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26 September 2025

Department of Climate Change, Energy, the Environment and Water
Attn EPBC Monitoring
Sent via email: epbcmonitoring@environment.gov.au

To whom it may concern,

2025 Compliance Report for EPBC Approval 2005/2040 Prominent Hill Mine

This letter is written advice in accordance with condition 2 of *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (**EPBC Act**) approval 2005/2040 as amended (**EPBC Approval**) for the period of 1 July 2024 to 30 June 2025.

Declaration of accuracy

In making this declaration, I am aware that sections 490 and 491 of the EPBC Act make it an offence in certain circumstances to knowingly provide false or misleading information or documents. The offence is punishable on conviction by imprisonment or a fine, or both. I declare that all the information and documentation supporting this compliance report is true and correct in every particular. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

If you have any questions or require further information, please do not hesitate to contact Sally Durandt.

Yours sincerely



Anna Wiley
Asset President Copper South Australia

Attachments:

Attachment A: Summary of compliance to EPBC Approval conditions (EPBC 2005/2040)

Attachment B Prominent Hill autumn ecological survey report 2025

BHP Group Limited ABN 49 004 028 077 and its subsidiaries are members of the BHP Group. The BHP Group is headquartered in Melbourne, Australia.

Attachment A: Summary of compliance to EPBC Approval conditions (EPBC 2005/2040)

The current EPBC Approval conditions and evidence of compliance for this reporting period have been provided in Table 1.

Table 1: EPBC Act conditions and evidence of compliance

Condition No.	Condition	Is the project compliant with the condition	Evidence of compliance
1	To mitigate impacts to the thick-billed grass wren (*Amytornis modestus indulkanna*) and the plains rat (*Pseudomys australis*), the person taking the action must, prior to 1 July 2018, submit an Environment Management Plan (EMP) for the approval of the Minister. The EMP must be prepared in accordance with the Department's Environmental Management Plan Guidelines and include, but not be limited to: a) Management measures to maintain or improve habitat condition including: i. Measures to prevent and control human and stock access to species habitat; and ii. The control of feral predator and weed species; and b) Feral predator, weed and habitat condition monitoring, triggers for management intervention and correction actions. The person taking the action must implement the approved EMP.	Compliant	Ecological Associates (ELA) completed annual vegetation and habitat monitoring in Autumn 2025 (Attachment B), related to the approved Threatened Fauna Management Plan for Prominent Hill (OZ Minerals 2018*). ELA found no sustained significant difference between the control and impact sites, including mean perennial species abundance, richness and total diversity, mean recruitment scores and mean soil/ecosystem function scores. This demonstrates success in meeting the requirements of the outcome criteria for this environmental outcome. ELA completed weed monitoring as part of the Autumn 2025 ecological survey. ELA detected no new weed species and no significant increase in abundance of existing species. Feral animal control occurred as needed, based on sighting reports. Records show the capture and euthanasia of 14 cats during the reporting period.
2	The person taking the action must, unless otherwise agreed by the Minister, submit by 30 September of each year (beginning in 2019) written advice to the Minister demonstrating how the person taking the action has complied with the conditions of the approval.	Compliant	The Compliance Report will be submitted to DCCEEW on or by 30 September 2025.
3	The person taking the action may choose to revise the plan approved by the Minister under condition 1 without submitting it for approval under section 143A of the EPBC Act, if the taking of the section in accordance with the revised plan would not be likely to have a new or increased impact. If the person taking the action makes this choice they must notify the Department in writing that the approved plan has been revised and provide the Department, at least four weeks before implementing the revised plan, with: i. An electronic copy of the revised plan; ii. An explanation of the differences between the revised plan and the approved plan; and	N/A	N/A

Condition No.	Condition	Is the project compliant with the condition	Evidence of compliance
	iii. The reasons the person taking the action considers that the taking of the action in accordance with the revised plan would not be likely to have a new or increased impact.		
4	The person taking the action may revoke its choice under condition 3 at any time by giving written notice to the Department. If the person taking the action revokes the choice to implement the revised plan, without approval under section 143A of the EPBC Act, the plan approved by the Minister must be implemented.	N/A	N/A
5	If the Minister give a notice to the person taking the action that the Minister is satisfied that the taking of the action in accordance with the revised plan would be likely to have a new or increased impact, then: i. Condition 3 does not apply, or ceases to apply, in relation to the revised plan, and ii. The person taking the action must implement the plan approved by the Minister. To avoid any doubt, this condition does not affect any operation of conditions 3 and 4 in the period before the day the notice is given. At the time of giving the notice, the Minister may also notify that for a specified period of time condition 3 does not apply for the plan required under the approval. Conditions 3, 4 and 5 are not intended to limit the operation of section 143A of the EPBC Act which allows the person taking the action to submit a revised plan to the Minister for approval.	N/A	N/A

*Reference: OZ Minerals (2018) *Threatened Fauna Management Plan Prominent Hill. EPBC 2005/2040 Prominent Hill Copper-Gold Project*. PH-9999-SEC-PLN-0052. Dated 15 August 2018.

Attachment B Prominent Hill autumn ecological survey report 2025



Prominent Hill autumn ecological survey 2025

BHP

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Document Tracking

Project Name: Prominent Hill autumn ecological survey 2025

Project Number: 600-25ADL10562

Project Manager: Jasmine Richards

Version	Prepared by	Reviewed by	Approved by	Status	Date
1	Lauren Heddle	Ryan Lewis	Jasmine Richards	Draft	18/06/2025
2	Ryan Lewis, Emrys Leitch	Jasmine Richards	Jasmine Richards	Final	24/07/2025

This report should be cited as 'Eco Logical Australia 2025, Prominent Hill autumn ecological survey 2025, Prepared for BHP.'

Acknowledgements

This document has been prepared by Eco Logical Australia Pty Ltd with support from BHP staff Luke Polkinghorne and Eva Kozberski.

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Abbreviations

Abbreviation	Description
BOM	Bureau of Meteorology
DEM	Department for Energy and Mining
ELA	Eco Logical Australia
EML	Extractive Mineral Leases
IBRA	The Interim Biogeographic Regionalisation for Australia
ML	Mining Lease
MPL	Miscellaneous Purpose Licences
NVC	Native Vegetation Council
PEPR	Program for Environment Protection and Rehabilitation
PH01 – PH27	Monitoring sites
SAAL	South Australian Arid Lands
SE	Standard Error
SEB	Significant Environmental Benefit
BOM	Bureau of Meteorology
DEM	Department for Energy and Mining

Executive Summary

Eco Logical Australia (ELA) was engaged by BHP (formerly OZ Minerals) to conduct the ecological compliance monitoring autumn survey for 2025 at the Prominent Hill copper and gold mine. BHP Group Limited acquired 100% of the shares in OZ Minerals Limited, as of the 2 of May 2023 (BHP 2023). Prominent Hill (Mining Lease (ML) 6228 and associated tenements) is located approximately 650 km north of Adelaide and 136 km southeast of Coober Pedy, South Australia. The 2025 survey marks the ninth year of monitoring for the mine since the survey methodology was updated in the 2017 Program for Environment Protection and Rehabilitation (PEPR). BHP has a legislative requirement under the approved PEPR to conduct ecological monitoring on ML 6228, within the surrounding Significant Environmental Benefit (SEB) offset area and at several weed sites along main access routes to assess the potential impacts of the mine on the abundance and diversity of native flora and fauna.

Twenty permanent vegetation quadrats (ten impact and ten control) were monitored, along with five weed sites. The vegetation quadrats have been positioned to capture the potential effects of the mine on the surrounding ecological environment by comparing sites within or close to the ML (impact sites) to those positioned away from the active mining area (control sites). The vegetation quadrats occur in three vegetation types – acacia woodland, chenopod shrubland and mallee woodland, with chenopod shrubland being the dominant vegetation type. The weed monitoring sites are positioned along the mine Access Road to the Stuart Highway and Haul Road to the Wirrida Rail Siding to assess the potential for the introduction of weeds to the region from vehicles and machinery as well as other vectors such as wind and animals. Species diversity, vegetation cover, recruitment and potential impacts such as dust deposition, inappropriate access, weeds and pest animals were assessed at the 20 monitoring quadrats to determine if the mining operation is influencing the surrounding environment. Within each quadrat a 10 m x 2 m subplot was used to assess surface cover (%) of grass, bare ground, litter, crust and scalded surface/ erosion. In 2020, Jessup transects were re-instated at each of the 20 quadrats to provide information about plant densities and recruitment.

In 2025, 161 species (160 native / 1 exotic) were recorded which is the highest species richness observed since the current monitoring program began in 2017, 153 species were recorded in 2024. The number of species declined between 2017 and 2019 (116-75 species) but increased in 2020 and again in 2021, likely due to higher-than-average annual rainfall from 2020 onwards. Cat and rabbit sightings were observed from remote cameras deployed at three sites in 2024, with less cat and rabbit activity from remote cameras observed in 2025.

Results were not significantly different when comparing control and impact sites in 2025, except for bare ground cover in acacia woodland sites, which had significantly higher cover ($p = 0.044$) at impact sites compared to control. This trend is consistent with results from 2024 and has not significantly increased until 2025. Overall, the results reflect a resilient and stable rangeland system incorporating large areas of acacia woodland, chenopod shrubland and mallee woodland. Overall, the range condition observed in 2025 within or close to the ML area (impact sites) is in most cases consistent with observations made within the surrounding SEB Offset areas (control sites). Within the acacia woodland sites, cover percentage tended to be lower for impact sites compared to control sites. The result of this survey do not indicate that BHP's Prominent Hill mine is negatively impacting vegetation or habitat condition, with no significant difference between control and impact sites. However, an exception is at acacia woodland sites where bare ground cover was significantly higher at impact sites. This could be a result of reduced rainfall but should continue to be monitored. Levels of native species abundance, richness, diversity and recruitment within impact sites do not indicate trends different from those measured within the control sites, across vegetation types.

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1. Introduction

BHP's (formerly OZ Minerals) Prominent Hill mine site is located approximately 650 km north west of Adelaide, South Australia (SA) and is within the Stony Plains bioregion (Oodnadatta subregion – STP02) as part of the Interim Biogeographic Regionalisation for Australia (IBRA) (Figure 1). The Mining Lease (ML) for Prominent Hill (ML 6228) was approved in 2006 for production of copper and gold. The Prominent Hill operation is comprised of a number of tenements approved under the *Mining Act 1971* (Mining Act) between 2006 and 2010, including ML 6288, Miscellaneous Purpose Licences (MPL 81, 82, 83,84, 91, 93, 94 96, 97, 101, 112-117 and 119-122) and Extractive Mineral Leases (EML 6234, 6236-6242, 6278-6296, 6299-6301).

On the 2 May 2023, BHP Group Limited acquired 100% of the shares in OZ Minerals Limited (BHP 2023).

A review of the monitoring program in 2017 resulted in a change to ecological survey requirements within the Program for Environment Protection and Rehabilitation (PEPR) (PEPR 2022). The changes to PEPR outcome measurement criteria (OMC) were tailored to support the ongoing monitoring and passive management of the surrounding Significant Environmental Benefit (SEB) offset area and serves to limit the establishment and spread of weeds within the ML area and nearby receptors within the broader landscape. This report marks the nineth year of compliance monitoring since the OMC was amended in 2017. We note while the PEPR was revised and approved in 2022, the ecological monitoring and assessment OMC have remained unchanged since 2017.

1.1. Background and purpose

Monitoring at Prominent Hill has been occurring since 2005.The monitoring previously assessed native vegetation communities and fauna presence with a focus on threatened species within the landscape.

A review to determine whether the program was fit for purpose to meet the lease conditions and PEPR outcomes was completed in 2017 by Jacobs. As a result of this review, site numbers were reduced from 34 to 20, seven of which are new sites, and, as a surrogate for fauna surveys, flora sites were selected based on fauna habitat condition. Due to these methodology changes, and difficulty locating previous quadrats by reason of lack of physical quadrat set up and GPS information, comparisons with years prior to 2017 is problematic. Adjustments to site set up have been made and is described further in the methodology section below. Therefore, data collected in 2017 is now used as baseline data for the floristic monitoring at Prominent Hill in support of the 2022 PEPR.

The following report is based on compliance requirements as outlined in the PEPR. This floristic monitoring report will seek to demonstrate compliance with PEPR criteria. Eco Logical Australia (ELA) understands this monitoring report will be made available to the Department for Energy and Mining (DEM) who assess BHP's ongoing compliance with vegetation and habitat conditions by review of performance against the OMC (including leading indicator criteria (LIC)) detailed Table 1 below.

1.2. Objectives

The objectives of the 2025 Prominent Hill annual flora survey were to:

- Undertake monitoring at 20 permanent vegetation sites to assess potential changes in species diversity, vegetation cover, recruitment, perennial densities, the percentage of ground cover (grass, litter), bare ground and any changes to the abundance or diversity of native vegetation or a reduction in habitat quality at both impact and control sites.

- Undertake weed monitoring at five locations to determine whether there has been introduction of new weed species or an increase in abundance or distribution of existing species.
- Provide a report that considers the potential impact of the Prominent Hill mine on vegetation and habitat condition with reference to maintaining levels of native vegetation species abundance, richness, diversity and recruitment.

1.3. Scope

To meet above listed objectives, ELA has undertaken a survey comprising the following aspects (as contained within the PEPR and the *what will be measured* column of Table 1 habitat quality indicators including vegetation and soils (representing broader ecosystem function)

- 20 x 100 m x 100 m vegetation quadrats (Biological Survey Method (DEW 1997))
    - panoramic photographs collected to aid in identifying temporal change in vegetation cover and structure
    - identification of all species present (species diversity/ richness, inclusive of annuals)
    - cover (%) of individual species
    - species identified as recruiting.
- 20 x 100 m Jessop Transect
    - abundance counts for species present
    - counts of recruits for any recruiting species
    - counts of reproductive individuals from recruiting species identified.
- 20 x 10 m x 2 m subplot within the vegetation quadrat, for each 1 x 1 m unit of sub-plot:
    - estimate of % grass cover (ephemerals, annuals)
    - estimate of % bare ground
    - estimate of % litter cover within the plot
    - estimate of % surface crust
    - counts of recruits (all shrubs) to provide recruitment score
    - long lived perennials (over and under storey) via species abundance counts (density) for both juveniles and adults.
- observational data including vehicle tracks, erosion, vegetation clearing, dust, inappropriate access, feral animals (and weeds)

counts and identification of any declared weed infestations observed along transects at each location.

Table 1: PEPR summary table (Reference: Table 7-12 in the 2022 PEPR)

Impact event	Environmental outcome	Outcome measurement criteria details					Leading indicator criteria
		What will be measured and form (method) of measurement	Location	Outcome achievement	Frequency	Control or baseline data	
Reduced conditions favourable for plant growth due to disturbance, dust, salinity, altered surface water flow or soil erosion. Reduced species abundance due to vegetation clearing, increased grazing resulting from increased water. Significant impacts to threatened species due to vegetation clearing. Altered vegetation composition due to increase in fire ignition and/or changes in fire frequency and intensity.	Environmental offsets are approved and in place for all clearance of native vegetation	Habitat Quality Indicators including vegetation and soils (representing broader ecosystem function) 100 x 100m vegetation quadrat (Biol. Survey Method) • identification of all species present (species diversity/richness, inclusive of annuals) • cover (%) of individual species • species identified as recruiting. 10 x 2m SUB PLOT within vegetation quadrat For each 1 x 1m unit of sub-plot: • estimate of % grass cover (ephemerals, annuals) • estimate of % bare ground	See7-6 (in PEPR). Assessment will be undertaken at a series of permanent impact sites (adjacent to mining operations) and control sites (replicate sites remote from mining operations but within SEB) to enable comparison between potential mine related activities and seasonal variations. Sites selected in representative habitats for key fauna species, including EPBC and NPW listed species, and to be representative of the broad	Approved Native Vegetation Management Plan and SEB Offset in place.	Annually	REP021 Prominent Hill Analysis of Flora and Fauna Monitoring Data 2007 to Spring 2012. Other Flora survey reports, conducted at the site biannually between 2007 and 2016. Comparable data up until methodology changes in 2015.	Reduction of perennial species abundance (counts) at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods. Suppression of recruitment indicated by a reduction in recruitment index scores at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods. An increase in bare ground and/ or scald/ erosion % cover at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods. If leading indicator triggered, further assessment of detected impacts vs pre-mine condition by comparison with sites outside of SEB area required to determine non-compliance with lease condition. Annual review of vegetation clearance confirms all clearance has been approved

Impact event	Environmental outcome	Outcome measurement criteria details				Leading indicator criteria
		What will be measured and form (method) of measurement	Location	Outcome achievement	Frequency	Control or baseline data
		• estimate of % litter cover within the plot • estimate of % surface crust • counts of recruits (all shrubs) to provide recruitment score • long lived perennials (over and under storey) via species abundance counts (density) for both juveniles and adults. Panoramic photographs collected to aid in assessment of vegetation cover for recruitment. Observational data to be collected at all sites including (but not limited to) vehicle tracks, erosion, vegetation clearing, distance to mine site, light, dust,	vegetation community types present within the ML, MPL and SEB areas. Impact sites (PH01, PH02, PH03a, PH10, PH12, PH 13a, PH 15, PH19, PH22, PH23) and control sites (PH06, PH07, PH11, PH16, PH17, PH18, PH20, PH24, PH25, PH27).			

Impact event	Environmental outcome	Outcome measurement criteria details					Leading indicator criteria
		What will be measured and form (method) of measurement	Location	Outcome achievement	Frequency	Control or baseline data	
		inappropriate access, feral animals and weeds. GIS output of approved clearance boundary and actual clearance boundary.					
Reduced species abundance due to vegetation clearing, increased grazing from increased surface water, traffic, noise and vibration and downstream effects. Significant impacts to threatened species due to vegetation clearing and predation	No loss of abundance or diversity of native vegetation, or reduction in habitat quality, on or off the Mining and or miscellaneous purposes lease areas during construction, operation as a result of mining activities unless prior approval under relevant legislation is obtained and environmental offsets are approved and in place.	As above	As above	As above	As above	As above	Indicators of habitat degradation, including: Reduction of perennial species abundance (counts) at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods. Suppression of recruitment indicated by a reduction in recruitment index scores at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods. An increase in bare ground and/or scald/erosion % cover at impact sites without a corresponding increase at control sites over three consecutive monitoring periods. If leading indicator triggered, implement targeted threatened

Impact event	Environmental outcome	Outcome measurement criteria details					Leading indicator criteria
		What will be measured and form (method) of measurement	Location	Outcome achievement	Frequency	Control or baseline data	
							bird surveys to confirm ongoing presence of Thick-billed Grasswren and Chestnut-breasted Whiteface within impacted sites.
Increased weed density and distribution as a result of Prominent Hill operations Introduction of new weed species as a result of Prominent Hill operations	No introduction of new species of weeds, plant pathogens or pests (including feral animals), nor sustained increase in abundance of existing weed or pest species in the licence area compared to adjoining land as a result of mining operations.	Records of counts and identification of any declared weed infestations observed along transects at each location. Records of weed control actions implemented (where relevant). Records of feral animal observations, trapping and capture rates.	Five weed monitoring locations as identified in Figure 1. Various locations including landfill, camp and as per opportunistic sightings	Weed infestations are recorded, treated and monitored for ongoing management requirements.	Annually	PH-ENV-REP-0500 Stage Two Significant Environmental Benefit Offset Area Management Plan REP021 Prominent Hill Analysis of Flora and Fauna Monitoring Data 2007 to Spring 2012.	Annual review of the weed survey and management register (results of field monitoring and visual observations) considering trends that could indicate population increase or new weed species.
				Pest animal sightings are recorded and will result in the initiation of a trapping/baiting program and subsequent monitoring.	As required		Quarterly review of cat sightings and trapping register considering trends that could indicate population increase and requirement for increase in trapping program

* Historical information can be found in Jacobs (2017) - 2017 Review of Prominent Hill Ecological Monitoring. All annual ecological monitoring reports. Other Flora and Fauna survey reports, conducted at the site biannually between 2007 and 2016. All annual ecological monitoring reports.

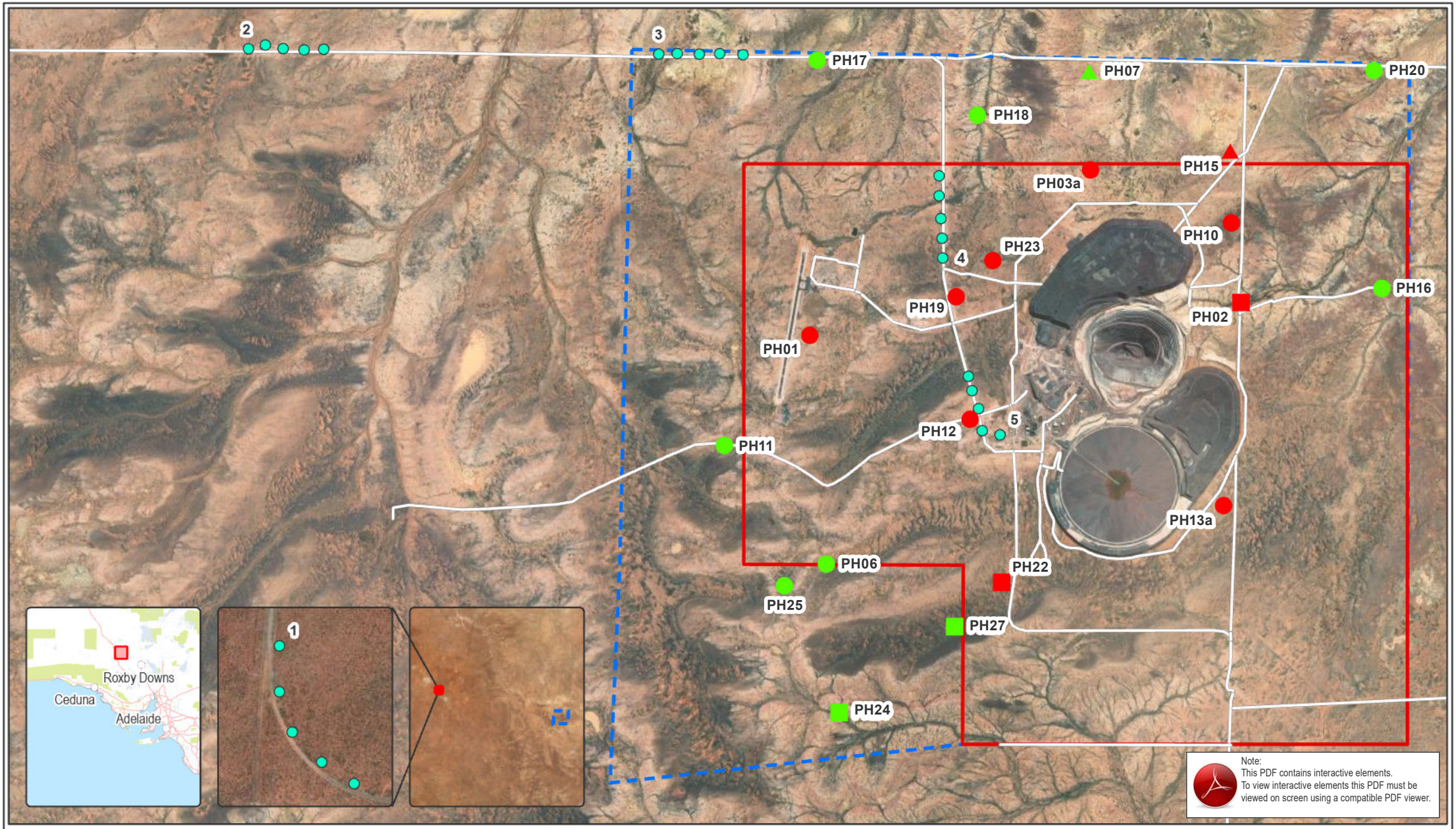


Figure 1: Prominent Hill 2025 Floristic Monitoring

- Prominent Hill mining lease area
- Significant Environmental Benefit (SEB) Offset Area
- Vegetation monitoring sites - Floristic quadrat
- Subplot
- 4m Jessup buffer
- NW corner / panorama photo point
- 100m transect
- Weed monitoring sites
- Mine access road

Impact sites

- Acacia Woodland Impact
- Chenopod Shrubland Impact
- Mallee Woodland Impact

Control sites

- Acacia Woodland Control
- Chenopod Shrubland Control
- Mallee Woodland Control

0 1 2
Kilometres

Datum/Projection:
GDA 1994 MGA Zone 53
24ADL7673-OK Date: 6/12/2025

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2. Methodology

2.1. Survey team

The 2025 ecological monitoring was undertaken between 28 April – 1 May 2025. The surveys were carried out by ELA Senior Ecologist, Emrys Leitch and Ecologist, Lauren Heddle.

2.2. Monitoring site selection

2.2.1. Floristic monitoring quadrats

A total of 20 permanent floristic monitoring quadrats were surveyed comprising, ten control and ten impact sites (Table 2 and Figure 1). The permanent floristic monitoring quadrats (control/ impact sites) have been selected to reflect a representative sample of three broad vegetation types that are present within the ML area. These include acacia woodland, chenopod shrubland and mallee woodland. The sites are defined within the PEPR, and the selected quadrats meet the measurement criteria conditions as defined in Table 1 The floristic monitoring quadrats and representative vegetation community are detailed in Table 2, below.

Table 2: Vegetation monitoring sites by vegetation type and treatment (impact/ control)

Vegetation type	Impact or Control	Floristic monitoring quadrats
chenopod shrubland	Control	PH06, PH11, PH16, PH17, PH18, PH20, PH25
chenopod shrubland	Impact	PH01, PH03, PH10, PH12, PH13, PH19, PH23
acacia woodland	Control	PH24, PH27
acacia woodland	Impact	PH02, PH22
mallee woodland	Control	PH07
mallee woodland	Impact	PH15

Each of the 20 monitoring sites consists of a permanent 1 ha (100 m x 100 m) vegetation quadrat, a randomly positioned subplot (10 m x 2 m) located in the northwest corner and a 100 m Jessup transect (Table 3). The Jessup transect includes an investigational buffer area of 4 m x 100 m (Figure 2). The Jessup transect runs from the western to eastern quadrat boundary (Figure 2). Quadrat and subplot corners as well as Jessup transect start and end points are marked with a permanent metal star picket. The location coordinates (latitude and longitude) were recorded for each corner point as were the start and end of the Jessup transect. A panoramic photograph was taken from the north-west corner (Figure 2).

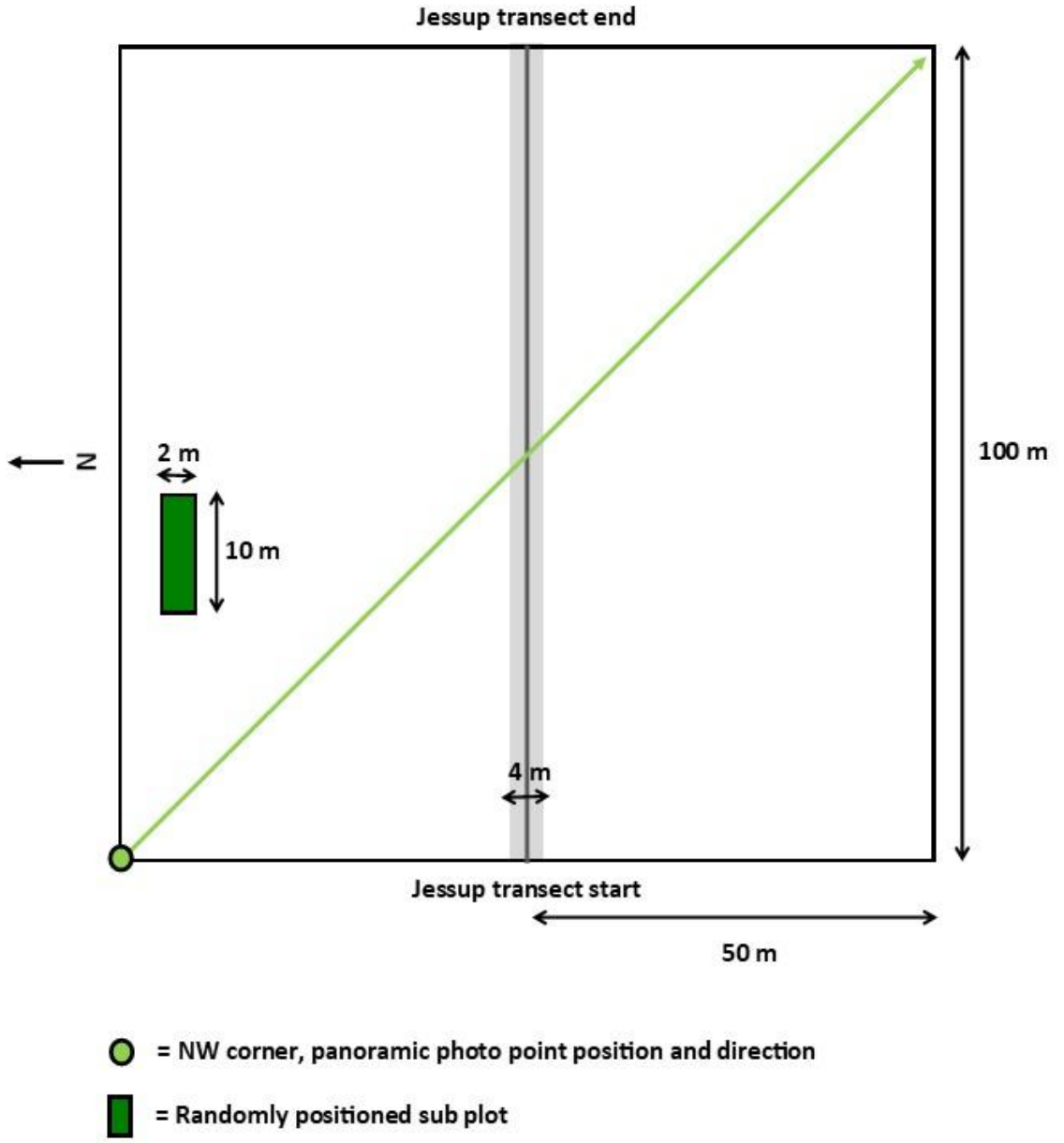


Figure 2: Monitoring quadrat diagram

2.2.2. Monitoring methods

Within each quadrat, a meandering survey was undertaken across the entire 1 ha area to document species richness and abundance (% cover). Data is also recorded for recruitment and life form present (budding, flowering, immature fruit, mature fruit, vegetative or dead).

A Jessup transect with investigational buffer (belt transect) (4 m x 100 m) is in the centre of the quadrat in accordance with the survey methodology outlined in the *Pastoral Lease Assessment – Technical Training Manual 2011* (DENR 2011). The Jessup transect is used to capture information about the amount of recruitment for perennial species, to get a ratio of adult to juvenile plants and measure plant density. The total number of adult and juvenile individuals for each perennial species within each of the Jessup plots (20 plots of 10 m x 2 m) was recorded.

Randomly positioned subplots (2 m x 10 m) were used to estimate the percent of grass cover, bare ground, litter cover, surface crust, scalded surface or erosion and number of perennial recruits.

Table 3: Floristic data recorded annually

Measurement	Method
100 m x 100 m quadrat	Identification of species present % cover of individual species Record of species recruiting Record of life forms present for each species
4 m x 100 m Jessup transect	Counts of adult and juvenile long-lived perennials (woody shrubs) Recruitment index score
10 m x 2m sub plot	Estimate of % grass cover Estimate of % bare ground Estimate of % litter cover Estimate of % surface crust Estimate of % scalded surface or erosion Counts of perennial recruits

Species diversity

The mean number of flora species (i.e. species richness) was determined for each condition and vegetation type combination (i.e. control and impact conditions in acacia woodland, chenopod shrubland and mallee woodland), and statistical analysis was conducted to determine differences between control and impact sites for each vegetation type. A similar comparison was also made between control and impact sites for perennial species richness in each vegetation type. These analyses address the LIC outlined in the PEPR (Table 1), specifically regarding whether there was any indication of "*reduction of perennial species abundance (counts) at impact sites without a corresponding reduction at control sites"*. Species richness was used as a diversity metric for these comparisons to help confirm "*no loss of abundance or diversity of native vegetation, or reduction in habitat quality on or off the Mining and or miscellaneous purposes lease areas during construction, operation as a result of mining activities"*.

Vegetation cover

Vegetation cover (% cover) was determined for each condition and vegetation type combination and statistical analysis was undertaken to determine differences between control and impact sites for each vegetation type. A similar comparison was also made between control and impact sites for perennial cover in each vegetation type. These analyses address LIC outlined in the PEPR (Table 1), specifically regarding whether there was any indication of "*reduction of perennial species abundance (counts) at impact sites without a corresponding reduction at control sites"*. This was used to assess whether BHP are trending towards achievement of the environmental outcome "*no loss of abundance or diversity of native vegetation, or reduction in habitat quality on or off the Mining and or miscellaneous purposes lease areas during construction, operation as a result of mining activities"*.

Perennial density

Perennial density (stems/ m^2) was recorded for both mature and juvenile perennials using a Jessup belt transect (Figure 2) for each condition and vegetation type combination. Statistical analyses were performed to determine differences between control and impact sites for each vegetation type. These analyses were undertaken to address two of the LIC. The first of these aims to detect "*reduction of perennial species abundance (counts) at impact sites without a corresponding reduction at control sites"*. The second aims to detect "*suppression of recruitment indicated by a reduction in recruitment index scores at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods"*. These leading indicator criteria are designed to support achievement of the environmental outcome of "*no loss of abundance or diversity of native vegetation, or reduction in habitat*

quality on or off the Mining and or miscellaneous purposes lease areas during construction, operation as a result of mining activities" through early indication of potential mining impacts that can be addressed or assessed further (Table 1).

Native recruitment

Native recruitment (proportion of species present with recruits) was determined for each condition and vegetation type combination and statistical analysis was undertaken to determine differences between control and impact sites for each vegetation type. These analyses address the LIC outlined in the PEPR (Table 1), specifically regarding whether there was any indication of "*suppression of recruitment indicated by a reduction in recruitment index scores at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods"*. This was used to assess whether or not BHP is trending to achieve the environmental outcome of "*no loss of abundance or diversity of native vegetation, or reduction in habitat quality on or off the Mining and or miscellaneous purposes lease areas during construction, operation as a result of mining activities"*.

Subplot monitoring

The ground cover metrics measured in the subplots include grass cover (%), bare ground (%), litter cover (%), soil crust (%) and scalded surface/ erosion (%). Maintaining ground cover is paramount in the South Australian Arid Lands (SAAL) as it helps to protect soils from erosion as well as providing protection for seed germination (DPI 2006). Each ground cover type was averaged for subplots in each condition and vegetation type combination and statistical analysis was undertaken to determine differences between control and impact sites for ground cover. A similar comparison was also made between control and impacts sites for perennial recruit numbers in the subplots for each condition and vegetation type combination. Analyses of ground cover were undertaken to address a specific LIC in the PEPR (Table 1) regarding whether there is any indication of "*an increase in bare ground and/or scald erosion % cover at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods"*. Additionally, analyses were performed for perennial recruitment numbers in the subplots to address two leading indicator criteria. The first of these is regarding whether there is any "*reduction of perennial species abundance (counts) at impact sites without a corresponding reduction at control sites"*. The second is regarding whether there is any "*suppression of recruitment indicated by a reduction in recruitment index scores at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods"*. These LIC are used to assess whether BHP is trending towards achievement of the environmental outcome "*no loss of abundance or diversity of native vegetation, or reduction in habitat quality on or off the Mining and or miscellaneous purposes lease areas during construction, operation as a result of mining activities"*.

2.2.3. Weed monitoring transects

In addition to the 20 floristic monitoring quadrats, five permanent weed monitoring transects were also surveyed during the 2025 survey period. The permanent weed monitoring transects were established in 2017 and are monitored as a requirement of the OMC detailed within the PEPR (Table 1).

The five weed monitoring transects are located alongside the mine access road towards the Stuart Highway and the Haul Road to the Wirrida Rail Siding, located approximately 198 km (northwest) from the mine, (Figure 1). These sites were identified to represent key environmental vectors and high frequency transport routes and allow early detection of new and emerging exotic species within the ML and surrounds (Figure 1).

Each of the five weed monitoring sites comprise five consecutive 100 m x 50 m transects, spaced 250 m apart, arranged in a linearly (along the roadside). Each weed transect is traversed on foot and weed species and abundance recorded.

2.3. Weather data

The Stony Plains bioregion experiences an arid climate with extreme temperatures and has a spatially averaged annual rainfall (1890-2005) of 118mm (Commonwealth of Australia 2008).

ELA used rainfall data provided by BHP, from the Prominent Hill weather station, to review local rainfall patterns and establish a long-term (17.5-year) rainfall average (2009-2025) across all seasons at Prominent Hill. In the year leading up to the 2025 monitoring period, April 2024 to April 2025, Prominent Hill received 94.2 mm of rainfall. This was lower than other annual averages (Jan – Dec) since surveys began as well as the 12 months prior to all previous surveys with the exception of 2019 (33.8 mm). (Table 4).

Table 4: Historical rainfall data (Prominent Hill weather station data for November 2009 to May 2025)

Monthly rainfall (mm)													
Year	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Annual
2009	12.4											30.6	-
2010	9.2	4.6	0.4	10	42.8	26.4	0	2.8	27.2	24.8	22.2	29.8	200.2
2011	23.2	15.6	64.6	62.0	0.0	20.2	0.8	13.0	1.4	0.6	20.4	8.0	229.8
2012	18.8	4.0	3.4	49.0	5.8	0.0	2.8	0.4	0.0	0.0	0.6	5.0	89.8
2013	2.8	0.0	4.8	15.0	2.6	36.0	36.6	4.8	0.0	0.6	2.0	1.0	106.2
2014	2.6	1.2	14.2	1.6	75.2	8.0	0.8	1.0	8.6	1.6	0.8	5.2	120.8
2015	24.8	43.4	0.0	0.8	1.6	37.4	8.0	0.6	1.8	0.2	0.2	2.2	121
2016	42.2	5.4	5.0	41.6	0.2	22.2	20.8	5.6	25.4	23.2	1.4	1.6	194.6
2017	12.6	84.2	2.0	0.0	24.6	4.6	9.0	0.0	0.6	0.2	8.0	41.0	186.8
2018	0.8	23.6	3.6	0.0	0.0	7.0	1.8	0.0	1.8	0.0	6.0	10.0	54.6
2019	0.0	6.8	0.0	0.4	5.6	0.4	2.4	0.0	0.0	2.6	0.6	2.6	21.4
2020	13.4	51.2	106.2	2.8	8.2	0.2	0.4	0.0	24.4	49.0	41.0	0.4	297.2
2021	6.4	8.4	20.0	31.8	0.0	6.4	7.6	7.0	0.0	0.0	4.4	61.8	153.8
2022	0.8	56.4	4.2	0.2	36.8	17.6	2.4	1.2	4.8	1.0	107.4	8.8	241.6
2023	60	47.4	2.8	2.0	31.2	0	42.6	0	1.6	0	0.4	12.2	200.2
2024	9.6	16	0	5.8	0	2.8	9.2	22.4	8.4	4	2.4	31.4	112.0
2025	-	0	0.2	16.2	0	0	4.2	-	-	-	-	-	20.6
Monthly mean	14.9	23.0	14.5	14.9	14.7	11.8	9.3	3.9	7.1	7.2	14.5	15.7	
Seasonal mean	Summer			Autumn			Winter			Spring			
	17.5			13.8			6.8			12.5			

The aligned rainfall average recorded in the year leading up to the survey (May 2024 to April 2025) meant that conditions were less favourable for plant establishment, growth and recruitment than the 2024 survey. Following higher-than-average rainfall recorded in both 2022 (241.6 mm) and (200.2 mm) 2023, and significantly less rainfall the following year in 2024 (112 mm). Results therefore may show less new perennial recruits, perennial cover and decreased species diversity within the monitoring sites.

3. Results

Results are presented as the mean ± standard error (SE), where applicable. Please note that mallee woodland only has one impact and one control site, therefore no SE is presented. Jessup transects were re-instated in 2020, so there are four years of baseline metrics to compare to with the Jessup belt transect data.

In the results below, metric data has been presented for analysis to include both perennial/ annual species as well as just perennial species.

As part of these results, statistical analyses have been conducted to determine whether control and impact sites have significant differences in vegetation condition. For these statistical analyses a p-value of 0.05 has been selected as a threshold for accepting or rejecting the null hypothesis. The null hypothesis is that there is no statistically significant difference between two sets of data. If the p-value is greater than 0.05 we cannot reasonably reject the null hypothesis. Therefore, results with a p-value greater than 0.05 have data variability attributed to random effects. Random effects are effects that influence a result to varying degrees in an unpredictable manner causing inevitable variability in results for biological data.

3.1. Vegetation quadrat monitoring

3.1.1. Species diversity

Summary

In 2025, 161 species (160 native/ 1 exotic) were observed which is the highest species richness since the monitoring program began in 2017 (Table 5). Noting that 153 species were recorded in 2024. The total number of species declined from 2017 to 2019 with 116 species in 2017, 93 in 2018 and 75 in 2019 (ELA 2017; ELA 2018; GHD 2019; ELA 2021), following years of low rainfall. Species richness increased for 2020 to 2025 in comparison to the 2017 to 2019 period, largely due to increased representation of annual species following the high rainfall received during these years, with 49 annual species recorded in 2021 (ELA 2021), 30 recorded in 2022, 39 in 2023, 39 in 2024 and 34 in 2025; this is an increase from zero annual species in 2018 and 2019 (ELA 2018; GHD 2019). All 20 monitoring sites had records in 2025 of at least one species not previously identified (Table 5), these species have all been observed previously within the ML area however not within monitoring sites.

Table 5: New flora species records for each site

Floristic monitoring quadrat	Number of new species to site	Species names
PH01	2	*Eremophila glabra* *Sclerolaena cuneata*
PH02	3	*Centipeda thespidioides* *Frankenia serpyllifolia* *Roepera aurantiaca ssp. aurantiaca*
PH03	2	*Atriplex fissivalvis* *Cullen australis*
PH06	9	*Alterantha sp.* *Atriplex fissivalvis* *Centipeda thespidioides* *Cullen sp.*

Floristic monitoring quadrat	Number of new species to site	Species names
		Einadia nutans ssp. *Maireana integra* *Sclerolaena cuneata* *Tribulus terrestorus* *Tripogonella loliiformis*
PH07	4	*Enteropogon acicularis* *Santalum acuminatum* *Sclerolaena divaricate* *Solanum petrophilum*
PH10	9	*Brachyscome ciliaris* *Euphorbia drummondii* *Gnephosis arachnoidea* *Leiocarpa sp.* *Malvastrum americanum* *Scleroleana cuneata* *Scleroleana divarcata* *Scleroleana ericantha* *Tripogonella loliiformis*
PH11	2	*Einadia nutans ssp.* *Leiocarpa sp.*
PH12	5	*Atriplex fissivalvis* *Gnephosis zygophylloides* *Leiocarpa websteri* *Sclerolaena cuneata* *Senna artemisioides ssp. X artemisioides*
PH13	8	*Alternanthera sp.* *Crassula sp.* *Daucus glochidiatus* *Gnephosis zygophylloides* *Maireana integra* *Sclerolaena cuneata* *Senna artemisiodes X cori* *Sida petrophila*
PH15	4	*Arabidella trisecta* *Euphorbia tannensis ssp. eremophila* *Ptilotus nobilis ssp.* *Tripogonella loliiformis*
PH16	8	*Boerhavia sp.* *Erodium sp.* *Leiocarpa sp.* *Maireana astrotricha* *Senna artemisioides ssp. filifolia* *Sida corrugata* *Swainsona phacoides* *Vittadinia sp.*
PH17	1	*Einadia nutans ssp.*
PH18	3	*Acacia aneura complex* *Enteropogon acicularis* *Gnephosis zygophilodes*

Floristic monitoring quadrat	Number of new species to site	Species names
PH19	4	*Lysiana exocarpi ssp. exocarpi* *Maireana integra* *Santalum lanceolatum* *Sclerolaena cuneata*
PH20	6	*Eriachne sp.* *Frankenia serpyllifolia* *Leiocarpa websteri* *Maireana spongiocarpa* *Oxalis perennans* *Sida sp.*
PH22	5	*Enteropogon acicularis* *Gnephosis zygophilodes* *Maireana integra* *Maireana spongiocarpa* *Tripogonella loliiformis*
PH23	7	*Atriplex fissivalvis* *Euphorbia tannensis ssp. eremophila* *Oxalis perennans* *Santalum lanceolatum* *Sclerolaena cuneata* *Sclerolaena eriacantha* *Senecio lanibracteus*
PH24	4	*Gunniopsis zygophylloides* *Maireana spongiocarpa* *Neurachne munroi* *Tripogonella loliiformis*
PH25	8	*Alterantha sp.* *Crassula sp.* *Calotis hispidula* *Centipeda thespidioides* *Portulaca oleracea* *Sclerolaena cuneata* *Senna phylloidinea* *Setaria constricta*
PH27	6	*Amyema preissii* *Calotis hispidula* *Daucus glochidiatus* *Leiocarpa websteri* *Maireana georgei* *Senna phyllodinea*

Comparison between sites for all species diversity

When observing patterns in total species richness between impact and control sites, the 2025 data indicate lower species richness at the impact sites compared to control sites for chenopod shrubland (-3.92 %) and acacia woodland (-4.55 %). However, for mallee woodland, the impact site had higher species richness than the control site in 2025 (+29.3%). Despite this, statistical analysis did not indicate significant difference in total species richness between control and impact sites for any vegetation type in 2025($p = 0.79$).

Comparison between years

The average total species diversity in 2025 decreased for all vegetation-condition type combinations except mallee woodland impact sites compared to the 2024 monitoring data (Figure 3). The largest decrease was observed in the acacia woodland and chenopod shrubland control sites with a decrease of 5 species per site on average. However, the control and impact site in mallee woodland did not differ from 2024. Both impact sites for chenopod shrubland and acacia woodland decreased by 1 to 2 species per site on average from 2024 to 2025.

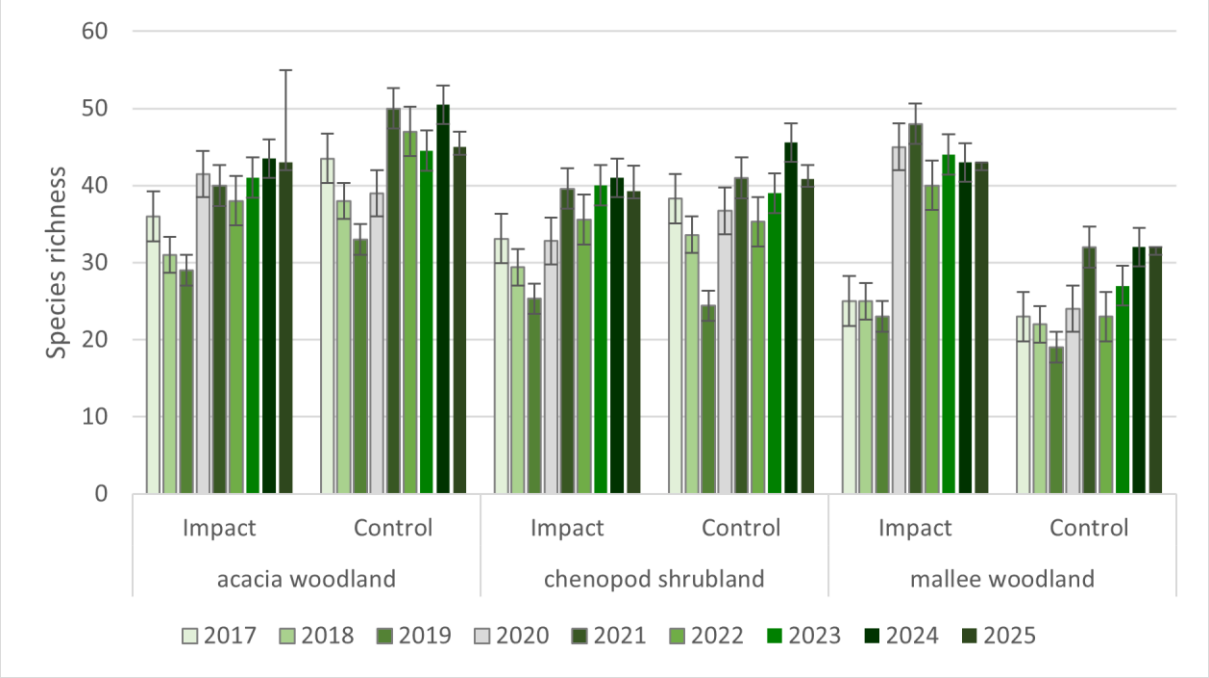


Figure 3: Total mean species richness (± SE) across the 2017-2025 monitoring period

Comparison between years for perennial species diversity

Perennial species diversity declined from 2024 to 2025 (Figure 4). While perennial species in mallee woodland and acacia woodland control sites increased across the same period.

Comparison between sites for perennial species diversity

On average, there was lower perennial species diversity at the impact sites compared to control sites for the chenopod shrubland (control = 30.85 species, impact = 30.29 species) in 2025. For acacia woodland perennial species diversity did not differ between control and impact sites (34.5 species). mallee woodland perennial species diversity was higher at impact sites compared to control sites (control = 29 species, impact = 35 species). However, statistical analysis did not indicate a significant difference in perennial species diversity for any vegetation type in 2025 (p=0.87).

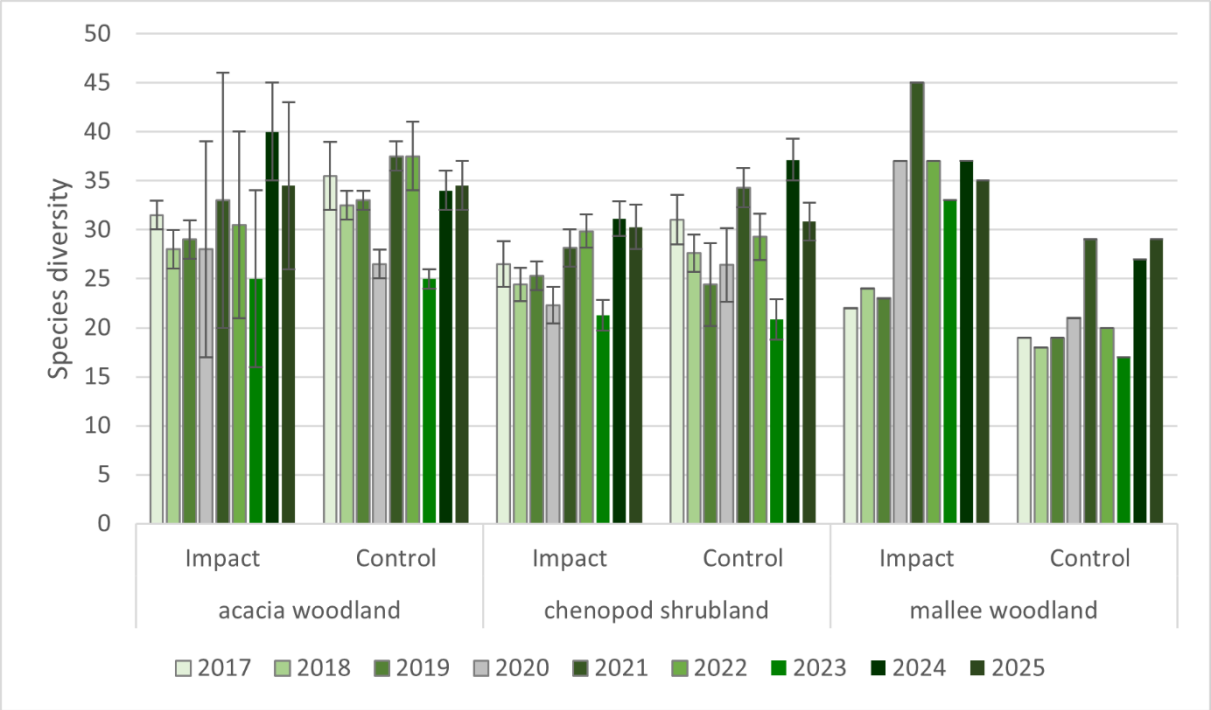


Figure 4: Mean perennial species diversity (± SE) across the 2017-2025 monitoring period

3.1.2. Vegetation cover

Site comparison for all species cover

Patterns in total species cover between quadrats in control versus impact sites, the 2025 data show higher average cover for control sites than impacts sites in acacia woodland (+29.9 %) and chenopod shrubland (+24 %). However, the mallee woodland control site had lower cover than the impact site (-38.6%). Despite this, statistical analysis indicated no significant difference in total species cover between control and impact sites for any vegetation type in 2025(p=137).

Comparison between years

The average total vegetation cover for quadrats in 2025 decreased for both control and impacts sites in chenopod shrubland when compared to the 2024 monitoring data. However, both control and impact sites for mallee woodland increased for 2025. In acacia woodland, the impact site increased, and control site decreased when compared with 2024 (Figure 5).

Comparison between sites for perennial species cover in quadrats

The 2025 data for perennial species cover, shows higher average cover in control sites for acacia woodland (+27.2%) and chenopod shrubland (+21.3%). However, perennial species cover was lower in control sites than impact sites for mallee woodland (-37.1%). Despite this, statistical analysis indicated no significant difference in perennial species cover between control and impact sites for any vegetation type in 2025 (p=0.152).

Comparison between years for perennial species cover in quadrats

Average total vegetation cover for perennials in 2025 decreased in both control and impact sites in chenopod shrubland when compared to the 2024 data. However, both control and impact sites for mallee woodland increased for 2025 (4% increase for control site and 2% increase for impact site). In acacia woodland, the impact site increased, and control site decreased when compared to 2024 (Figure 6).

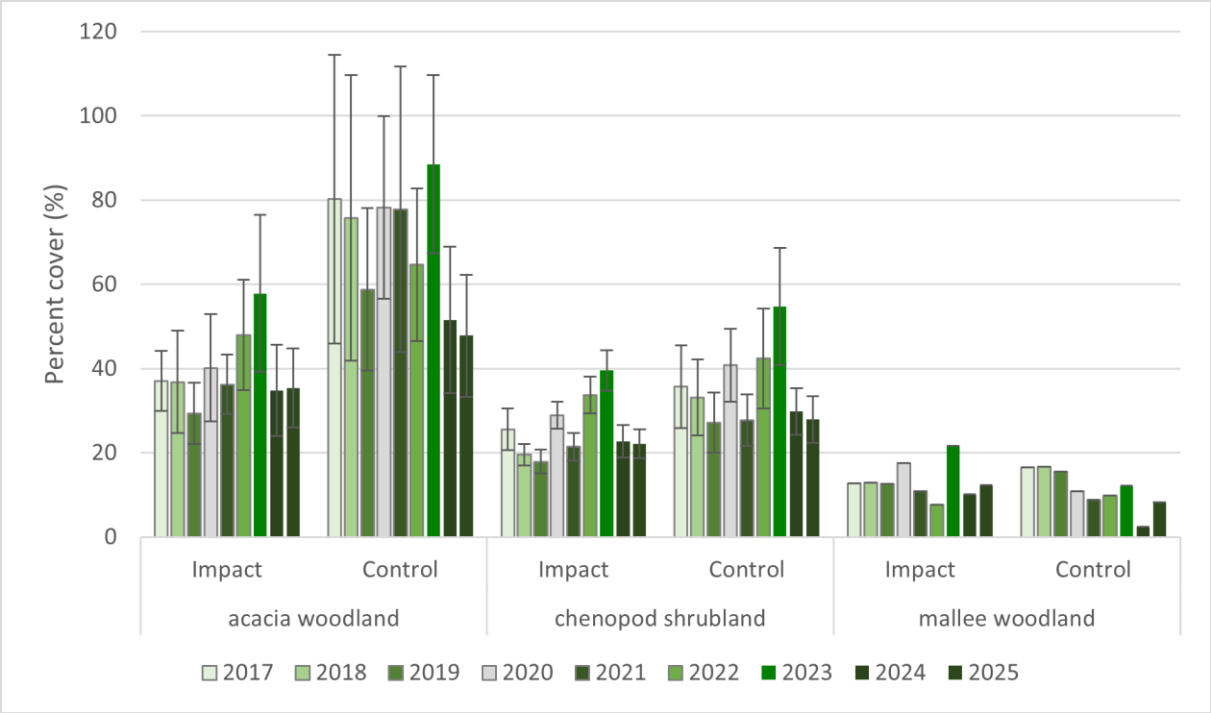


Figure 5: Mean total (annual and perennial species) percent vegetation cover (± SE) across the 2017-2025 monitoring period

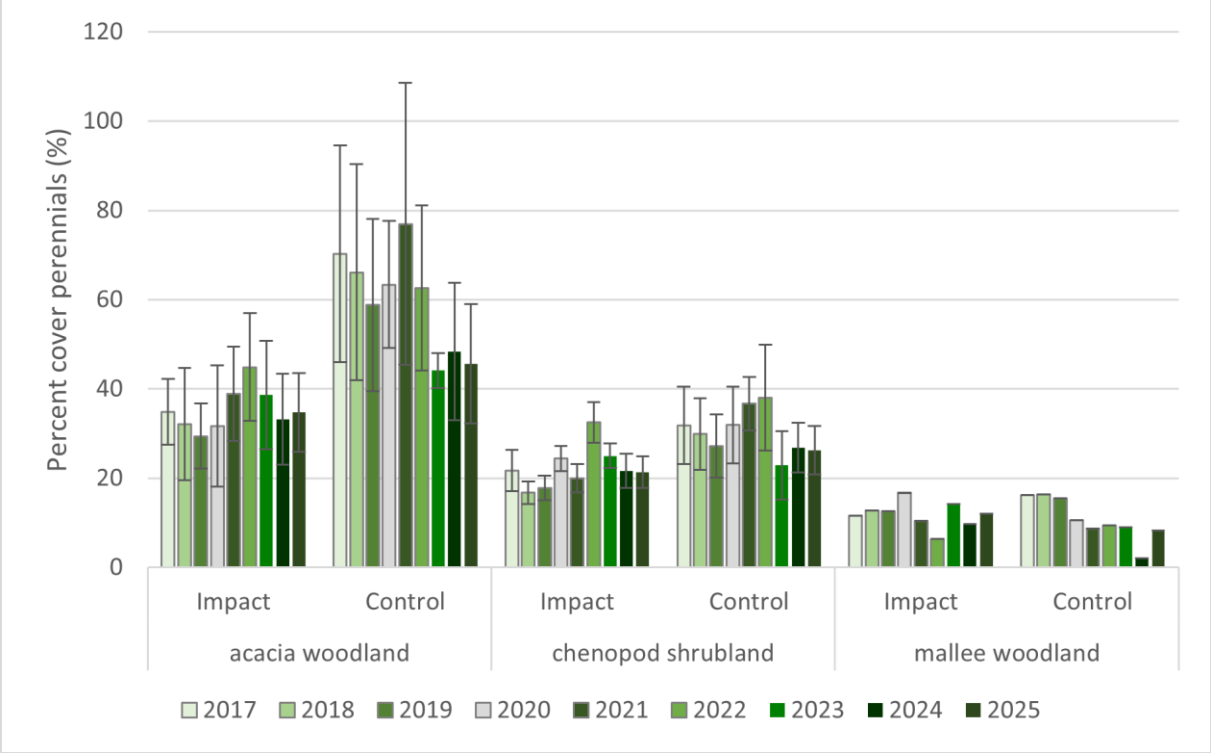


Figure 6: Mean perennial percent vegetation cover (± SE) across the 2017-2025 monitoring period

3.1.3. Perennial density

Comparison between sites for all species cover in quadrats

When observing patterns in perennial density between Jessup transects in control versus impact sites, the 2025 data show lower average total perennial density for control sites than impact sites in acacia

woodland (-50.9 %) and chenopod shrubland (-47.5 %). However, the mallee woodland control site had higher perennial density than the impact site (+159.5 %).

For mature perennials, the 2025 data showed higher mature perennial density for impact sites than control sites in acacia woodland (+62.4 %) and chenopod shrubland (+45.3 %). However, the mallee woodland impact site had lower mature perennial density than the control site (-167.1 %).

For juvenile perennials, the 2025 data showed higher juvenile perennial density for control sites than impact sites in chenopod shrubland (+62.1 %). For acacia woodland the control sites contained slightly higher juvenile perennial density of only +2.25 %. The perennial density for mallee woodland did not differ between impact and control sites (0.005 stems/ m^2), or from 2024 to 2025.

Despite notable differences between control and impact sites, a statistical analysis did not indicate significant difference in total perennial density (p=0.673), mature perennial density (p=0.683) or juvenile perennial density (p=0.636) for any vegetation type in 2025.

Comparison between years

On average total perennial density decreased from 2024 to 2025 for impact sites except in mallee woodland. Total perennials increased in all control sites of acacia woodland and chenopod shrubland. On average, mature perennial density decreased from 2024 to 2025 for sites except for impact sites in mallee woodland. On average, juvenile perennial density decreased from 2024 to 2025 for impact sites in acacia woodland and chenopod shrubland except for in mallee woodland (Figure 7).

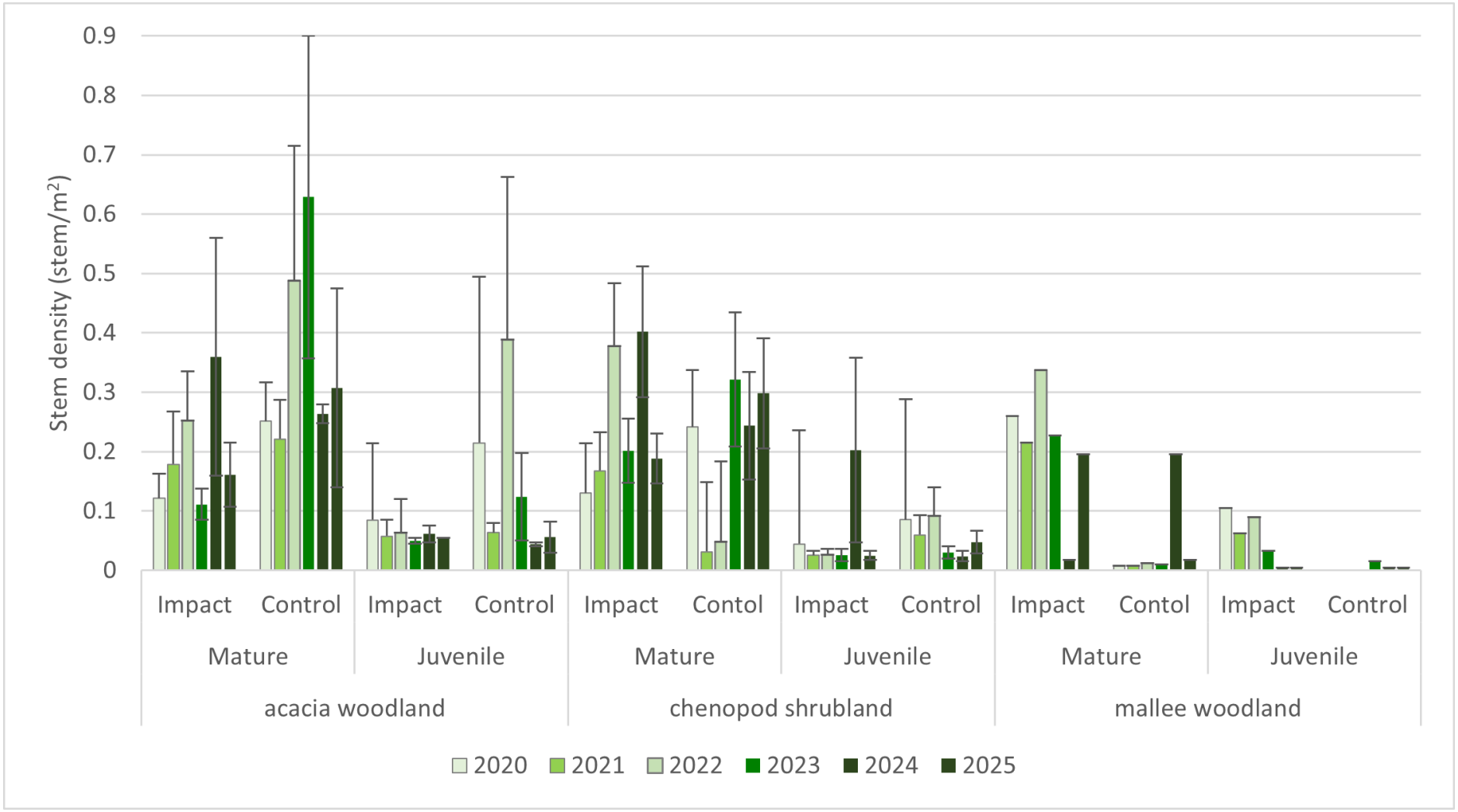


Figure 7: Mean density (± SE) of adult and juvenile plants based on Jessup transect across the 2020-2024 monitoring period

3.1.4. Native recruitment

Comparison of native recruitment

When observing patterns in native recruitment between quadrats in control versus impact sites, the 2025 data shows lower average native recruitment for control sites than impact sites in acacia woodland (-34.3 %), and mallee woodland (-46.4 %) (Figure 8). For chenopod shrubland, native recruitment was higher in control sites (+2.5 %). Although statistical analysis did not indicate a significant difference between control and impact sites for any vegetation type in 2025 (p=0.399).

Comparison between years

The average native recruitment for quadrats decreased for control and impact sites for all vegetation types, except for the chenopod shrubland control between 2024 and 2025.

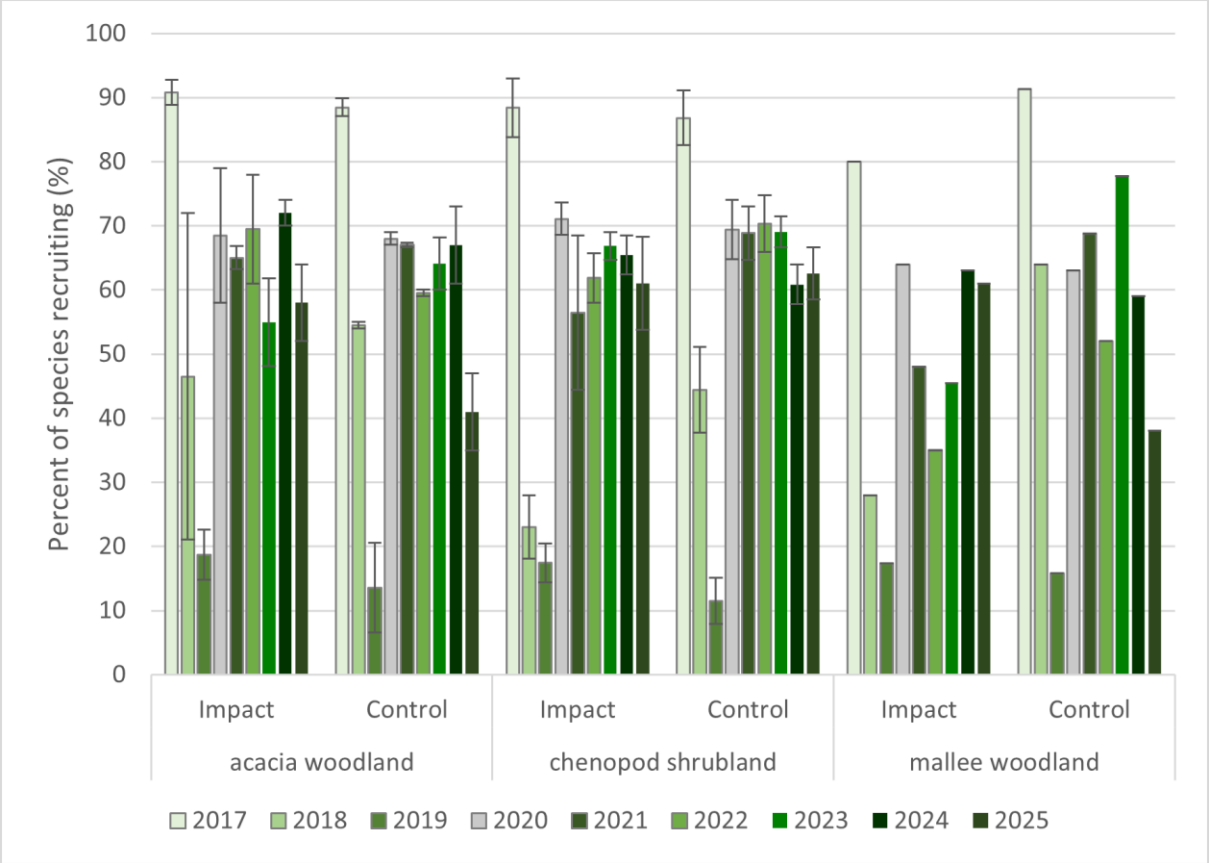


Figure 8: Mean percentage (± SE) of species recruiting across the 2017-2025 monitoring period

3.1.5. Subplot monitoring (% cover estimates and perennial recruitment)

Comparison between ground cover and perennial recruitment

When comparing ground cover in acacia woodland subplots for control versus impact sites, the 2025 data show higher average grass cover and increased soil crust in control sites compared to impact sites, which is consistent with 2024. Bare ground and litter cover on average are lower in control sites than impact sites for acacia woodland no scalded surface was recorded at any sites.

When comparing ground cover in chenopod shrubland subplots for control versus impact sites, the 2025 data show higher average grass cover, litter cover and scalded surface in control sites than impact sites.

Bare ground was on average lower in control sites compared to impact sites for chenopod shrubland and no soil crust was recorded, with data consistent with 2024.

When comparing ground cover in mallee woodland subplots for control and impact sites, the 2025 data show higher average bare ground, scalded surface and litter cover in control sites than impact. Grass cover was lower in control site than impact. Soil crust was undetected at mallee woodland sites, consistent with 2024.

Despite variations in ground cover between control and impact sites for each vegetation type, statistical analysis indicated no significant difference in grass cover (p=0.717), litter cover (p=0.861), soil crust (p=0.968) or scalded surface/ erosion (p=0.391) for any vegetation type in 2025. However, there was a significant difference in the percentage of bare ground cover for acacia woodland in 2025, with impact sites being higher (p=0.044).

When comparing number of perennial recruits between subplots in control versus impact sites, the 2025 data show higher average perennial recruitment for impact sites compared to control sites for acacia woodland (+70.9 %). For chenopod shrubland the average perennial recruitment was the same for both control and impact sites (0.4285). No perennial recruits were present in the control site for mallee woodland, while two perennial recruits were present in the impact site, consistent with 2024. Despite this, statistical analysis indicated no significant difference in perennial recruitment numbers between control and impact sites for any vegetation type in 2024 (p=0.381).

Comparison between years

Between 2024 and 2025 in acacia woodland there was a decrease in grass cover and bare ground for impact and control sites as well as litter for impact sites. There has been an increase in grass cover, litter and soil crust at control sites (Figure 9).

Between 2024 and 2025 for the chenopod shrubland there has been a decrease in grass cover for impact and control sites, and an increase in litter cover for impact and control sites (Figure 10). For bare ground and soil crust decreased at impact sites and increased for control sites. Scalded surface increased at impact sites and decreased for control sites.

There was no difference between 2024 and 2025, for mallee woodland sites or vegetation types (Figure 11).

Between 2024 and 2025 there was a decrease in the average perennial recruits for both control and impact sites in all vegetation types except for the mallee woodland impact site (Figure 12).

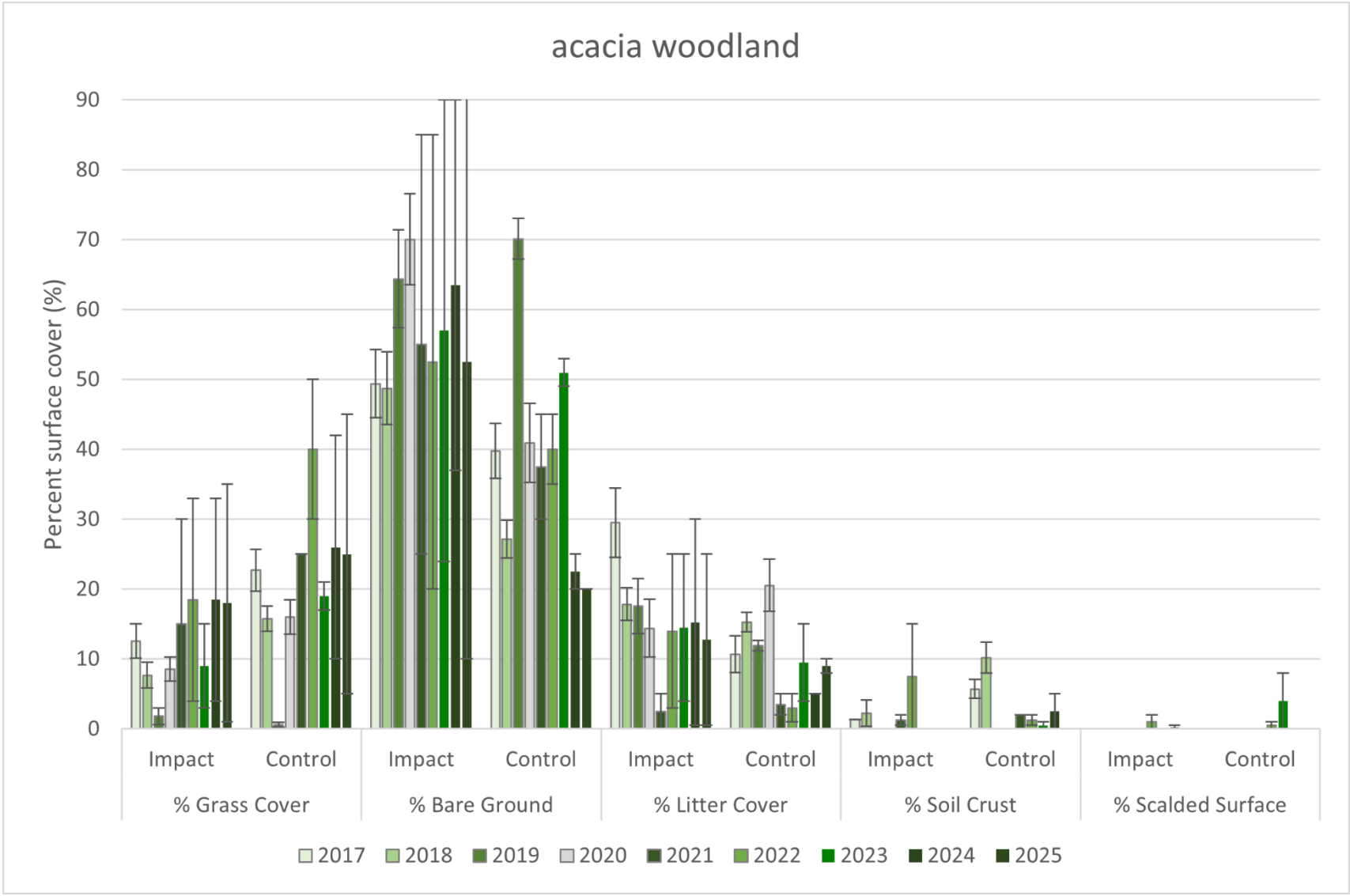


Figure 9: Mean percentage surface cover (%; ± SE) for acacia woodland across the 2017-2025 monitoring period

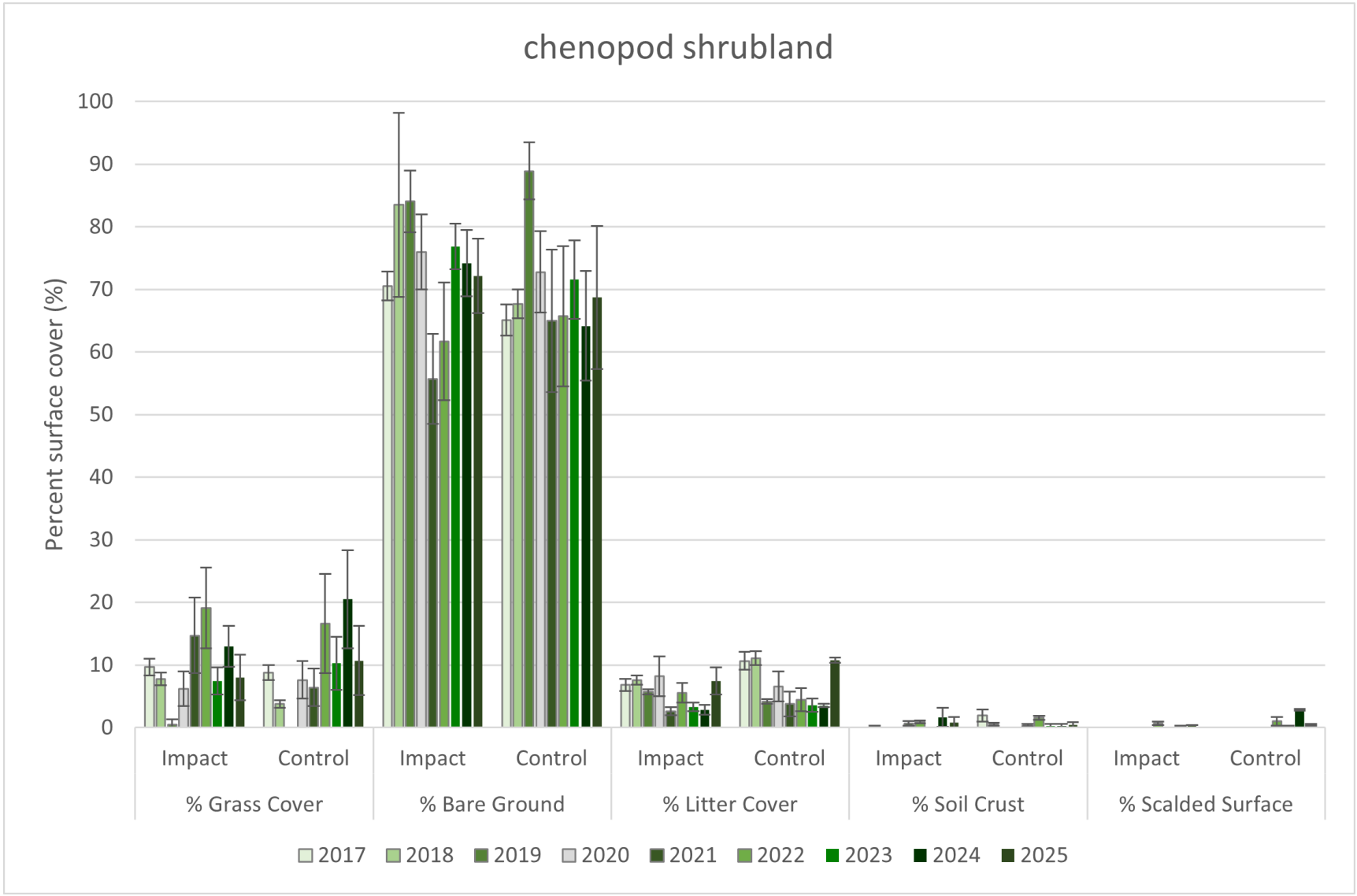


Figure 10: Mean percentage surface cover (%; ± SE) for chenopod shrubland across the 2017-2025 monitoring period

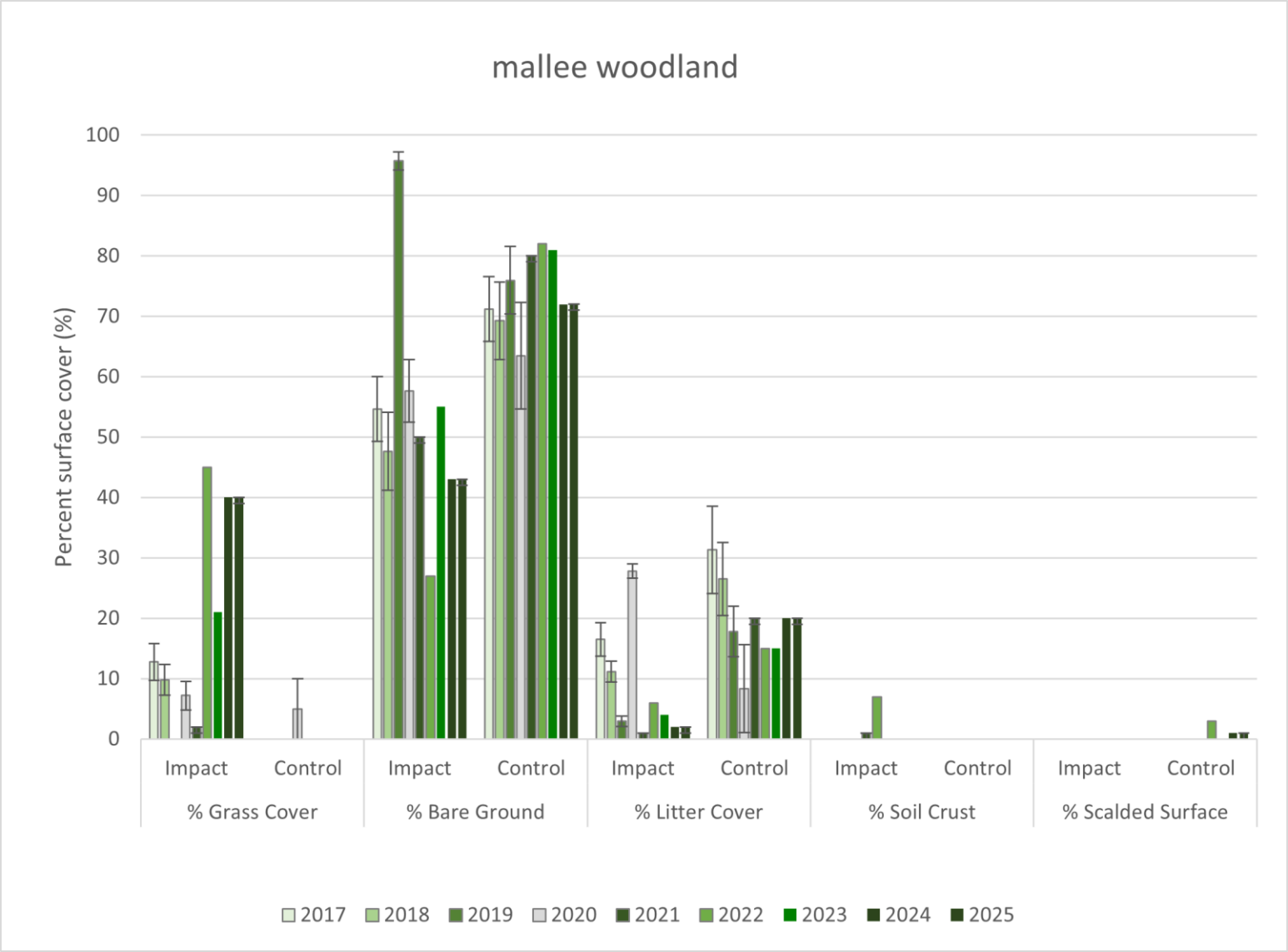


Figure 11: Mean percentage surface cover (%; ± SE) for mallee woodland across the 2017-2025 monitoring period

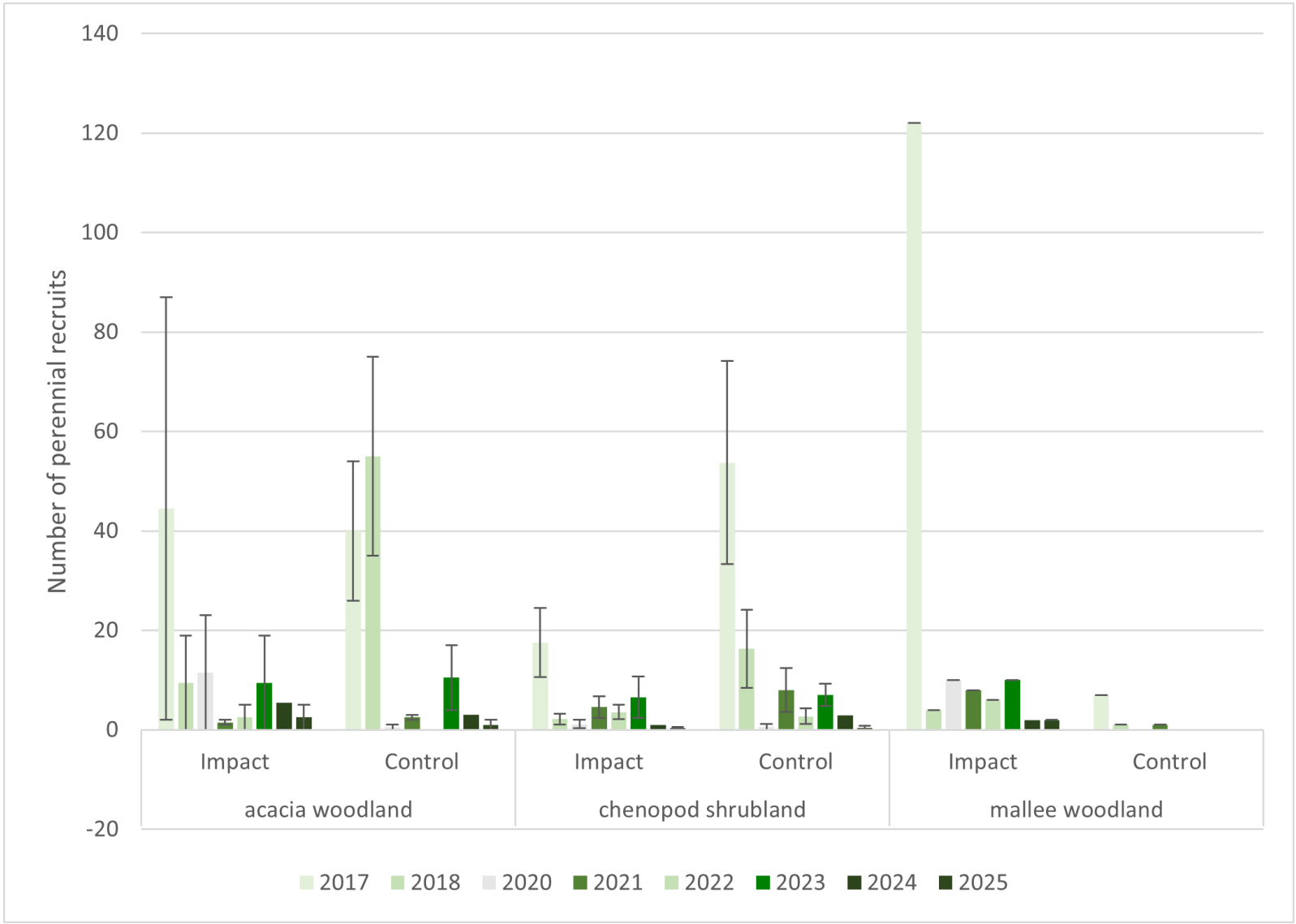


Figure 12: Mean number of perennial recruits (%; ± SE) recorded in each 2 m x 10 m subplot (2019 data unavailable)

3.1.6. Exotic flora and fauna and incidental observations

Signs of rabbit activity were present at PH03, with warrens observed and small cat scats were observed at most monitoring sites in 2025, but less than what was recorded in 2024. In contrast, there was no sign of predator activity (*Felis catus* (cat) and/or *Vulpes vulpes* (fox)) observed across any of the vegetation communities during 2022 and 2023 surveys.

Other observations, include patches of *Malvastrum americanum* observed at most monitoring sites, one *Tachyglossus aculeatus* (short-beaked echidna) opportunistically sighted near site PH27 and *Taeniopygia guttata* (zebra finch) observed at most sites (Table 6).

No trends regarding dust impacts were recorded in 2025 but should continue to be monitored. There were no signs of recent fire recorded in 2025.

Table 6: Other observational data recorded during the 2025 survey

Site	Vegetation type	Impact/ control	Observations
PH01	chenopod shrubland	Impact	Pitfall caps in good condition and pose no danger to wildlife. *Malvastrum americanum* present.
PH02	acacia woodland	Impact	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH03	chenopod shrubland	Impact	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife. *Oryctolagus cuniculus* warrens present.
PH06	chenopod shrubland	Control	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH07	mallee woodland	Control	Pitfall caps in good condition and pose no danger to wildlife.
PH10	chenopod shrubland	Impact	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH11	chenopod shrubland	Control	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH12	chenopod shrubland	Impact	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH13	chenopod shrubland	Impact	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH15	mallee Woodland	Impact	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH16	chenopod shrubland	Control	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH17	chenopod shrubland	Control	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH18	chenopod shrubland	Control	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH19	chenopod shrubland	Impact	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH20	chenopod shrubland	Control	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.

Site	Vegetation type	Impact/ control	Observations
PH22	acacia woodland	Impact	Pitfall caps in good condition and pose no danger to wildlife.
PH23	chenopod shrubland	Impact	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH24	Acacia woodland	Control	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH25	chenopod shrubland	Control	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife.
PH27	acacia woodland	Control	*Malvastrum americanum* present. Pitfall caps in good condition and pose no danger to wildlife. *Tachyglossus aculeatus* present.

3.2. Weed monitoring

Each of the five monitoring sites consisted of five linear transects that were assessed for the presence of weeds. Of the five sites surveyed, *Malvastrum americanum* var *americanum* was the only exotic plant species observed in 2025 and was recorded at one of the five sites (Figure 13). Since 2022, *Malvastrum americanum* var *americanum* has reduced in abundance at sites 1, 2, 4 and 5 but increased at site 3 (Figure 13).

Malvastrum americanum var *americanum* is the most common weed species across the study area, occurring in all except one of the monitoring sites. Figure 14 shows cover for both the control and impact sites across the study area. Both the control and impact sites show variation in cover that is consistent with some seasonal variation and do not indicate and increase in this particular weed species as a result of disturbance from the mine.

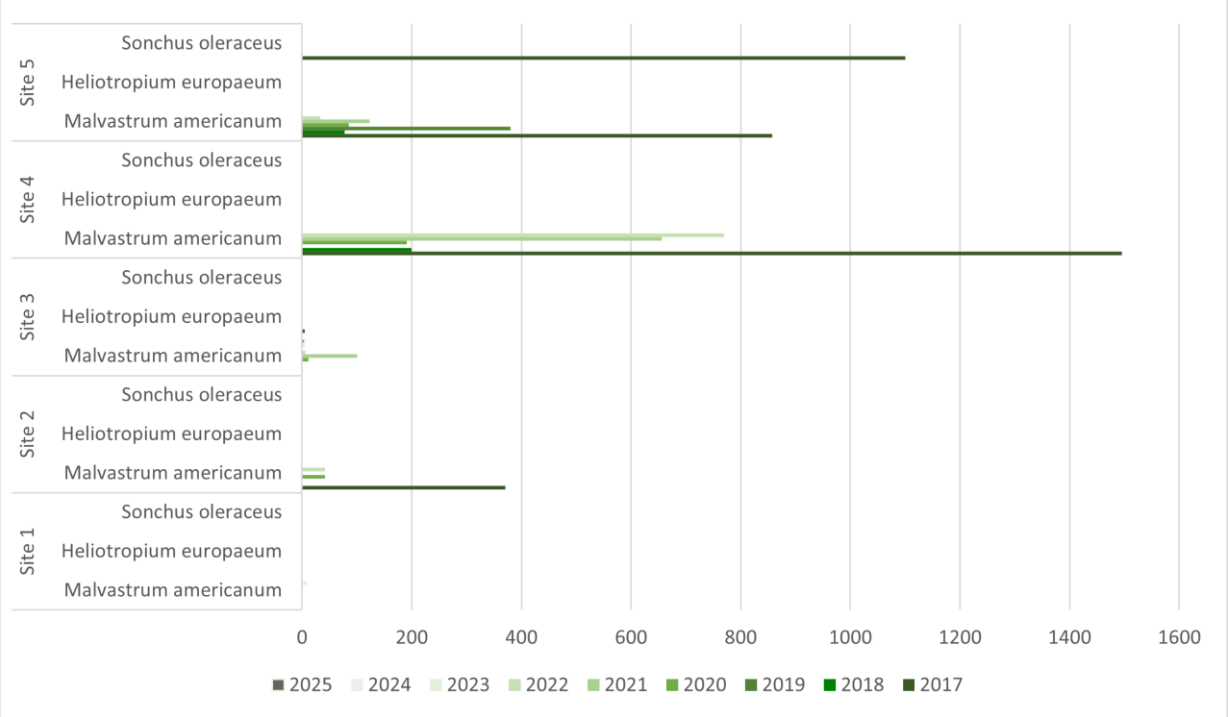


Figure 13: Weed abundance across the five weed monitoring locations 2017-2025 surveys

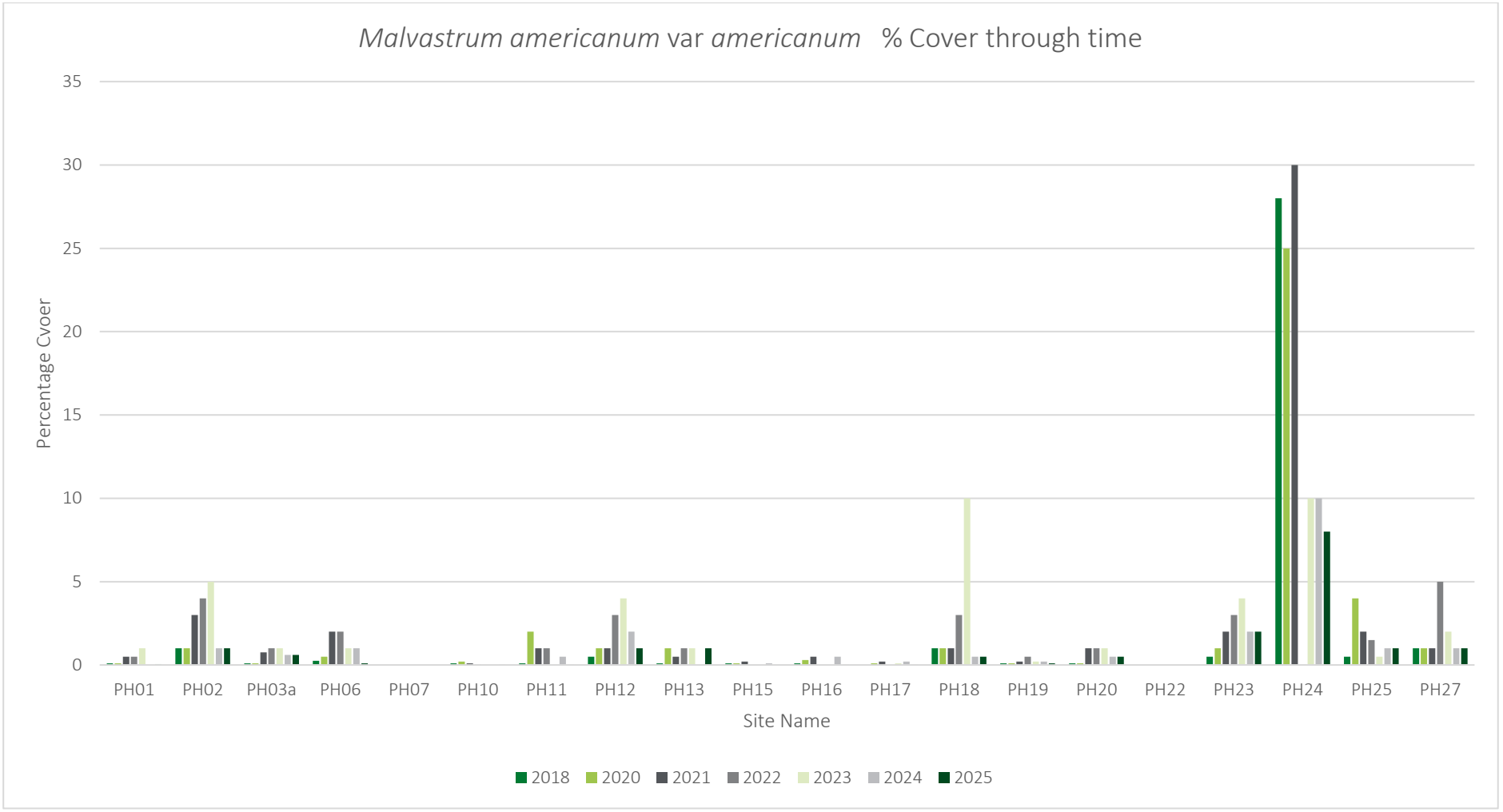


Figure 14: Cover of *Malvastrum americanum* var *americanum* through time

4. Discussion

Background

In the SAAL, rainfall is limited, and it is not uncommon to observe a bias in species diversity and abundance following rainfall events. Rainfall at Prominent Hill in the 12-month period prior to the field survey (94.2 mm) was lower than previous years, with mean annual rainfall of 169.8 mm in 2024 and 200.2 mm in 2023. It is important to look solely at perennial species as these provide stability to grazing/ disturbance systems due to their ability to persist during drier periods. The measurement of plant attributes such as density and frequency of perennials, particularly those which are palatable, are important in understanding plant dynamics and overall rangeland condition (DENR 2011).

Data from the 2025 survey were compared with previous years and between impact and control sites to infer whether mining activities at Prominent Hill are impacting surrounding vegetation communities.

2025 survey results

Higher species numbers were recorded in 2025 (161) and 2024 (154) compared to previous years. This increase from 2024 as well as previous years is likely due to consistent rainfall averages to December 2024, providing favourable conditions for these species recruit and establish. At least one new species was observed at each monitoring site. The records are new to the sites but have previously been recorded within the ML area. This demonstrates that species within the ML area continue to successfully recruit and increase in distribution. Decreased abundance in annual species diversity/ richness were recorded at impact sites and control sites for acacia woodland and chenopod shrubland, whereas mallee woodland species increased in abundance within impact sites, although the difference between control and impact sites was not significant. Mean species diversity is variable year to year, likely due to annual species fluctuations caused by variable rainfall and climatic condition in the SAAL.

When perennial species diversity was assessed alone it showed a general decrease in perennial species from 2024 to 2025, with an increase in mallee woodland and acacia woodland control sites. No significant difference in total species richness was observed between control and impact sites for any vegetation type in 2025, suggesting the variation between sites is due to random effects rather than impacts from Prominent Hill mining activities.

When observing patterns in total species cover between quadrats, higher than average cover for control sites than impacts sites in acacia woodland and chenopod shrubland in 2025. However, for mallee woodland, the control site had lower cover than the impact site. The average total vegetation cover for quadrats in 2025 decreased for both control and impacts sites in chenopod shrubland compared to 2024. However, both control and impact sites for mallee woodland increased in 2025. The decrease across all sites on average suggest impacts from environmental factors such as lower rainfall than in previous years, however some seasonal variability is expected. There was no significant difference in perennial species cover for any of the vegetation types in 2025 which suggests that variation is likely due to random effects rather than impacts from Prominent Hill mining activities.

When comparing perennial density chenopod shrubland and acacia woodland impact sites showed higher average perennial density than control sites for total, mature and juvenile perennials. mallee woodland had lower densities at impact sites than control sites for mature and did not differ for juvenile perennials. Comparatively, on average, total perennial density decreased from 2024 to 2025 for control sites in acacia woodland, chenopod shrubland and mallee woodland. On average, total perennial density decreased from 2024 to 2025 for all impact sites except mallee woodland. Total perennials generally increased across control sites of acacia woodland and chenopod shrubland. On average, mature perennial density decreased from 2024 to 2025 for all sites except for impact sites in mallee woodland.

On average, juvenile perennial density decreased from 2024 to 2025 for impact sites in acacia woodland and chenopod shrubland except for sites in mallee woodland. It is possible that perennial density decreased following low rainfall in early 2025 and impacted on perennial species recruitment compared to previous high rainfall years (2023 and 2024). A decline resulting from low rainfall is natural, as is an increase following higher rainfall. Fluctuations suggest effects of seasonal variability rather than impacts from Prominent Hill mining activities.

The 2025 data shows higher average native recruitment for impact sites than control sites across vegetation types except for chenopod shrubland, where control sites were higher. No significant difference was found between any vegetation type in 2025. Overall, these results suggest it is reasonable to attribute the variation between sites to random effects for acacia woodland, mallee woodland and chenopod shrubland vegetation types. When comparing native recruitment between years, the average native recruitment for quadrats decreased for both control and impact sites for all vegetation types, except for the control site within chenopod shrubland between 2024 and 2025. No significant difference was observed across sites and years for recruitment.

High variability in coverage of grass, bare ground, litter, and crust between vegetation type and site condition was observed in 2025. When comparing ground cover in acacia woodland subplots, the 2025 data shows higher average grass cover and soil crust in control sites than impact sites. Bare ground and litter cover on average were lower in control sites than impact sites for acacia woodland. No scalded surface was recorded at sites in acacia woodland. In chenopod shrubland, higher average grass cover, litter cover and scalded surface was observed in control than impact sites. Bare ground was on average lower in control than impact sites and soil crust was not recorded in either. Within mallee woodland, higher average bare ground, scalded surface and litter cover were present in control sites than impact sites. Grass cover was lower in the control compared to the impact site in mallee woodland. Soil crust was not detected in the mallee woodland sites which was consistent with 2024. However, no significant difference was observed, except for bare ground cover for acacia woodland in 2025, with impact sites being significantly higher than controls ($p=0.044$). This could be a result of reduced rainfall or other environmental factors but should continue to be monitored.

Perennial recruitment within the subplots was lower for control sites within all vegetation types. Overall, perennial recruitment reduced in all sites from 2024 to 2025. No recruitment was occurring at control sites for mallee woodland, whilst recruitment increased by two at impact sites. Despite this variability, no significant difference was determined following statistical analysis. Therefore, it is reasonable to attribute variation between sites to random effects rather than impacts from Prominent Hill Mining activities.

Survey limitations

Some discrepancies in data collection exist, likely due to differences in survey teams from year to year. Monitoring this over future years will be important to ensure that these discrepancies do not produce a false perception of changes in habitat quality.

No rainfall was recorded at Prominent Hill in January, April and May and low rainfall in February (0.2 mm) in 2025. However, there was significant rainfall recorded in March 2025 of 16.2 mm. The decrease in vegetation cover and perennial species in 2025 could be due to low rainfall and impacted recruitment, but did not impact species richness, which increased in 2025 (Hunter and Melville 1994).

Introduced predator (cat and fox) activity was not present across all vegetation communities in 2025, which may suggest successful pest management is occurring. It could also be a product of low rainfall prior to the survey period, resulting in lower prey density in the area. The observations of cat and rabbit activity in 2025 suggests that predators should continue to be monitored.

No fire or dust impacts were observed in 2025, consistent with previous surveys from 2022 to 2024.

Weed monitoring sites

The overall presence of weeds within the site is difficult to ascertain from five roadside monitoring sites nearby to the mining operations, however the smallest number of weeds across all monitoring years (2017 – 2025) and weed sites (weed site 3: 4 individuals) was observed in 2025. This can be attributed to the confirmed management of weeds within the mine site and along the haul road as well as within the village area. *Malvastrum americanum* var *americanum* was recorded across 18 of the 20 monitoring sites (Table 6). *Malvastrum americanum* var *americanum* has not been observed at Site PH01 until 2025. It is important to note that this species is listed as a 'possible weed' on the South Australian Census, but it is not a 'declared weed' (eFlora 2020, PIRSA 2020). It should also be noted that both eFloraSA, the electronic taxonomic key of the Flora of South Australia and PlantNet, the online taxonomic key of the Flora of New South Wales, identify *Malvastrum americanum* var *americanum* as naturalised (eFloraSA 2007, PlantNET 2023).

Recommendations

The trends from 2017 to 2025 in vegetation and habitat compliance monitoring at Prominent Hill demonstrate that the condition of vegetation in arid systems fluctuates with rainfall. High rainfall from 2020 onwards has led to improvements in most condition indicators observed in 2021, compared to the previous monitoring years, and these improvements persisted in 2024 where rainfall was close to the long-term average. However, in 2025 survey the rainfall was less than the long-term average. It is important to consider the strong influence of rainfall in arid environments and its potential to conceal impacts from other sources, e.g. grazing or mining. Regular vegetation monitoring is critical to detect impacts outside of climatic variation or environmental factors in relation to changes in vegetation condition or community structure.

5. Conclusions

The objective to undertake monitoring to determine if there have been any changes in the abundance or diversity of native vegetation or a reduction in habitat quality is considered to be met. The 2025 data does not indicate measurable loss of abundance or diversity of native vegetation, or reduction in habitat quality, the vegetation condition observed within the ML area is in most cases, consistent with the surrounding SEB offset areas.

The objective to undertake weed monitoring was met and it is considered there has been no introduction of new weed species. An increase in the abundance or distribution of existing species in 2025 has occurred, though only at one site, in comparison to last year. However, cover has decreased to zero at all other sites in 2024 and 2025, though this is expected as *Malvastrum americanum* var *americanum* is known to be sensitive to rainfall and typically found along drainage lines where water persists (Western Australian Herbarium 1998).

The results of the Autumn 2025 ecological survey do not indicate that the Prominent Hill mine is impacting native vegetation and habitat condition. Levels of native vegetation species abundance, richness, diversity and recruitment within impact sites do not indicate a trend different from that observed at control sites, in any vegetation type.

A summary of the relevant compliance and outcome criteria contained within the PEPR is provided in Table 7, further demonstrates that the objectives of this survey, as presented in Section 1.2, have been met.

Table 7: Compliance summary

Grouped condition number	Environmental outcome	OMC details	Statement addressing the OMC	Outcome achievement	LIC	Statement addressing the LIC
GC12	No loss of abundance or diversity of native vegetation, or reduction in habitat quality, on or off the Mining and or miscellaneous purposes lease areas during construction, operation as a result of mining activities unless prior approval under relevant legislation is obtained and environmental offsets are approved and in place.	10 x 2 m SUB PLOT within VEGETATION QUADRAT. For each 1 x 1 m unit of sub-plot: o Estimate of % grass cover (ephemerals, annuals) o Estimate of % bare ground o Estimate of % litter cover within the plot o Estimate of % surface crust o Counts of recruits (all shrubs) to provide recruitment score o Long lived perennials (over and understory via species abundance counts (density) for both juveniles and adults. Panoramic photographs collected to aid in assessment of vegetation cover for recruitment. Observational data to be collected at all sites including (but not limited to) vehicle tracks, erosion, vegetation clearing, distance to mine site, light, dust, inappropriate access, feral animals and weeds. GIS output of approved clearance boundary and actual clearance boundary.	The species diversity, vegetation cover and the percentage of species recruiting in 2025 remains high, compared to the historical data (2017-2024). Mallee woodland had higher diversity at control sites than impact sites, and the opposite was true for acacia woodlands and chenopod shrublands in 2025. The percentage of vegetation cover was higher at control than impact sites for acacia woodland and chenopod shrublands. Whereas cover was higher for impact sites in mallee woodland. The percentage of native perennial species recruiting was higher for impact sites than control sites for acacia and mallee woodlands in 2025. Both control and impacts were the same for chenopod shrublands in 2025. Rabbit activity was observed consistent across all sites for all three vegetation types. ELA cannot confirm an approved Native Vegetation Management Plan and SEB Offset in place. Our results are not relevant to any clearance, unapproved or otherwise and the survey work did not include review of clearance boundaries. We understand BHP include this work in their annual reporting.	Approved Native Vegetation Management Plan and SEB Offset in place.	Indicators of habitat degradation, including: o Reduction of perennial species abundance (counts) at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods. o Suppression of recruitment indicated by a reduction in recruitment index scores at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods. o An increase in bare ground and/ or scald/ erosion % cover at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods. If leading indicator triggered, implement targeted threatened bird surveys to confirm ongoing presence of Thick-billed Grasswren and Chestnut-breasted Whiteface within impacted sites.	The following observations have been made in relation to the leading indicator criteria: 1. The average total species diversity increased in 2025 compared to 2024. Native vegetation cover (abundance) has remained constant over the 2021-2025 period. 2. The proportion of species recruiting is higher at impact than control sites across all three vegetation types. 3. The amount of grass cover at all sites has decreased compared to 2024. 4. Bare ground cover has increased in 2025 at all sites. Our results are not relevant to any clearance, unapproved or otherwise and the survey work did not include review of clearance boundaries. We understand BHP include this work in their annual reporting.
GC13 GC14	Environmental offsets are approved and in place for all clearance of native vegetation	As above	As above	As above	Reduction of perennial species abundance (counts) at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods. Suppression of recruitment indicated by a reduction in recruitment index scores at impact sites without a corresponding reduction at control sites over three consecutive monitoring periods for Chenopod Shrubland. An increase in bare ground and/ or scald/ erosion % cover at impact sites without a corresponding reduction at control over three consecutive monitoring periods. If leading indicator triggered, further assessment of detected impacts vs pre-mine condition by comparison with sites outside of SEB area required to determine non-compliance with lease condition. Annual review of vegetation clearance confirms all clearance has been approved.	As above

Grouped condition number	Environmental outcome	OMC details	Statement addressing the OMC	Outcome achievement	LIC	Statement addressing the LIC
GC64	No introduction of new species of weeds, plant pathogens or pests (including feral animals), nor sustained increase in abundance of existing weed or pest species in the licence area compared to adjoining land as a result of mining operations.	Records of counts and identification of any declared weed infestations observed along transects at each location. Records of weed control actions implemented (where relevant). Records of feral animal observations, trapping and capture rates.	Weed monitoring was completed in and outside of the ML. No new weed species were detected in the 2025 monitoring period across the five weed monitoring sites or at the 20 permanent vegetation monitoring sites. *Malvastrum americanum* var *americanum* was observed in higher abundance at all sites, however this perceived increase was not statistically significant.	Weed infestations are recorded, treated and monitoring for ongoing management requirements	Annual review of the weed survey and management register (results of field monitoring and visual observations) considering trends that could indicate population increase or new weed species. Quarterly review of cat sightings and trapping register considering trends that could indicate population increase and requirement for increase in trapping program.	Annual review of the weed survey and management register (results of field monitoring and visual observations) considering trends that could indicate population increase or new weed species.

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Appendix A - 2025 species matrix

Table 8: Vegetative life stage key

Abbreviation	Definition
B	Budding
F	Flowering
I	Immature fruit
M	Mature fruit
V	Vegetative
D	Dead

Species Name	Common Name	Lifespan (Perennial / Annual)	Total Sites	PH01			PH02			PH03			PH06			PH07			PH10			PH11			PH12			PH13			PH15			PH16			PH17			PH18			PH19			PH20			PH22			PH23			PH24			PH25			PH27		
Abutilon fraseri ssp.		P	1																																																									
Abutilon halophilum	Plains Lantern-bush	P	10	0.01	1	IV	0.01	1	VF							0.01	0	X	0.01	1	F													0.01	1	FM							0.1	1	M	0.01	1	V	0.01	1	M	0.01	1	FM				0.01	1	I				0.01	1	M
Abutilon leucopetalum	Desert Lantern-bush	P	1																																												0.01	1	V																
Abutilon sp.	Lantern-bush	P	1																																															0.01	0	XD																
Acacia aneura complex	Mulga	P	9				11	1	V				0.5	0	VR	0.25	1	V				0.1	1	RV																												3	0	V				6	1	V	0.01	0	V	3	1	V
Acacia oswaldii	Umbrella Wattle	P	2																																																											
Acacia tetragonophylla	Dead Finish	P	14.33333				4	1	VDX	0.2	1	X	0.1	1	V	0.1	1	V				0.1	1	RV				0.3	0	V	0.01	0	VX																4	1	VDX	4		V	0.5	0	X	3	0	V	0.5		X	5	0	DVS	0.2	0	V	5	1	VX
Acacia victoriae ssp. victoriae	Elegant Wattle	P	1																									1	0	V																																	
Alectryon oleifolius ssp. canescens	Bullock Bush	P	2							0.2	0	V																0.1	0	V																															
Amyema fitzgeraldii	Pincushion Mistletoe	P	1																												0.01	0	VB																														
Amyema maidenii ssp. maidenii	Pale-leaf Mistletoe	P	1.333333				1	0	V																			0																																		
Arabidella trisecta	Shrubby Cress	P	3													0.01	1	D																																													
Aristida capillifolia	Needle-leaf Three-awn	P	3				3	0	XD																																																							
Aristida contorta	Curly Wire-grass	P	20	15	1	VD	1	1	XD	0.1	1	D	5	1	V	0.1	1	X	0.1	1	XD	8	1	X	0.5	1	V	3	1	XD	0.1	1	XD	2	1	XD	10	1	XD	0.5	1	M	4	1	XV	0.3	1	VX	5	1	VD	2	1	XD	7	0	D	6	1	XM	3	1	XD
Aristida holothera	Tall Kerosene Grass	P	0																																																											
Astrebla pectinata	Barley Mitchell-grass	P	5																			0.1	1	XD	0.1	0	XD																													0.01	0	V			
Atriplex quinii	Kidney-fruit Saltbush	P	16.66667				0.01	1	DF	0.1	1	MF	0.1	1	DVM				0.01	1	F	0.01		FM	0.05	1	F	0.01	0	V	0.01	0	V	0.01	0	F	0.01	1	VM				0.1	1	VF	0.01	0	FM	0.01	0	F	0.1	1	MF	0.01	0	I	0.01	1	F	0.01	1	F
Atriplex vesicaria	Bladder Saltbush	P	19	10	1	V	4	1	VF	5	1	F	2	1	V	0.5	0	V	0.5	0	VD	3	0	F	4	1	VF	2	1	V	2	1	V	12	1	F	10	1	F	30	1	F	1	1	V	7	1	FS				3	1	F	20	1	V	7	1	F	4	1	F
Austrostipa sp.	Spear-grass	P	1							0.01	0	DX																																																			
Boerhavia dominii	Tar-vine	P	1																																																											
Brachyscome ciliaris var. ciliaris	Variable Daisy	P	6										0.01	1	D							0.01	1	F	0.01	0	F							0.01	1	V	0.01	1	F							0.01	1	F														
Convolvulus remotus	Grassy Bindweed	P	11	0.1	0	V				0.01	0	DXV	0.01	1	VM				0.01	1	XD	0.01	0	D	0.01	1	V	0.01	1	V				0.01	0	X																0.01	1	DXV							0.01	0	DM
Cullen australasicum	Tall Scurf-pea	P	5																						0.01	1	V	0.01	0	V				0.01	0	V																0.01	0	V				0.01	1	M			
Cynanchum viminale ssp. australe	Caustic Bush	P	3													0.1	0	F																																									0.01	0	V				0.02	0	F			
Cyperus alterniflorus	Umbrella Flat-sedge	P	1				0.1	1	MD																																																					
Digitaria brownii	Cotton Panic-grass	P	16	0.2	0	MV	0.1	1	XD	0.01	1	M	0.1	1	DV							0.05	0	XDM	0.01	1	X	0.1	0	XDM										0.1	1	X	0.1	1	DX	1	1	SMV	0.01	1	M	1	0	DX	0.1	1	XDM	1	1	XD	1	1	X	2	1	XD
Digitaria sp.	Summer-grass	P	0																																																											
Diplachne fusca ssp. muelleri	Brown Beetle-grass	P	0																																																										
Disscocarpus paradoxus	Ball Blindyi	P	2										0.05	1	VD													0.01	0	D																															
Einadia nutans ssp.	Climbing Saltbush	P	11				0.1	1	M				0.02	0	V							0.01	0	I				0.01	0	DM										0.01	1	I	0.01	0	D	0.01	0	V				0.01	0	V	0.01	1	MI	0.5	1	V				0.01	0	V
Enchylaena tomentosa var. tomentos	Ruby Saltbush	P	14	0.61	0	V	1	1	V	0.01	1	V	0.05	0	V	0.01	1	SI				0.01	0	V				0.01	0	V										0.25	0	V	0.01	0	V	0.01	1	V	0.05	1	VM	0.01	1	V	0.02	0	V				0.75	1	V
Enneapogon cylindricus	Jointed Bottle-washers	P	18	7	0	D	2	1	M	0.5	1	M	0.1	1	V	0.01	1	M	0.2	1	MD	4	1	M	3	1	D				1	1	M	1	1	M	5	1	X	10	1	MXD	1	1	X	0.5	1	M	3	1	DM	1	1	XD				2	1	M	1	1	XD
Enneapogon nigricans	Black-head Grass	P	1																												0.01	1	MX																														
Enteropogon acicularis	Umbrella Grass	P	11				0.01	1	X							0.01	0	M				0.01	0	MD	0.01	1	D	0.01	0	XD							1	1	S	0.01	0	D				0.01	1	M	0.01	0	DX	0.01	1	MD						
Eragrostis setifolia	Bristly Love-grass	P	7				0.2	1	X				0.01	1	D							0.01	0	V										0.01	0	D										0.01	0	D	0.01	1	DM				0.1	0	D	0.2	1	M	0.01	1	DM
Evernophila latrobei ssp. glabra	Crimson Emubush	P	5																			0.01	1	RV				0.2	1	M																		1	1	F	0.5	0	MI							0.01	0	VFM
Evernophila longifolia	Weeping Emubush	P	2																																																										
Evernophila rotundifolia	Round-leaf Emubush	P	2																																																										
Evernophila serrulata	Green Emubush	P	8				0.05	0	V																																0.1	0	D	1	1	V	0.1	0	V	0.1	1	V	0.1	0	V	0.1	1	M	0.01	0	V				0.01	0	V
Eucalyptus socialis ssp. socialis	Beaked Red Mallee	P	2											6	0	M												2	0	BX																															
Frankenia serpyllifolia	Thyme Sea-heath	P	2				0.01	0	V																																																					
Glycine canescens	Silky Glycine	P	1																																																											
Goodenia fascicularis	Silky Goodenia	P	3				0.01	0	D																									0.01	1	V							0.01	0	DX																		
Gunniopsis zygophylloides	Twin-leaf Pigface	P	1																																																										
Leiocarpa leptolepis	Pale Plover-daisy	P	9										0.01	0	D				0.01	0	V	0.01	1	F	0.1	0	V							0.01	0	F	0.01	1	F							0.01	1	XV	1	1	V	0.01	0	D						
Leiocarpa websteri	Narrow Plover-daisy	P	5				0.01	0	D													0.01	0	VF										0.01	0	F							0.01	1	F													0.01	0	D
Lotus cruentus	Red-flower Lotus	P	1																			0.01	0	V																																						
Lysiana exocarpi ssp. exocarpi	Harlequin Mistletoe	P	6							0.05	0	F										0.01	0	V							0.01	0	F							0.01	0	V	0.1	0	F	0.01	0	F												
Lysiana murray	Mulga Mistletoe	P	1				0.01	0	F																																																				
Maireana aphylla	Cotton-bush	P	9				0.05	1	V				6	1	V							0.01	0	V	0.01	0	M	4	1	M										0.01	0	V							0.1	0	V	0.5	0	V				0.5	1	V
Maireana appressa	Pale-fruit Bluebush	P	1																									0.01	1	M																															
Maireana astrotricha	Low Bluebush	P	13.33333	3			0.7	1	V	6	1	V				0.2	0	V	2	1	V				1	1	V				3	1	V	0.01	0	V	0.1	1	V	3	1	VS	0.01	0	V	0.01	0	V							0.5	0	V	0.5	0	V			
Maireana campanulata	Bell-fruit Bluebush	P	0																																																									
Maireana coronata	Crown Fissure-plant	P	0																																																									
Maireana enantha	Woolly Bluebush	P	7							0.1	1	M	0.01	0	V													0.01	0	V										0.01	1	V	0.1	1	MD	0.1	1	V	0.01	0	V												
Maireana georgei	Satiny Bluebush	P	3																																																							0.7	0	X							0.01	0	X
Maireana integra	Entire-wing Bluebush	P	19	0.5	0	V	0.5	0	V	0.2	1	V	0.01	0	V	0.01	0	V	0.05	1	V				0.1	1	V	0.01	0	V	0.01	1	V	0.05	1	M	0.1	1	V	0.1	1	V	0.1	1	V	0.01	1	VF	0.01	1	D	0.1	1	M	1	1	V	0.5	0	V	0.01	0	V
Maireana lobiflora	Lobed Bluebush	P	0																																																									
Maireana pentatropis	Erect Mallee Bluebush	P	3				0.01	0	V							0.05	0	VD										0.1	1	V																															
Maireana pyramidata	Black Bluebush	P	7.666667	0.1	0	V				7	1								3	0	V				6	1	V	3	0	V	0.02	0	F							0.5	0	V							4	1	V										
Maireana sedifolia	Bluebush	P	1																									2	1	V																															
Maireana sponginocarpa	Spongy-fruit Bluebush	P	4																			0.01	0	XV																										0.01	1	MV	0.1	0	V				0.1	0	XV			
Maireana trichoptera	Hairy-fruit Bluebush	P	2																0.01	0	V							0.01	0	V																															
Maireana triptera	Three-wing Bluebush	P	9				0.01	0	V							0.01	0	V	0.01	1	V							0.01	0	V	0.01	0	V										0.5	0	V							3	1	V	1	0	V				0.01	0	V
Maireana turbinata	Top-fruit Bluebush	P	0																																																									
Malvastrum americanum var. americ	Malvastrum	P	18	0.05	1	V	1	1	M	0.6	1	MF	0.1	1	VM				0.01	1	VMF	0.01	1	DM	1	1	VM	1	0	V	0.01	1	FI	0.01	1	M	0.5	1	DM	0.1	1	V	0.1	1	V	0.1	1	V	0.01	1	M	0.5	1	M	1	1	V	0.1	1	MR
Malva weinmanniana	Australian Hollyhock	P	0																																																									
Marsilea drummondii	Common Nardoo	P	6				0.25	1	D				0.4	1	V													0.2	0	D										0.01	0	MD										0.2	0	D				0.1	1	D
Minuria cunninghamii	Bush Minuria	P	5	0.1	0	D																0.2	1	VF																			0.01	0	M	0.05	1	M				0.01	1	M								
Minuria leptophylla	Minnie Daisy	P	2																																								0.01	1	F	0.2	1	V														
Neurachne munroi	Window Mulga-grass	P	1																																																										
Osteocarpum dipterocarpum	Two-wing Bonefruit	P	4							0.01	1	M													0.1	1	VF																			0.1	0	M										0.01	0	V			
Oxalis perennans	Native Sorrel	P	3							0.01	1	V																																																			
Panicum decompositum var. decom	Native Millet	P	5																0.01	1	MDV				0.01	0	D							0.01	0	D	0.01	0	S	0.01	0	DX																		
Pittosporum angustifolium	Native Apricot	P	14	0.1	1	V	0.5	1	VR	0.1	1	MSR	0.2	1	RM	0.3	1	VSM	0.05	1	V				0.5	1	V				0.05	0	M	0.2	1	M				0.1	1	V	0.1	0	V	0.3	1	M				3	1	M				0.01	0	M
Ptilotus obovatus	Silver Mulla Mulla	P	20	0.1	0	M	8	1	V	2	1	F	2	1	VM	0.01	0	M	1	1	M	1	0	VX	1	1	V	0.05	0	XD	0.75	1	VF	0.2	1	M	0.3	1	V	3	1	M	1	1	V	0.5	1	V	1	1	V	4	1	FX	2	1	V	2	1	V	1	1	V
Rhagodia spinescens	Spiny Saltbush	P	17	0.1	0	M	3	0	V	0.1	1	F	0.2	0	V	0.01	1	VS	0.01	1	F	0.3	1	VF	0.5	0	V	0.01	0	F	1	1	F	0.1	1	V	2	0	F	1	1	F	0.2	0	M	2	0	V	0.2	0	F	1	0	F	0.75	1	M	2	0	V	0.2	0	F	1	0	F
Ropepera aurantiaca ssp. aurantiaca	Shrubby Twinleaf	P	1				0.01	1	V																																																					
Ropepera crassissima	Thick Twinleaf	P	1													0.01	0	V																																												
Santalum acuminatum	Quandong	P	3				0.1	0	V							0.01	0	V																																												
Santalum lanceolatum	Plumbush	P	7				0.1	1	V																0.05	1	VF														1	0	V	0.1	0	B													3	1	VMI
Sclerolaena brachyptera	Short-wing Bindyi	P	1																																																									
Scaevola spinescens	Spiny Fanflower	P	0																																																										
Sclerolaena diacantha	Grey Bindyi	P	16	0.01	0	V	0.2	0	M	0.1	1	M	0.02	1	V	0.01	1	M	0.01	1	M	0.01	0	V	0.05	1	V				0.01	1	V	0.1	1	M	0.1	1	M																							
Sclerolaena eriacantha	Silky Bindyi	P	10	0.5	1	MI	0.01	1	M																			0.01	1	M							0.01	0	M				0.01	1	M																
Sclerolaena lanicuspis	Spinach Bindyi	P	14				0.01	0	M	0.01	1	M	0.1	1	V	0.01	1	M	0.01	0	MD				0.01	1	VM				0.01	1	I	0.01	1	M				0.1	0	VM	0.2	1	M				0.01	1	M	0.5	1	M	0.1	1	M	0.01	0	V
Sclerolaena obliquicuspis	Oblique-spined Bindyi	P	0																																																									
Sclerolaena patenticuspis	Spear-fruit Bindyi	P	1													0.01	0	DM																																												
Sclerolaena tricuspis	Three-spine Bindyi	P	2				0.01	0	MD																																0.01	1	M																				
Senecio lambacteus	Inland Shrubby Groundsel	P	10	0.1	0	V	1	1	V	0.6	1	F													0.5	1	VF				0.1	1	F				0.1	1	F				0.01	0	V	0.01	0	F				0.01	1	X								
Senna artemisioides ssp. filifolia	Fine-leaf Desert Senna	P	3																																								0.01	0	F															0.1	0	V
Senna artemisioides ssp. helmsii	Blunt-leaf Senna	P	2																			0.1	0	M																																				0.5	0	X
Senna artemisioides ssp. X artemisi	Silver Senna	P	11				0.2	1	VX																0.1	1	R	0.1	0	X	0.01	1	V				1	1	RV	0.01	1	V	3	1	V	0.5	1	VM	5	1	VX							0.01	1	R				1	1	V
Senna artemisioides ssp. X sturtii	Grey Senna	P	1																																																									3	1	X
Setaria constricta	Knotty-butt Paspalidium	P	6				0.01	1	M																0.1	1	VF				0.01	1	M				0.1	1	XD				0.01	1	M													0.01	1	M			
Sida fibulifera	Pin Sida	P	20	0.2	0	V	0.2	1	V	0.1	0	M	0.01	1	MD	0.01	0	M	0.5	1	MF	0.1	0	M	0.01	1	V	0.01	0	D	0.01	1	M	0.05	1	M	0.1	1	V	0.01	1	V	0.01	1	M	0.2	1	M	0.8	0	D	1	1	I	2	1	D
Sida intricata	Twiggy Sida	P	12	0.1	0	MD				0.01	0	MD							0.01	0	M							0.01	0	M	0.01	0	D	0.01	1	V	0.01	0	DM	0.01	0	M	0.01	1	M	0.01	0	M	0.01	1	X	0.01	0	M	0.01	0	D
Sida petrophila	Rock Sida	P	6													0.01	1	VM				0.1	0	D	0.01	1	D	0.5	1	I																											0.01	0	M				0.5	0	V			
Sida sp.	Sida	P	1																																																									
Sida spodochroma		P	6																																																										
Solanum petrophilum	Rock Nightshade	P	1													0.01	0	V																																												
Solanum quadriloculatum	Plains Nightshade	P	19	0.01	0	D	0.01	0	DF				0.01	1	DMV	0.01	0	V	0.01	1	D	0.01	1	FM	0.01	1	V	0.01	1	V	0.01	1	F	0.01	0	DVF	0.01	1	DMVI	0.01	0	DVI	0.01	1	VF	0.1	1	MF	0.1	1	FI	1	0	D	0.01	0	DF	0.01	0	D
Swainsona phacoides	Dwarf Swainson-pea	P	1																																							0.01	1	V																		
Swainsona sp.	Swainson-pea	P	3																									0.01	0	V													0.01	0	V																
Tecticornia pergranulata ssp.	Black-seed Samphire	P	3													0.5	0	V										0.01	0	X																2	0	V																
Tribulus eichlerianus	Eichler's Caltrop	P	1																									0.01	1	M																															
Vittadinia gracilis	Woolly New Holland Daisy	P	6							0.5	1	F							0.01	1	X				0.01	1	F				0.01	1	I				0.1	1	F							0.1	1	F														
Acacia sp.		P	1										0.5	0	V																																														
Rhagodia ulicina		P	1													0.01	0	M																																												
Minuria sp.		P	1													0.01	0	V																																												
Cullen sp.		P	2										0.01	0	V																																															
Amyema preissii		P	1																																																											
Crassula sp.		AP	3																									0.01	1	M																															
Alternanthera angustifolia	Narrow-leaf Joyweed	A	1																																																									
Alternanthera denticulata	Lesser Joyweed	A	1				0.02	1	VD																																																				
Atriplex angulata	Fan Saltbush	A	1																																																									
Atriplex crassipes var. crassipes		A	1																									0.05	1	D																															
Atriplex fissivalvis	Gibber Saltbush	A	4							0.01	1	F	0.02	1	VM										0.05	1	V

Appendix B - Floristic monitoring sites and panoramic photographs

Appendix B– Floristic Monitoring sites and panoramic photographs

Site ID	Vegetation Community	Type	Northwest corner	
			Latitude	Longitude
PH01	Chenopod Shrubland	Impact	29.71758652S	135.52812195E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH02	*Acacia* Woodland	Impact	29.71266747S	135.59562683E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH03	Chenopod Shrubland	Impact	29.69483376S	135.57168579E















Site ID	Vegetation Community	Type	North west corner Latitude	Longitude
PH06	Chenopod Shrubland	Control	29.74950446S	135.52990631E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH07	Mallee Woodland	Control	29.68139458S	135.57141113E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH10	Chenopod Shrubland	Impact	29.701975S	135.593815E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH11	Chenopod Shrubland	Control	29.73239136S	135.51400757E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH12	Chenopod Shrubland	Impact	29.72888651S	135.55339703E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH13	Chenopod Shrubland	Impact	29.74042511S	135.59289551E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH15	Mallee Woodland	Impact	29.69200524S	135.59357799E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH16	Chenopod Shrubland	Control	29.71088982S	135.61737061E















Site ID	Vegetation Community	Type	North west corner Latitude	Longitude
PH17	Chenopod Shrubland	Control	29.68013382S	135.52932739E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH18	Chenopod Shrubland	Control	29.68750763S	135.55403137E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH19	Chenopod Shrubland	Impact	29.71213913S	135.55108643E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH20	Chenopod Shrubland	Control	29.68099976S	135.61598206E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH22	*Acacia* Woodland	Impact	29.7509861S	135.55839539E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH23	Chenopod Shrubland	Impact	29.70710564S	123.55673218E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH24	*Acacia* Woodland	Control	29.76878357S	135.53315735E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH25	Chenopod Shrubland	Control	29.75158433S	135.52481204E















Site ID	Vegetation Community	Type	North west corner	
			Latitude	Longitude
PH27	*Acacia* Woodland	Control	29.75692749S	135.55107117E













