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# UCMPL Hihett Road *Acacia ausfeldii* Management Area Monitoring Report 2025

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Ulan Coal Mines Pty Ltd

## Document Tracking

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## Executive Summary

Eco Logical Australia (ELA) was engaged by Ulan Coal Mines Pty Ltd (UCMPL) to undertake floristic monitoring during 2025 of the Highett Road *Acacia ausfeldii* Management Area (the Conservation Area). The Conservation Area, located at Lot 66 Deposited Plan 750773, was established to satisfy commitments to secure biodiversity offsets relating to the NSW Project Approval 08\_0184 and the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approval EPBC No. 2009/5252. The Conservation Area is to be managed to restore and protect the conservation values at the site. The Conservation Area comprises 19.15 hectares (ha) of intact vegetation.

A Conservation Agreement was established between NSW Department of Planning, Industry and Environment (DPIE) administering the NSW *National Parks and Wildlife Act 1974* (NPW Act) and UCMPL, under Part 4, Division 12 of the NPW Act. The Highett Road *Acacia ausfeldii* Management Area Conservation Agreement (the Conservation Agreement) was signed on 5 May 2019. UCMPL received notification from the NSW Biodiversity Conservation Trust that the Conservation Area was registered on 11 December 2019.

Outlined in the Conservation Agreement (UCMPL 2019) is a monitoring program (Annexure D) which must be undertaken for a minimum ten-year period, including full floristic assessments within four designated quadrats, establishment of photo monitoring points and a walk-through assessment to record opportunistic sightings of threatened species and priority weeds for management. This report provides the results of the seventh monitoring year since the establishment and baseline monitoring of sites was undertaken in 2017.

Results of quadrat monitoring, photo-point monitoring and a walk-through assessment within the Conservation Area indicates that the conservation values recorded throughout the Conservation Area remain intact, with no damage or disturbance recorded. There was an increase in native species richness at three of four sites, while one site remained the same. Projected overstorey foliage cover increased at three sites and remained unchanged at one site. In contrast, projected midstorey foliage cover decreased at all sites. The changes observed within the 2025 monitoring period are largely within the historical range of observations and therefore can be attributed to seasonal and climatic fluctuations, rather than degradation of the quality of the ecosystem itself.

Overall, the Conservation Area retains its typical floral biodiversity with the condition of vegetation within the Conservation Area remaining consistent with previous monitoring and with Plant Community Type descriptions provided in the Conservation Agreement (UCMPL 2019).

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## Abbreviations

Abbreviation	Description
BC Act	NSW <i>Biodiversity Conservation Act 2016</i>
CTRSWMP	Central Tablelands Regional Strategic Weed Management Plan
DPI	Department of Primary Industries
DPIE	Department of Planning, Industry and Environment
ELA	Eco Logical Australia
EPBC Act	Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
ha	Hectares
HBT	Hollow bearing tree
LLS	Local Land Services
LWD	Large woody debris
NPW Act	<i>National Parks and Wildlife Act 1974</i>
NSW	New South Wales
PCT	Plant Community Type
pf <sub>c</sub>	Projected foliage cover
SVS	Site value score
UCMPL	Ulan Coal Mines Pty Ltd

## 1. Introduction

The Highett Road *Acacia ausfeldii* Management Area (the Conservation Area) is located approximately 3.5 km northwest of the village of Ulan, within the Mid-Western Regional Council Local Government Area in NSW. Figure 1 depicts the location of the Conservation Area within the region.

The Conservation Area is 19.15 ha in size and consists of two Plant Community Types (PCTs) (Table 1 and Figure 2) (UCMPL 2019).

The Conservation Agreement states that the Conservation Area contains habitat for 21 species of fauna listed as vulnerable and two species listed as endangered under the NSW *Biodiversity Conservation Act 2016* (BC Act), and three species listed as vulnerable and one endangered migratory species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (UCMPL 2019).

*Acacia ausfeldii* (Ausfeld's Wattle), which is listed as vulnerable under the BC Act, has been recorded within the Conservation Area.

**Table 1: PCTs within the Highett Road *Acacia ausfeldii* Management Area**

PCT Number	PCT Name	Condition	Area (ha)
PCT 479	Narrow-leaved Ironbark – Black Cypress Pine – stringybark +/- Grey Gum +/- Narrow-leaved Wattle shrubby open forest in sandstone hills in the southern Brigalow Belt South Bioregion and Sydney Basin Bioregion	Intact	11.08
PCT 481	Rough-barked Apple – Blakely's Red Gum – Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest in the southern Brigalow Belt South Bioregion and Upper Hunter region	Intact	8.07
		Total	19.15

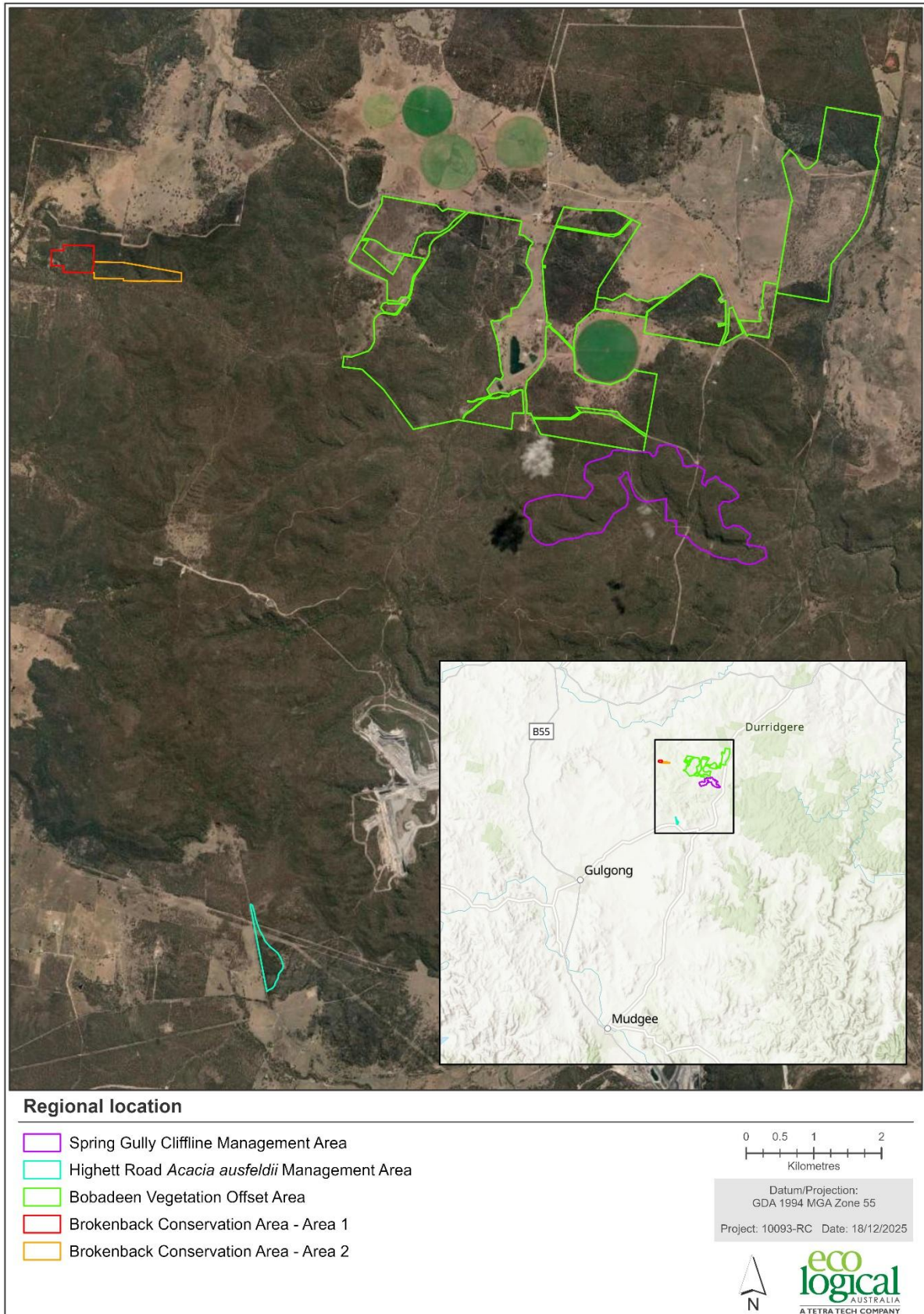


Figure 1: Regional location of Highett Road *Acacia ausfeldii* Management Area (UCMPL 2019).

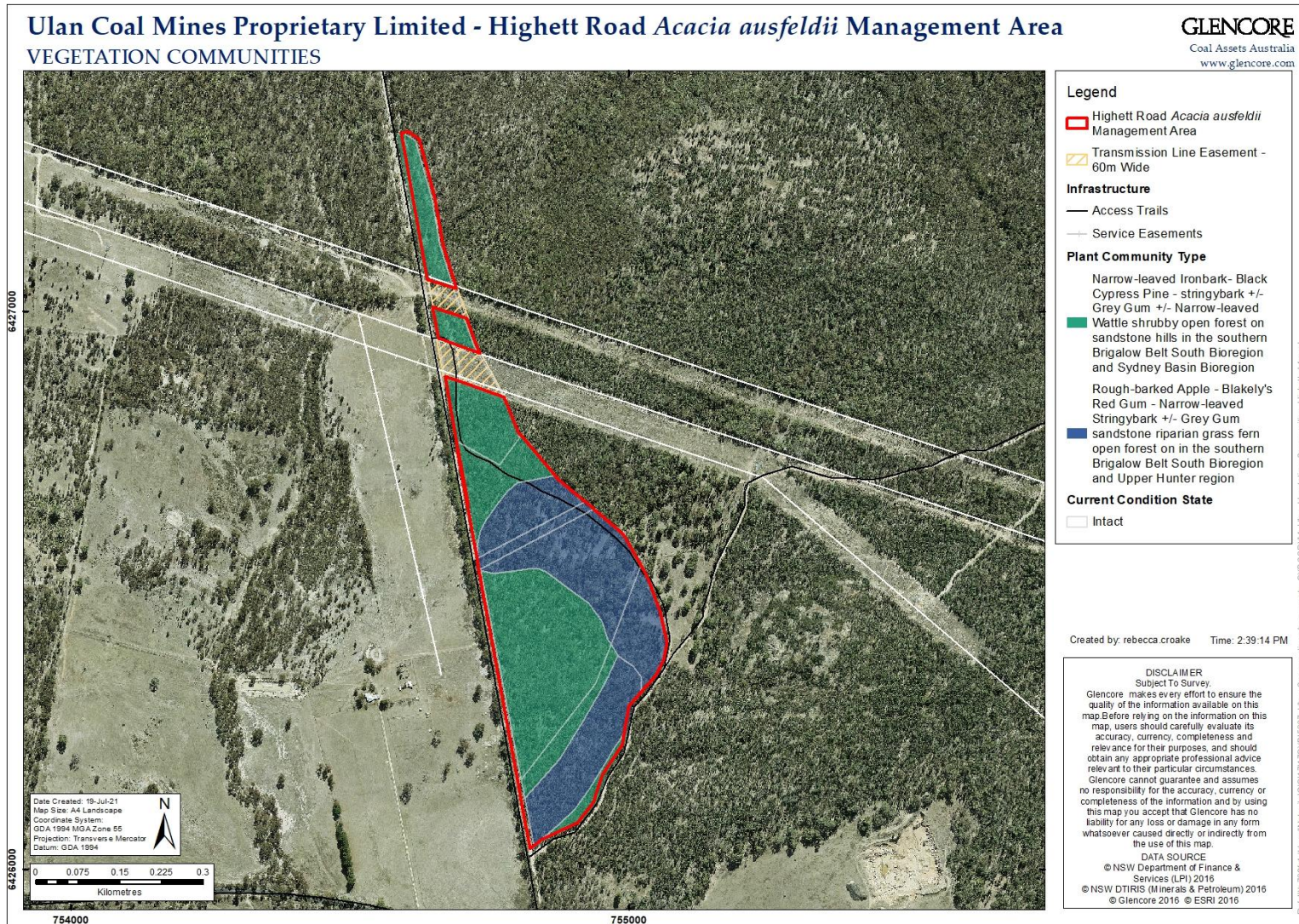


Figure 2: Highett Road *Acacia ausfeldii* Management Area vegetation communities (UCMPL 2019).

## 2. Methodology

Monitoring of the Conservation Area, including floristic quadrat monitoring, photo-point monitoring and walk-through assessment, was undertaken in accordance with Section 7 and Annexure D of the Conservation Agreement (UCMPL 2019) and the BioBanking Assessment Methodology (BBAM, OEH 2014) on 30 May 2025 by ELA ecologists.

Monitoring in 2025 forms the seventh round of monitoring for the Conservation Area as per the Conservation Agreement. As per Annexure D, Section c) iii) of the Conservation Agreement (UCMPL 2019), the results of the 2025 monitoring were compared to the results from 2017, 2020, 2021, 2022, 2023 and 2024 to determine changes from previous monitoring.

As part of the UCMPL BMP (UCMPL 2024), annual inspections are undertaken by UCMPL representatives within the Conservation Area.

### 2.1. Quadrat and Photo-point Monitoring

Quadrat data was collected at four monitoring locations as shown in Figure 3 below. Data was collected in accordance with the BBAM within a 20 x 20 m quadrat nested in a 20 x 50 m quadrat. This methodology is consistent with the method for floristic monitoring undertaken across UCMPL biodiversity and vegetation offset areas as part of the UCMPL Biodiversity Management Plan (BMP) (UCMPL 2024). The following attributes were recorded:

- Floristic cover and abundance within the nested 20 x 20 m quadrat
  - Cover estimates for each species were recorded from 1 - 5 % and thereafter in 5% increments
  - Abundance estimates for each species were recorded using the intervals of 1 - 10, 20, 50, 100, 500, 1000 individuals.
- 50m biometric transect
  - At 1 m intervals recording vegetative ground cover including, native ground cover – grasses, native ground cover – shrubs (<1 m), native ground cover – other, exotic ground cover or non-vegetative ground cover (litter, bare soil, rock, cryptogram)
  - At 5m intervals recording native overstorey percent foliage cover (pfc) and midstorey pfc (>1 m).
- Proportion of canopy species naturally regenerating within the 20 x 50 m quadrat and the zone
- Total length of large woody debris (LWD) and hollow bearing trees (HBTs) within the 20 x 50 m quadrat
- The occurrence of weeds, feral animal disturbance and other observable impacts.

Total native cover, which is not prescribed by the BBAM but by the Conservation Agreement (UCMPL 2019) was calculated from the total of native overstorey cover, native midstorey cover, native ground cover – grasses, native ground cover – shrubs and native ground cover – other. An anomaly of this method is that more than 100% cover can be recorded; however, covers for attributes are also presented singularly in this report.

Photographs were taken facing north, east, south and west from the transect / plot start point as per methodology outlined in Annexure D of the Conservation Agreement (UCMPL 2019).

## 2.2. Walk-through Assessment

A walk-through assessment was undertaken within the Conservation Area to record opportunistic sightings including fire events or impacts of fire management, weeds (including compiling a list of exotic species and recorded new weed infestations including location and extent), pest animal species and location, visitor impact and vehicle access (including evidence of any recent usage, and the presence of any new tracks, rubbish dumping), natural regeneration of previously disturbed areas and sightings of any threatened species listed under the EPBC Act and / or the BC Act.

All spatial information collected during the field survey was recorded using ArcGIS Field Maps equipped with GPS (accuracy  $\pm 5$  m depending upon access to satellites).

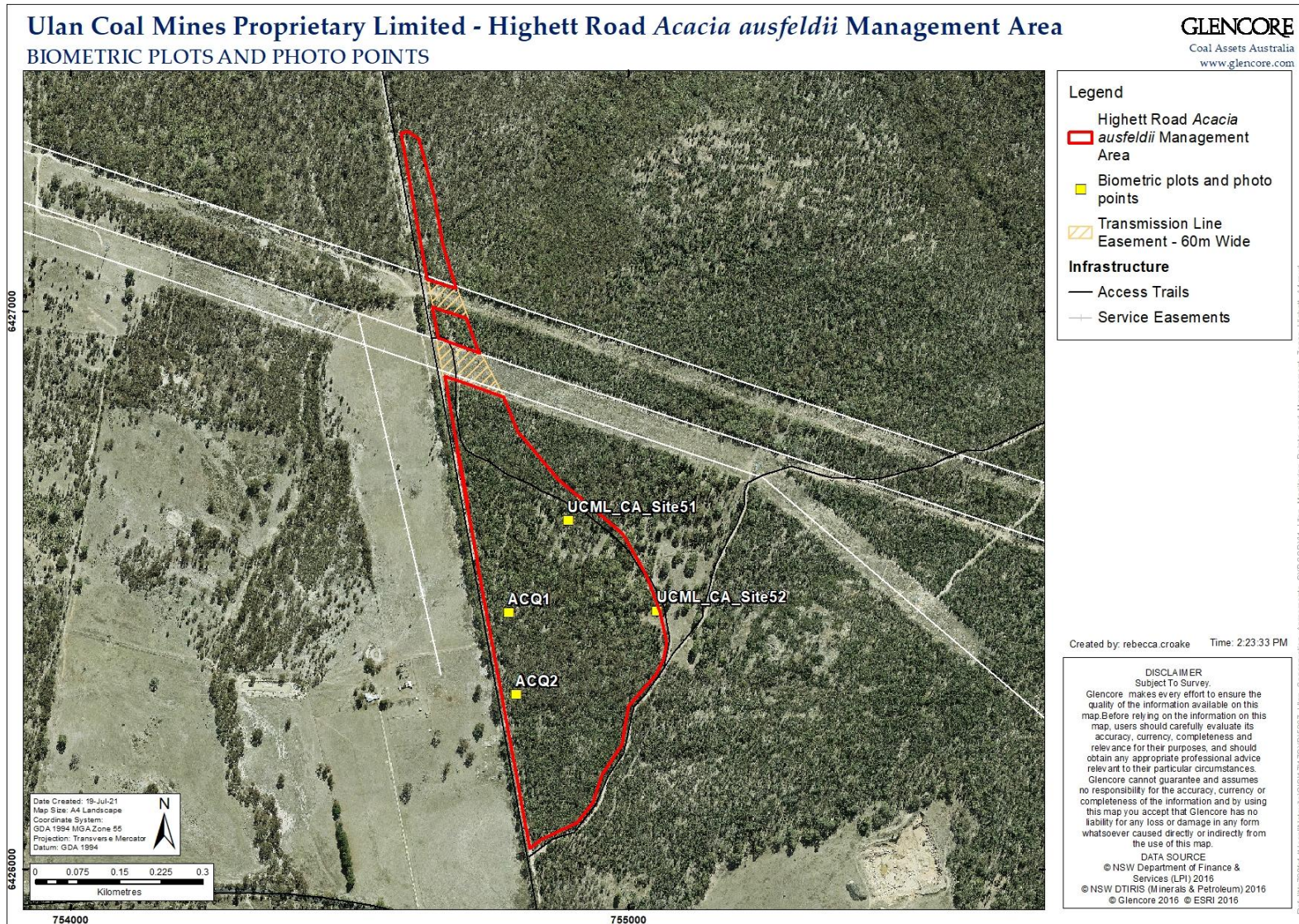


Figure 3: Highett Road *Acacia ausfeldii* Management Conservation Area biometric plots and photo points (UCMPL 2019).

## 2.3. *Acacia ausfeldii* population monitoring

### Tagged individuals and habitat condition monitoring

Condition and health monitoring of the *Acacia ausfeldii* population within the Conservation Area was undertaken from 2011 to 2019 in accordance with the BMP (UCMPL 2024). Height, diameter at base and growth stage (seedling, sapling or mature shrub) of 100 tagged *Acacia ausfeldii* individuals were recorded along the transect, along with reproductive ratings and condition ratings (Table 2).

**Table 2: Condition ratings used in *Acacia ausfeldii* population monitoring; 2011 to 2019.**

Rating	1	2	3	4	5
Condition	Severe damage / dieback	Many dead stems	Some dead branches	Minor damage	Healthy
Reproductive	Nil	Sparse occasional flowers/fruit	Low – under 25% of potential	Moderate – 25 to 75% of potential	High- 75 to 100% of potential

Condition and health monitoring ceased during 2019, as natural and expected senescence of tagged individuals resulted in data which was no longer reflective of the population.

### Targeted germination transects

In accordance with the BMP (UMCPL 2024), targeted surveys for *Acacia ausfeldii* regeneration are conducted every two years. Three randomly placed transects (50 m length) and 20 randomly placed 1 m x 1 m quadrats will be monitored, and the number of *Acacia ausfeldii* seedlings along each transect and within each quadrat are recorded. Targeted surveys for *Acacia ausfeldii* regeneration were undertaken throughout the Conservation Area on 25 October 2024 by ELA ecologists, with the next round of monitoring scheduled for 2026.

### Population monitoring

A survey for *Acacia ausfeldii* was undertaken throughout the Conservation Area in July 2022 by ELA ecologists. Parallel transects with a 20 m spacing were traversed throughout the Conservation Area in accordance with medium shrubs (1-6 m) and open vegetation detailed in DPIE's Surveying threatened plants and their habitats – NSW survey guide for the Biodiversity Assessment Method (2020). Plants were marked with a hand-held GPS.

### 3. Results

#### 3.1. Site monitoring data sheets and photos

A total of 121 plant species, comprised of 99 native species and 19 exotic species were recorded across the four monitoring plots within the Conservation Area. Three species identified only to the family level remain of uncertain native or exotic status. A summary of results is provided in Table 3 below.

A full species list is provided in Appendix A and monitoring data sheets and photos for each site are presented in Appendix B.


**Table 3: Quadrat monitoring results summary 2025**

Photo Point / Quadrat No	Native species richness	Overstorey cover pfc	Midstorey cover pfc	Ground cover – grasses pfc	Ground cover – shrubs pfc	Ground cover – other pfc	Proportion overstorey regen. %	Exotic cover pfc	Number of Trees with Hollows	Total length of fallen logs (m)
479 Narrow-leaved Ironbark- Black Cypress Pine - stringybark +/- Grey Gum +/- Narrow-leaved Wattle shrubby open forest on sandstone hills in the southern Brigalow Belt South Bioregion and Sydney Basin Bioregion (HU702)										
<b>Benchmark values</b>	<b>31</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>N/A</b>	<b>N/A</b>	<b>2</b>	<b>40</b>
ACQ1	60	27	3	22	0	12	100	0	0	162
ACQ2	58	21	10	24	4	22	100	0	0	52
481 Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest on in the southern Brigalow Belt South Bioregion and Upper Hunter region (HU713)										
<b>Benchmark values</b>	<b>31</b>	<b>10</b>	<b>5</b>	<b>0</b>	<b>10</b>	<b>5</b>	<b>N/A</b>	<b>N/A</b>	<b>1.5</b>	<b>10</b>
UCML_CA_Site51	47	36	2	30	4	12	100	2	0	6
UCML_CA_Site52	47	6	9	48	2	24	100	4	0	2

### 3.2. Walk through assessment summary

Results from the walk-through assessment across the entire Conservation Area is provided in Table 4. A map depicting the management issues described in Table 4 is provided in Figure 5.

Table 4: Walk-through assessment results summary 2025

Category	Comment
Fire events or impacts of fire management	No fire events or fire management activities have occurred in the Conservation Area.
Weeds	<p><i>Opuntia stricta</i> (Common Prickly Pear) (Figure 4) which is listed as a state priority weed and Central Tablelands region priority weed, and <i>Hypericum perforatum</i> (St. John's Wort) which is listed as a regional priority weed under the Local Land Services (LLS) Central Tablelands Regional Strategic Weed Management Plan (CTRSWMP) 2023 – 2027 (LLS 2022) were identified throughout the Conservation Area (Figure 5).</p> <p>Other exotic species recorded within the Conservation Area include:</p> <ul style="list-style-type: none"> <li>• <i>Cineraria lyratiformis</i> (African Marigold)</li> <li>• <i>Cirsium vulgare</i> (Spear Thistle)</li> <li>• <i>Conyza bonariensis</i> (Flaxleaf Fleabane)</li> <li>• <i>Conyza sp.</i> (Fleabane)</li> <li>• <i>Cyclosporum leptophyllum</i> (Slender Celery)</li> <li>• <i>Gamochaeta americana</i> (American Cudweed)</li> <li>• <i>Gamochaeta calviceps</i> (Cudweed)</li> <li>• <i>Hypochaeris glabra</i> (Smooth Catsear)</li> <li>• <i>Hypochaeris radicata</i> (Catsear)</li> <li>• <i>Lysimachia arvensis</i> (Scarlet Pimpernel)</li> <li>• <i>Rumex acetosella</i> (Sheep's Sorrel)</li> <li>• <i>Salvia verbenaca</i> (Wild Clary)</li> <li>• <i>Setaria sp.</i> (Bristle Grass)</li> <li>• <i>Stellaria media</i> (Chickweed)</li> <li>• <i>Taraxacum officinale</i> (Dandelion)</li> <li>• <i>Verbascum thapsus</i> (Common Mullein)</li> </ul>
	
	<p><b>Figure 4: <i>Opuntia stricta</i> observed in the Conservation Area in 2025</b></p>
Pest animals	Feral pig ( <i>Sus scrofa</i> ) was observed within the Conservation Area (Figure 5).
Visitor impact and vehicle access	No evidence of recent usage and no presence of new tracks was recorded during 2025.
Rubbish dumping	No evidence of rubbish dumping was recorded during 2025.

Category	Comment
Natural regeneration of disturbed areas	Natural regeneration of canopy species was recorded at all sites.
Threatened species observations	<i>Acacia ausfeldii</i> continued to be recorded within the Conservation Area as discussed in Section 3.4.4.



Figure 5: Management issues

### 3.3. Management actions undertaken

#### 3.3.1. Weed management

Sweeps of low volume foliar spraying targeting *Opuntia stricta* (common prickly pear), *Rubus fruticosus* spp. *aggregate* (Blackberry) and incidental *Solanum sisymbriifolium* (Sticky Nightshade) were carried out within the Conservation Area in 2025 (Toolijoa Environmental Restoration 2025). Control works conducted for these first two species have returned extremely successful results in the past, however, in 2025 extensive numbers of *Opuntia stricta* emergents were recorded. Limited additional *Rubus fruticosus* sp. *aggregate* individuals were identified, with all plants being treated, and two mature plants and four seedlings of *Solanum sisymbriifolium* were also located and treated in the Conservation Area (Toolijoa Environmental Restoration 2025).

#### 3.3.2. Pest animal management

Removal of feral goat from the Conservation Area via mustering was undertaken by UCMPL during 2025. Trail camera monitoring was also undertaken within the Conservation Area by UCMPL personnel. Grain, traps and labour were also provided to support feral animal control programs on agricultural areas within the UCMPL Project Boundary with the purpose of aiding in a wider control program across the region.

### 3.4. *Acacia ausfeldii* monitoring

During 2022, a total of 1,437 *Acacia ausfeldii* individuals were recorded within the Conservation Area during the population monitoring. The population was estimated to cover approximately 6 ha within the Conservation Area (ELA 2022). Targeted germination transects undertaken in 2024 detected individuals of varying age class and reproductive status, with the population deemed to be in good condition, with the presence of mature, seeding individuals, and young seedlings giving evidence of successful reproduction and persistence within the Conservation Area (ELA 2024).

No targeted monitoring for *Acacia ausfeldii* was completed during 2025, in accordance with the requirements of the BMP (UCMPL 2025) and the Conservation Agreement (UCMPL 2019). General observations recorded during the walk-through assessment indicate that the population is in good health. Reproductive structures (Figure 7) were noted on several individuals throughout the population, and seedlings were also observed (Figure 8).



Figure 6: *Acacia ausfeldii* detected within the Conservation Area, 30 May 2025



Figure 7: *Acacia ausfeldii* with reproductive structures, 30 May 2025



Figure 8: *Acacia ausfeldii* seedling, 30 May 2025

## 4. Discussion

### 4.1. Changes from previous monitoring

Attributes including native species richness, ground cover – grasses pfc, ground cover – shrubs pfc, and ground cover – other pfc are sensitive to rainfall and survey timing, with all attributes subject to small variations year to year likely due to observer interpretation.

The majority of attributes met their corresponding benchmark values in 2025. Native species richness was generally very high this year. The remainder can be classified into two categories; attributes that occasionally fail to reach the benchmarks (e.g. midstorey cover pfc at ACQ1 and UCML\_CA\_Site51, ground cover – shrubs pfc at ACQ1) and attributes that constantly fall outside the benchmarks (e.g. number of trees with hollows at all sites, total length of fallen logs and overstorey cover pfc at UCML\_CA\_Site52).

Overall, the Conservation Area remains ecologically stable with the condition of vegetation remaining similar to previous monitoring and with the PCT descriptions provided in the Conservation Agreement (UCMPL 2019).

#### 4.1.1. PCT 479 Narrow-leaved Ironbark- Black Cypress Pine - stringybark +/- Grey Gum +/- Narrow-leaved Wattle shrubby open forest on sandstone hills

Discussion regarding the changes from the 2017 monitoring period on a site basis for PCT 479 is provided below, with the results provided in Table 5.

Both monitoring sites, ACQ1 and ACQ2, located within PCT 479, recorded a notable increase in native species richness in 2025 compared to previous years. This increase exceeded both the historical average and the established benchmark value.

At ACQ1, a consistent upward trend in overstorey canopy pfc was observed. In contrast, midstorey and native groundcover components have shown fluctuations in recent years. Other ecological indicators including exotic ground cover, percentage of regenerating tree species, HBTs, and the volume of LWD remained stable compared to previous monitoring periods.

At ACQ2, overstorey pfc remained unchanged. However, midstorey cover showed a general increasing trend, excluding the exceptionally high value recorded in 2024. Groundcover components fluctuated, though most remained within historical ranges except for native groundcover – other, which reached its highest recorded level. Exotic species and HBTs were absent, consistent with previous observations. A decrease in LWD was noted, which may be attributed to accumulation of finer debris and denser groundcover, potentially obscuring previously recorded LWD.

Table 5: Monitoring results 2017 to 2025 – PCT 479

Site	Year	Native species richness	Overstorey pfc (%)	Midstorey pfc (%)	Ground cover – grasses pfc (%)	Ground cover – shrubs pfc (%)	Ground cover – other pfc (%)	Proportion overstorey regen.	Exotic cover pfc (%)	Number of Trees with Hollows	Total length of fallen logs (m)
Benchmark values		31	5	2	2	2	2	N/A	N/A	2	40
ACQ1 Remnant	Autumn 2017	41	11	1.5	8	6	12	66	0	0	200
	Spring 2017	35	22	5	12	2	2	100	0	1	125
	2019	23	20	5.5	2	0	0	100	0	1	120
	2020	43	19.5	0.1	4	0	6	100	2	0	200
	2021	34	19.5	2	30	0	26	100	4	0	200
	2022	47	25	1.5	40	2	26	100	0	0	200
	2023	57	25.5	9.5	24	10	2	100	0	0	200
	2024	44	22.5	7.3	18	0	16	100	0	0	145
	2025	60	27	3	22	0	12	100	0	0	162
ACQ2 Remnant	A2017	35	25.5	0	12	4	2	50	0	0	130
	S2017	29	25.5	2	6	4	4	100	0	0	130
	2019	11	11.5	2	2	0	0	100	0	0	120
	2020	36	31.5	2	2	0	6	100	0	0	130
	2021	46	27.5	0.5	18	2	16	100	0	0	130
	2022	44	19	5.9	16	8	16	100	0	0	130
	2023	50	12.5	3.3	38	26	0	100	0	0	130
	2024	44	21	35.6	20	10	4	100	0	0	143
	2025	58	21	10	24	4	22	100	0	0	52

#### 4.1.2. PCT 481 Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark +/- Grey Gum sandstone riparian grass fern open forest

Discussion regarding the changes from the 2017 monitoring period on a site basis for PCT 481 is provided below, with the results provided in Table 6.

At UCML\_CA\_Site51, native species richness remained unchanged in 2025. However, overstorey pfc nearly doubled, while midstorey cover decreased by approximately 20%. This shift likely reflects young trees reaching heights of around 6 m or more. Native groundcover components were well distributed, and exotic cover remained relatively low. HBTs and LWDs remained absent, consistent with previous monitoring results.

UCML\_CA\_Site52 recorded a notable increase in native species richness in 2025, exceeding both the historical average and the benchmark value. This site also experienced an increase in overstorey cover and a decrease in midstorey cover, although these changes were less pronounced. The decrease in midstorey cover is attributed to natural senescence of *Cassinia sifton* which can be relatively short-lived. Despite this, the increase in midstorey and overstorey cover since 2020 is evident in site photographs displayed in Figure 9 and Figure 10.

Native groundcover dominated by grass species. Some exotic cover was observed along the transect in 2025. UCML\_CA\_Site52 recorded the highest exotic species diversity (15 species) and coverage

(3%) among the four quadrats surveyed in 2025, consistent with the previous year. Both HBTs and LWD remained largely consistent with recent years, although still below the benchmark values for this PCT.



Figure 9: UCML\_CA\_Site52 (2020)



Figure 10: UCML\_CA\_Site52 (2025)

Table 6: Monitoring results 2017 to 2025 – PCT 481

Site		Year	Native species richness	Overstorey pfc (%)	Midstorey pfc (%)	Ground cover – grasses pfc (%)	Ground cover – shrubs pfc (%)	Ground cover – other pfc (%)	Proportion overstorey	Exotic cover pfc (%)	Number of Trees with Hollows	Total length of fallen logs (m)
<b>Benchmark values</b>			<b>31</b>	<b>10</b>	<b>5</b>	<b>0</b>	<b>10</b>	<b>5</b>	<b>N/A</b>	<b>N/A</b>	<b>1.5</b>	<b>10</b>
UCML_CA_Site51 Remnant	2017	39	12.5	0.5	14	0	2	100	4	0	0	
	2020	42	12.5	0	8	0	6	100	0	0	10	
	2021	41	14.5	0	22	0	10	100	4	0	10	
	2022	52	18	0	26	12	14	100	2	0	15	
	2023	56	11.7	4.6	28	28	4	100	0	0	6	
	2024	47	19.3	22.2	22	12	0	100	0	0	7	
	2025	47	36	2	30	4	12	100	2	0	6	
UCML_CA_Site52 Regenerating	2017	29	4	0	34	0	4	100	4	1	0	
	2020	33	6	0.5	18	0	12	100	2	1	1	
	2021	42	6	3	20	2	22	100	8	1	1	
	2022	43	2.5	2	52	8	10	100	12	1	1	
	2023	40	7	7.5	32	10	6	100	8	0	0	
	2024	35	3.9	19.7	48	8	6	100	4	0	1	
	2025	47	6	9	48	2	24	100	4	0	2	

## 4.2. Condition of conservation values

The Conservation Area contains four main conservation values as identified in the Conservation Agreement (UCMPL 2019):

- PCT479 and PCT481 in good condition as evidenced by relatively high SVS (Site Value Score).
- The threatened flora species (*Acacia ausfeldii*), which is listed as Vulnerable under the BC Act. In 2022, the population of *A. ausfeldii* was estimated to cover approximately 5.98 ha and contain approximately 1,437 individuals. In 2025, regenerating individuals were observed throughout the Conservation Area and the population appeared to be in healthy condition.
- Approximately 19.1 ha of ecologically significant native vegetation and fauna habitat with good connectivity to surrounding remnant woodland areas.
- The Conservation Area may contain Aboriginal heritage values; however, no detailed studies have been undertaken.

Feral pigs are causing minor damage to areas of native groundcover throughout the Conservation Area; however, conservation values remain intact and consistent with the descriptions provided in the Conservation Agreement. 'Predation, habitat degradation, competition and disease transmission by feral pigs' is listed as a key threatening process under the EPBC Act.

## 4.3. Effectiveness of management actions

### 4.3.1. Weed management

A significant amount of *Opuntia stricta* was treated in 2025 during weed control works, mainly along tracks within the Conservation Area and in neighbouring bushland. However, the effectiveness of these measures is limited, as evidenced by the high abundance of *Opuntia stricta* individuals recorded over the last 12 months (Toolijoa Environmental Restoration 2025).

*Solanum sisymbriifolium* and *Rubus fruticosus* spp. aggregate were successfully treated in 2025 (Toolijoa Environmental Restoration 2025).

### 4.3.2. Pest animal management

While feral pig and feral goat continue to be recorded within the Conservation Area, damage to vegetation remains minimal. Despite this, the implementation of feral animal control programs are recommended to limit damage to groundcover and threatened species habitat, and to reduce pressure on native species within the Conservation Area.

Whilst the effectiveness of these programs is difficult to measure with quantitative data, opportunistic observations indicate the control programs were effective as evident by the reduction in visible populations (pers coms UCMPL Environment and Community Coordinator Mathew Croake).

## 5. Recommendations

ELA recommends that monitoring continues to be undertaken on a yearly basis as per the methodology outlined in Annexure D of the Conservation Agreement (UCMPL 2019).

Weed control measures should be implemented in accordance with site specific control procedures to control and prevent the spread of CTRSWMP (LLS 2022) listed weeds identified in Table 4 and Figure 5.

Whilst conservation values remain consistent with the descriptions provided in the Conservation Agreement, ongoing management of feral animals is recommended, particularly for feral pig. Management actions could include the establishment of a feral pig baiting station within the Conservation Area, monitored by remote camera.

## 6. References

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## Appendix A Flora Species List

Table 7: Flora Species List

Scientific name	Native/Exotic	ACQ1	ACQ2	UCML_CA_Site51	UCML_CA_Site52
<i>Acacia ausfeldii</i>	Native	✓	✓		
<i>Acacia decora</i>	Native	✓	✓		✓
<i>Acacia implexa</i>	Native	✓	✓	✓	
<i>Acaena ovina</i>	Native				✓
<i>Acianthus fornicatus</i>	Native	✓			
<i>Acrotriche rigida</i>	Native	✓	✓	✓	✓
<i>Amyema miquelii</i>	Native		✓	✓	
<i>Angophora floribunda</i>	Native	✓	✓	✓	✓
<i>Anthosachne scabra</i>	Native				✓
<i>Aristida ramosa</i>	Native	✓	✓	✓	✓
<i>Aristida vagans</i>	Native	✓	✓	✓	✓
<i>Arthropodium fimbriatum</i>	Native	✓	✓		
<i>Astroloma humifusum</i>	Native	✓	✓	✓	✓
<i>Austrostipa scabra</i>	Native		✓	✓	
<i>Bossiaea prostrata</i>	Native	✓			
<i>Bothriochloa macra</i>	Native			✓	✓
<i>Brachyloma daphnoides</i>	Native	✓		✓	✓
<i>Bursaria spinosa</i>	Native		✓		
<i>Callitris endlicheri</i>	Native	✓	✓	✓	✓
<i>Calotis cuneifolia</i>	Native		✓		
<i>Calotis lappulacea</i>	Native		✓	✓	✓
<i>Carex inversa</i>	Native				✓
<i>Carex sp.</i>	Native			✓	
<i>Cassinia quinquefaria</i>	Native		✓		
<i>Cassinia sifton</i>	Native	✓	✓	✓	✓
<i>Cheilanthes sieberi</i>	Native	✓	✓	✓	✓
<i>Chloris truncata</i>	Native				✓
<i>Chrysocephalum semipapposum</i>	Native		✓		
<i>Cineraria lyratiformis</i>	Exotic	✓	✓		✓
<i>Cirsium vulgare</i>	Exotic	✓			
<i>Conyza bonariensis</i>	Exotic	✓			✓
<i>Conyza sp.</i>	Exotic			✓	
<i>Cyclosporum leptophyllum</i>	Exotic				✓
<i>Cymbonotus lawsonianus</i>	Native	✓			
<i>Cymbopogon refractus</i>	Native		✓		
<i>Cynoglossum australe</i>	Native		✓		
<i>Daucus glochidiatus</i>	Native	✓			
<i>Dianella longifolia</i>	Native	✓	✓		

Scientific name	Native/Exotic	ACQ1	ACQ2	UCML_CA_Site51	UCML_CA_Site52
<i>Dianella revoluta</i>	Native	✓		✓	
<i>Dichelachne micrantha</i>	Native	✓	✓	✓	✓
<i>Dichondra repens</i>	Native	✓	✓		
<i>Digitaria breviglumis</i>	Native	✓			✓
<i>Digitaria diffusa</i>	Native	✓	✓		✓
<i>Echinopogon caespitosus</i>	Native	✓	✓	✓	
<i>Einadia hastata</i>	Native		✓		
<i>Einadia nutans</i>	Native		✓	✓	
<i>Eragrostis leptostachya</i>	Native		✓		✓
<i>Eucalyptus blakelyi</i>	Native	✓			✓
<i>Eucalyptus crebra</i>	Native		✓		
<i>Eucalyptus macrorhyncha</i>	Native	✓		✓	
<i>Eucalyptus melliodora</i>	Native			✓	✓
<i>Exocarpos strictus</i>	Native	✓	✓	✓	✓
<i>Fimbristylis dichotoma</i>	Native			✓	✓
<i>Gahnia aspera</i>	Native		✓		
<i>Galium sp.</i>	Native/exotic			✓	✓
<i>Gamochaeta americana</i>	Exotic				✓
<i>Gamochaeta calviceps</i>	Exotic		✓		✓
<i>Geranium solanderi</i>	Native	✓	✓	✓	
<i>Glossodia major</i>	Native	✓		✓	✓
<i>Glycine clandestina</i>	Native		✓	✓	✓
<i>Glycine tabacina</i>	Native	✓	✓	✓	✓
<i>Gonocarpus elatus</i>	Native	✓	✓	✓	
<i>Gonocarpus tetragynus</i>	Native	✓	✓		
<i>Goodenia hederacea</i>	Native	✓	✓	✓	✓
<i>Grona varians</i>	Native	✓	✓	✓	
<i>Haloragis heterophylla</i>	Native				✓
<i>Hardenbergia violacea</i>	Native	✓			
<i>Hibbertia obtusifolia</i>	Native	✓	✓	✓	
<i>Hydrocotyle laxiflora</i>	Native	✓	✓	✓	✓
<i>Hypericum gramineum</i>	Native	✓		✓	✓
<i>Hypericum perforatum</i>	Exotic		✓		✓
<i>Hypochoeris glabra</i>	Exotic				✓
<i>Hypochoeris radicata</i>	Exotic	✓		✓	
<i>Juncus sp.</i>	Native/exotic		✓		
<i>Laxmannia gracilis</i>	Native	✓			
<i>Leucopogon muticus</i>	Native			✓	
<i>Lissanthe strigosa</i>	Native	✓			
<i>Lomandra confertifolia</i>	Native	✓	✓		
<i>Lomandra multiflora</i>	Native	✓	✓	✓	
<i>Lysimachia arvensis</i>	Exotic				✓

Scientific name	Native/Exotic	ACQ1	ACQ2	UCML_CA_Site51	UCML_CA_Site52
<i>Melichrus urceolatus</i>	Native	✓	✓	✓	✓
<i>Microlaena stipoides</i>	Native	✓	✓	✓	✓
<i>Microtis parviflora</i>	Native				✓
<i>Opercularia diphylla</i>	Native	✓		✓	
<i>Opuntia stricta</i>	Exotic		✓	✓	✓
<i>Oxalis perennans</i>	Native	✓	✓		✓
<i>Panicum effusum</i>	Native		✓		✓
<i>Persoonia linearis</i>	Native	✓	✓		
<i>Phyllanthus hirtellus</i>	Native	✓			
<i>Plantago debilis</i>	Native				✓
<i>Podolepis neglecta</i>	Native			✓	✓
<i>Pomax umbellata</i>	Native	✓	✓		
<i>Poranthera microphylla</i>	Native				✓
<i>Pterostylis</i> sp.	Native	✓	✓	✓	✓
<i>Rumex acetosella</i>	Exotic				✓
<i>Rumex brownii</i>	Native				✓
<i>Rytidosperma caespitosum</i>	Native	✓			
<i>Rytidosperma racemosum</i>	Native		✓		✓
<i>Rytidosperma</i> sp.	Native	✓		✓	
<i>Salvia verbenaca</i>	Exotic			✓	✓
<i>Sannantha cunninghamii</i>	Native	✓			
<i>Senecio</i> sp.	Native/exotic		✓		
<i>Setaria</i> sp.	Exotic	✓			
<i>Sigesbeckia orientalis</i>	Native	✓			
<i>Solanum campanulatum</i>	Native	✓	✓		
<i>Solenogyne bellioides</i>	Native	✓	✓		
<i>Sporobolus creber</i>	Native			✓	✓
<i>Stackhousia viminea</i>	Native			✓	✓
<i>Stellaria media</i>	Exotic				✓
<i>Styphelia triflora</i>	Native	✓	✓	✓	✓
<i>Taraxacum officinale</i>	Exotic				✓
<i>Thysanotus patersonii</i>	Native	✓			
<i>Thysanotus</i> sp.	Native			✓	
<i>Verbascum thapsus</i>	Exotic				✓
<i>Veronica plebeia</i>	Native	✓	✓		
<i>Vittadinia cuneata</i>	Native		✓		
<i>Wahlenbergia gracilis</i>	Native	✓			✓
<i>Wahlenbergia</i> sp.	Native		✓	✓	
<i>Wahlenbergia</i> sp. 2	Native			✓	
<i>Wahlenbergia stricta</i>	Native		✓		✓

## Appendix B Monitoring Data Sheets and Site Photos

Table 8: ACQ1 monitoring data sheet 2025

Monitoring Data Sheet			
Monitoring Point Number	ACQ1	Date	40/05/2025
Vegetation Community	479 - Narrow-leaved Ironbark - Black Cypress Pine - stringybark shrubby open forest		
1. Site Photo(s) Taken			
2. Floristic BioMetric attributes			
Native cover			63.7 %
Overstorey:			27 %
Midstorey:			2.7 %
Groundcover(grass):			22 %
Groundcover (shrub):			0 %
Groundcover (other):			12 %
Native species richness:			60
Proportion of canopy species regenerating			100 %
Exotic cover			0 %
Number of trees with hollows			0
Total length of fallen logs			162 m
3. Opportunistic observations	GPS coordinates	Photo number	
Natural regeneration of disturbed areas			Nil
Threatened species sightings			<i>Acacia ausfeldii</i> (approx.2 pfc, 50 abundance) in the 20m *20m plot
Fire event/fuel			Nil
Weeds			Low densities of exotic annual weed species including: <i>Cineraria lyratiformis</i> (approx.0.1 pfc, 1 abundance) <i>Cirsium vulgare</i> (approx.0.1 pfc, 5 abundance) <i>Conyza bonariensis</i> (approx.0.1 pfc, 20 abundance) <i>Hypochaeris radicata</i> (approx.0.1 pfc, 10 abundance) <i>Setaria</i> sp. (approx.0.1 pfc, 5 abundance)
Pest animals			Nil
Visitor impact/vehicles			Nil
Rubbish dumping			Nil



Figure 11: ACQ1 North



Figure 12: ACQ1 East



Figure 13: ACQ1 South



Figure 14: ACQ1 West

Table 9: ACQ2 monitoring data sheet 2025

Monitoring Data Sheet			
Monitoring Point Number	ACQ2	Date	30/05/2025
Vegetation Community	479 - Narrow-leaved Ironbark - Black Cypress Pine - stringybark shrubby open forest		
1. Site Photo(s)Taken			
2. Floristic BioMetric attributes			
Native cover			81.3 %
Overstorey:			21 %
Midstorey:			10.3 %
Groundcover(grass):			24 %
Groundcover (shrub):			4 %
Groundcover (other):			22 %
Native species richness:			58
Proportion of canopy species regenerating			100 %
Exotic cover			0 %
Number of trees with hollows			0
Total length of fallen logs			52 m
3. Opportunistic observations	GPS coordinates	Photo number	Observations
Natural regeneration of disturbed areas			Nil
Threatened species sightings			<i>Acacia ausfeldii</i> (approx.3 pfc, 20 abundance) in the 20m *20m plot
Fire event/fuel			Nil
Weeds			One species ( <i>Opuntia stricta</i> ) listed as a priority weed listed in the CTRSWMP (approx. 0.1 pfc, 2 abundance) Low densities of exotic annual weed species including: <i>Cineraria lyratiformis</i> (approx.0.1 pfc, 5 abundance) <i>Gamochaeta calviceps</i> (approx.0.1 pfc, 5 abundance) <i>Hypericum perforatum</i> (approx.0.1 pfc, 1 abundance)
Pest animals			Nil
Visitor impact/vehicles			Nil
Rubbish dumping			Nil



Figure 15: ACQ2 North



Figure 16: ACQ2 East



Figure 17: ACQ2 South



Figure 18: ACQ2 West

Table 10: UCML\_CA\_Site51 monitoring data sheet 2025

Monitoring Data Sheet			
Monitoring Point Number	UCML_CA_Site51	Date	30/05/2025
Vegetation Community	481 - Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark open forest		
1. Site Photo(s)Taken			
2. Floristic BioMetric attributes			
Native cover			84.3 %
Overstorey:			36 %
Midstorey:			2.3 %
Groundcover(grass):			30 %
Groundcover (shrub):			4 %
Groundcover (other):			12 %
Native species richness:			47
Proportion of canopy species regenerating			100 %
Exotic cover			2 %
Number of trees with hollows			0
Total length of fallen logs			6 m
3. Opportunistic observations	GPS coordinates	Photo number	Observations
Natural regeneration of disturbed areas			Nil
Threatened species sightings			Nil
Fire event/fuel			Nil
Weeds	One species ( <i>Opuntia stricta</i> ) listed as a priority weed listed in the CTRSWMP (approx. 0.1 pfc, 2 abundance) Low densities of exotic annual weed species including: <i>Conyza</i> sp. (approx.0.1 pfc, 10 abundance) <i>Hypochaeris radicata</i> (approx.0.1 pfc, 10 abundance) <i>Salvia verbenaca</i> (approx.0.1 pfc, 5 abundance)		
Pest animals	Pig digging throughout the plot		
Visitor impact/vehicles	Nil		
Rubbish dumping	Nil		



Figure 19: UCML\_CA\_Site51 North



Figure 20: UCML\_CA\_Site51 East



Figure 21: UCML\_CA\_Site51 South



Figure 22: UCML\_CA\_Site51 West

Table 11: UCML\_CA\_Site52 monitoring data sheet 2025

Monitoring Data Sheet			
Monitoring Point Number	UCML_CA_Site52	Date	30/05/2025
Vegetation Community	481 - Rough-barked Apple - Blakely's Red Gum - Narrow-leaved Stringybark open forest		
1. Site Photo(s)Taken			
2. Floristic BioMetric attributes			
Native cover			89 %
Overstorey:			6.2 %
Midstorey:			8.8 %
Groundcover(grass):			48 %
Groundcover (shrub):			2 %
Groundcover (other):			24 %
Native species richness:			47
Proportion of canopy species regenerating			100 %
Exotic cover			4 %
Number of trees with hollows			0
Total length of fallen logs			2 m
3. Opportunistic observations	GPS coordinates	Photo number	Observations
Natural regeneration of disturbed areas			Nil
Threatened species sightings			Nil
Fire event/fuel			Nil
Weeds	<p>One species (<i>Opuntia stricta</i>) listed as a priority weed listed in the CTRSWM (approx. 0.1 pfc, 5 abundance)</p> <p><i>Cineraria lyratiformis</i> (approx.0.1 pfc, 5 abundance)</p> <p><i>Conyza bonariensis</i> (approx.0.1 pfc, 50 abundance)</p> <p><i>Cyclosporum leptophyllum</i> (approx.0.1 pfc, 10 abundance)</p> <p><i>Gamochaeta americana</i> (approx.0.1 pfc, 2 abundance)</p> <p><i>Gamochaeta calviceps</i> (approx.0.1 pfc, 2 abundance)</p> <p><i>Hypericum perforatum</i> (approx.0.1 pfc, 10 abundance)</p> <p><i>Hypochaeris glabra</i> (approx.1 pfc, 100 abundance)</p> <p><i>Lysimachia arvensis</i> (approx.0.1 pfc, 2 abundance)</p> <p><i>Rumex acetosella</i> (approx.1 pfc, 500 abundance)</p> <p><i>Salvia verbenaca</i> (approx.0.1 pfc, 5 abundance)</p> <p><i>Stellaria media</i> (approx.0.1 pfc, 3 abundance)</p> <p><i>Taraxacum officinale</i> (approx.0.1 pfc, 3 abundance)</p> <p><i>Verbascum thapsus</i> (approx.0.1 pfc, 5 abundance)</p>		
Pest animals			Nil
Visitor impact/vehicles			Nil
Rubbish dumping			Nil



Figure 23: UCML\_CA\_Site52 North



Figure 24: UCML\_CA\_Site52 East



Figure 25: UCML\_CA\_Site52 South



Figure 26: UCML\_CA\_Site52 West

