remained the same?)
				Management – Weeds (DSE 2012b)	weed regeneration / re-colonisation.				
		Cassinia sifton Sifton Bush	1	**Eradication -** Weeds to be managed in accordance with BushBroker Information Sheet 8 – Standards for Management – Weeds (DSE 2012b)	Cut down mature individuals and paint stump with neat herbicide. Hand pull seedlings. Minimise off-target damage (avoid all native plants). Record and control any woody weed regeneration / re-colonisation.	Treated within one year and eradicated within three years of Offset Commencement	**Yes**	**None present in study area**	
		Genista monspessulana Montpellier Broom	**<1**	**Eradication -** Weeds to be managed in accordance with BushBroker Information Sheet 8 – Standards for Management – Weeds (DSE 2012b)	Spot Spray, hand pull or dig out. Minimise off-target damage (avoid all native plants). Record and control any woody weed regeneration / re-colonisation.	Treated within one year and eradicated within three years of Offset Commencement	**No**	**Refer to section 5.3.4**	
		Prunus spp. Cherry Plum	**1**	**Eradication -** Weeds to be managed in accordance with BushBroker Information Sheet 8 – Standards for Management – Weeds (DSE 2012b)	Cut down mature individuals and paint stump with neat herbicide. Hand pull seedlings. Minimise off-target damage (avoid all native plants). Record and control any woody weed regeneration / re-colonisation.	Treated within one year and eradicated within three years of Offset Commencement	**No**	**Refer to section 5.3.5**	

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		Rosa rubiginosa Sweet Briar	**1**	**Eradication -** Weeds to be managed in accordance with BushBroker Information Sheet 8 – Standards for Management – Weeds (DSE 2012b)	Cut down mature individuals and paint stump with neat herbicide. Hand pull seedlings. Minimise off-target damage (avoid all native plants). Record and control any woody weed regeneration / re-colonisation.	Treated within one year and eradicated within three years of Offset Commencement	**No**	**Refer to section 5.3.4**	
		Rubus anglocandicans Blackberry	**1**	**Eradication -** Weeds to be managed in accordance with BushBroker Information Sheet 8 – Standards for Management – Weeds (DSE 2012b)	Spray and burn dead material. Hand pull or spot spray seedlings Minimise off-target damage (avoid all native plants). Record and control any woody weed regeneration / re-colonisation.	Treated within one year and eradicated within three years of Offset Commencement	**No**	**Refer to section 5.3.4**	
		Ulex europaeus Gorse	**2**	**Eradication -** Weeds to be managed in accordance with BushBroker Information Sheet 8 – Standards for Management – Weeds (DSE 2012b)	Spray and burn dead material. Hand pull or spot spray seedlings	Treated within one year and eradicated within three years of Offset Commencement	**No**	**Refer to section 5.3.4**	
		Prevent new and emerging weeds.	N/A	Eliminated all new and emerging woody weeds	New outbreaks of weeds to be detected and treated. No woody weeds present within offset area. Minimise off-target damage (avoid all native plants).	Ongoing.	**No**	**Refer to section 5.3.5**	

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High Threat weeds for priority control									
		Allium triquetrum Angled Onion	**1**	**<1% cover**	Spot spray with and appropriate herbicide	Weed control works will be timed appropriately in accordance with Tables 3, 4 & 5.	**Yes**	**Refer to section 5.3.4**	
		Annual grasses (i.e. Annual Veldt-grass *Ehrharta longiflora)*	2%	<1% cover	Spot spray with appropriate herbicide or slash to prevent seeding.	Weed control works will be timed appropriately in accordance with Tables 3, 4 & 5.	**No**	**Refer to section 5.3.4**	
		Asparagus asparagoides Bridal Creeper	1%	<1% cover	Spot spray with appropriate herbicide or dig out extensive root system	Weed control works will be timed appropriately in accordance with Tables 3, 4 & 5.	**Yes**	**Refer to section 5.3.4**	
		Cenchrus clandestinus Kikuyu	5%	<1% cover	Spot Spraying appropriate herbicide	Spring.	**Yes**	**Refer to section 5.3.4**	

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Year	Site and Zone(s) (e.g. 001/A)	Species	Baseline Cover abundance (%)	Standard to be achieved (from OMP)	Description of action from OMP (Management actions and Targets are found listed in the Offset Management Plan appended to your Deed of Covenant)	Timing (From the OMP) (What time of year?)	Actions completed this year (yes/no) (if no state % completed)	Description of Action (What method of control did you use? E.g. Hand weeding/spot spray using glyphosate)	Comments and Observations (Have you noticed any changes in the vegetation, fauna or other features of the site e.g. have you found new species, have the weed/pest increased/ decreased/ remained the same?)
		Cirsium vulgare Spear Thistle	2%	<1% cover	Spot Spraying appropriate herbicide (prevent flowering).	Weed control works will be timed appropriately in accordance with Tables 3, 4 & 5.	**Yes**	**Refer to section 5.3.4**	
		Dactylis glomerata Cocksfoot	2%	<1% cover	Spot spraying appropriate herbicide	Early Spring	**No**	**Refer to section 5.3.4**	
		Echium plantagineum Paterson's Curse	1%	<1% cover	Spot spraying appropriate herbicide	Early Spring	**Yes**	**Refer to section 5.3.4**	
		Nassella neesiana Chilean Needle-grass	20%	<1% cover	Burn and spot spray regrowth with appropriate herbicide	Weed control works will be timed appropriately in accordance with Tables 3, 4 & 5.	**No**	**Refer to section 5.3.4**	
		Nassella trichotoma Serrated Tussock	1%	<1% cover	Burn and spot spray regrowth with appropriate herbicide	Weed control works will be timed appropriately in accordance with Tables 3, 4 & 5.	**No**	**Refer to section 5.3.4**	

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		Oxalis pes-caprae Sour-sob	2%	<1% cover	Spot spraying appropriate herbicide (at corm exhaustion stage).	Weed control works will be timed appropriately in accordance with Tables 3, 4 & 5.	**Yes**	**Refer to section 5.3.4**	
		Phalaris aquatica Toowoomba Canary-grass	2%	<1% cover	Spot spraying appropriate herbicide	Early Spring	**No**	**Refer to section 5.3.4**	
		Plantago lanceolata Ribwort	1%	<1% cover	Spot spraying appropriate herbicide	Early Spring	**No**	**Refer to section 5.3.4**	
		Verbascum virgatum Twiggy Mullein	1%	<1% cover	Spot spraying appropriate herbicide	Early Spring	**No**	**Refer to section 5.3.4**	
		New	**N/A**	**N/A**	Any other significant environmental weeds identified during the ongoing site monitoring will also be controlled in consultation with TfN.				

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Appendix 5 Pest fauna monitoring report

14 January 2025

Jodie Harris
Deputy Director, Sustainability and Campus Planning
La Trobe University
Bundoora 3083

Dear Jodie

La Trobe University offset site monitoring of pest fauna

Our ref: Matter 41026

Thank you for inviting Biosis to undertake pest fauna monitoring work at La Trobe University. As part of the ongoing monitoring requirement for the offset management plan (Biosis 2020), Biosis has been commissioned by La Trobe University to undertake targeted monitoring of feral animals at the offset site.

On 28 November 2024 Biosis Zoologist Shannon Braun attended the study area to assess the presence of nocturnal pest fauna. The site was assessed for 45 minutes from dusk, using a high-powered, hand-held spotlight. In areas where visibility was restricted due to tall grass, observations were made from higher ground and from the track. Open areas of Plains Grassy Woodland were more easily accessible and explored with the intention of flushing foraging pest animals into view. This route allowed for the visual inspection of most of the study area and its external boundaries. During the survey, the presence of any tracks, burrows or warrens as well as scats or fur was investigated.

One Red Fox *Vulpes vulpes* was sighted just before last light on the outside boundary of the southern fence. The fox was running south-west, away from the south-eastern entrance gate. No pest species were found within the offset area. There was evidence of what appeared to be a disused rabbit warren near the centre of the study area. No other secondary evidence was found during the targeted spotlighting survey, however it should be noted that it is difficult to detect such evidence during a nocturnal survey.
We recommend that managers of the site remain vigilant for evidence of pest species, particularly the appearance of rabbit warrens and fox/rabbit scats.

The offset site will require ongoing pest species management. Foxes and cats can breach the existing fence and are present throughout the surrounding local area. It was noted during the site visit that the northern vehicle access gate was open presenting a risk of pest fauna entering the offset area.

Should La Trobe University require any further monitoring of pest fauna we are equipped to provide general and species-specific targeted surveys.
Please contact me if you have any enquiries.

Yours sincerely

Shannon Braun
Zoologist

References

Biosis 2020. La Trobe University Sports Precinct Stage 3: EPBC Act Offset Management Plan (EPBC 2018/8343). Report for La Trobe University. Author: Steve Mueck, Biosis Pty Ltd, Melbourne. Project No. 30808.


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