UCMPL Bobadeen Vegetation Offset Area Monitoring Report 2025

Ulan Coal Mines Pty Ltd

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Executive Summary

Eco Logical Australia (ELA) was engaged by Ulan Coal Mines Pty Ltd (UCMPL) to undertake monitoring of the Bobadeen Vegetation Offset Area (the Offset Area) during 2025. The Offset Area is located in part Lots 1, 3 and 4 in Deposited Plan (DP) 701346, part Lot 15 and 45 in DP 750735, part Lots 2, 54, 61 and 73 in DP 750736. It was established to satisfy commitments to secure biodiversity offsets relating to NSW Project Approval 08_0184 and *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) Approval EPBC 2009/5252. The Offset Area is to be managed to restore and protect the conservation values at the site and is approximately 1,370 hectares (ha) in size.

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 Bobadeen Vegetation Offset Area Conservation Agreement (the Conservation Agreement) was signed on 5 May 2019. UCMPL received notification from the NSW Biodiversity Conservation Trust (BCT) that the Bobadeen Offset Area Agreement was registered on title on 11 December 2019.

Outlined in the Conservation Agreement is a monitoring program (Annexure D) which must be undertaken for a minimum 10-year period, including full floristic assessments within 15 designated quadrats, establishment of photo monitoring points and a walk-through assessment to record opportunistic sightings of management issues and threatened species. This report provides the results of the seventh monitoring period since the sites establishment in 2017.

Quadrat monitoring, photo-point monitoring and a walkthrough assessment within the Offset Area in 2025 indicates that conservation values within the Offset Area remain intact, with no significant damage or disturbance recorded throughout the Offset Area. The 2025 data shows a mixed trend for all attributes across all sites, with fluctuations in results found to be still within the expected range of natural variation. These fluctuations are likely to be linked to seasonal climatic variation. Overall, the results were largely consistent with historical observations at all sites.

Monitoring during 2025 identified the priority weeds *Chrysanthemoides monilifera* (Boneseed), *Hypericum perforatum* (St John's Wort), and *Opuntia stricta* (Common Prickly Pear) within the Offset Area. Weed surveys and targeted weed management works were undertaken throughout the Offset Area during 2025 by Toolijooa Environmental Restoration, with particular focus on the heavy infestation of *C. monilifera* and *H. perforatum.* Toolijooa Environmental Restoration reported that weed management works yielded successful results. The surveys by Toolijooa Environmental Restoration also suggest that the dense infestation and prevalence of *Senecio madagascariensis* (Fireweed) within the eastern section of the Offset Area and within adjacent farmland should be a priority for management and control works to prevent regional spread of this species. Ongoing weed monitoring and management in accordance with site specific procedures is recommended.

Except for the weed infestation, the Offset Area retains its typical level of floral biodiversity. The condition of the vegetation and associated biodiversity values within the Offset Area remain largely consistent with monitoring undertaken in 2017 and with Plant Community Type descriptions provided in the Conservation Agreement.

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Abbreviations

Abbreviation	Description
BBS	Brigalow Belt South
BC Act	NSW *Biodiversity Conservation Act 2016*
BCT	NSW Biodiversity Conservation Trust
BMP	Biodiversity Management Plan
CEEC	Critically Endangered Ecological Community
CTRSWP	Central Tablelands Regional Strategic Weed Management Plan
DNG	Derived Native Grassland
DP	Deposited Plan
DPIE	NSW Department of Planning, Industry and Environment
ELA	Eco Logical Australia
EPBC Act	Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*
HBT	Hollow bearing tree
LLS	Local Land Services
LWD	Large woody debris
NPW Act	NSW *National Parks and Wildlife Act 1974*
NSW	New South Wales
OEH	Office of Environment and Heritage
PCT	Plant Community Type
pfc	Percent foliage cover
UCMPL	Ulan Coal Mines Pty Ltd

1. Introduction

The Bobadeen Vegetation Offset Area (Offset Area) is located approximately 9 km north of the village of Ulan, located in the Mid-Western Regional Council Local Government Area in the Central Tablelands geographical region, NSW as shown in Figure 1 below.

The Offset Area is 1,369.8 ha in size and contains eight plant community types (PCTs), which occur in both intact and derived native grassland (DNG) forms (Table 1 and Figure 2).

The Offset Area contains habitat for 30 vulnerable and three endangered species listed under the *Biodiversity Conservation Act 2016* (BC Act) and 10 species listed as either vulnerable, endangered or critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). These species are listed in Table 2 Annexure B of the Bobadeen Vegetation Offset Area Agreement (Conservation Agreement) (UCMPL 2019).

Table 1: PCTs within the Bobadeen Vegetation Offset Area

PCT Number	PCT Name	Condition	Area (ha)	CEEC
PCT 478	Red Ironbark – Black Cypress Pine – stringybark +/- Narrow-leaved Wattle shrubby open forest on sandstone in the Gulgong – Mendooran region, southern Brigalow Belt South Bioregion	Intact	10.05	No
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 Derived Native Grassland (DNG)	670.65 30.08	No
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 DNG	69.83 204.89	No
PCT 281	Rough-barked Apple – red gum – Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South (BBS) Bioregion	Intact DNG	0.1 8.25	Yes[1] Yes[1]
PCT 403	Dapper Mugga Ironbark – Western Grey Box – Blakely's Red Gum – Black Cypress Pine grass shrub hill woodland (southern BBS Bioregion)	Intact DNG	1.7 19.97	No No
PCT 1310	White Box – Yellow Box grassy woodland on basalt slopes in the upper Hunter Valley, BBS Bioregion	Intact DNG	73.8 230.21	Yes[1] Yes[1]
PCT 1675	Scribbly Gum – Narrow-leaved Ironbark – *Bossiaea rhombifolia* heathy open forest on sandstone ranges of the Sydney Basin	Intact	25.64	No
PCT 1709	*Allocasuarina gymnanthera* heathy woodland on sandstone outcrops of the Sydney Basin	Intact	8.43	No
-	Cleared Land	-	16.2	No
		Total	**1369.8**	

CEEC = Critically Endangered Ecological Community

[1] Listed as a CEEC under the BC Act and the EPBC Act – *White Box Yellow Box Blakely's Red Gum Woodland*.

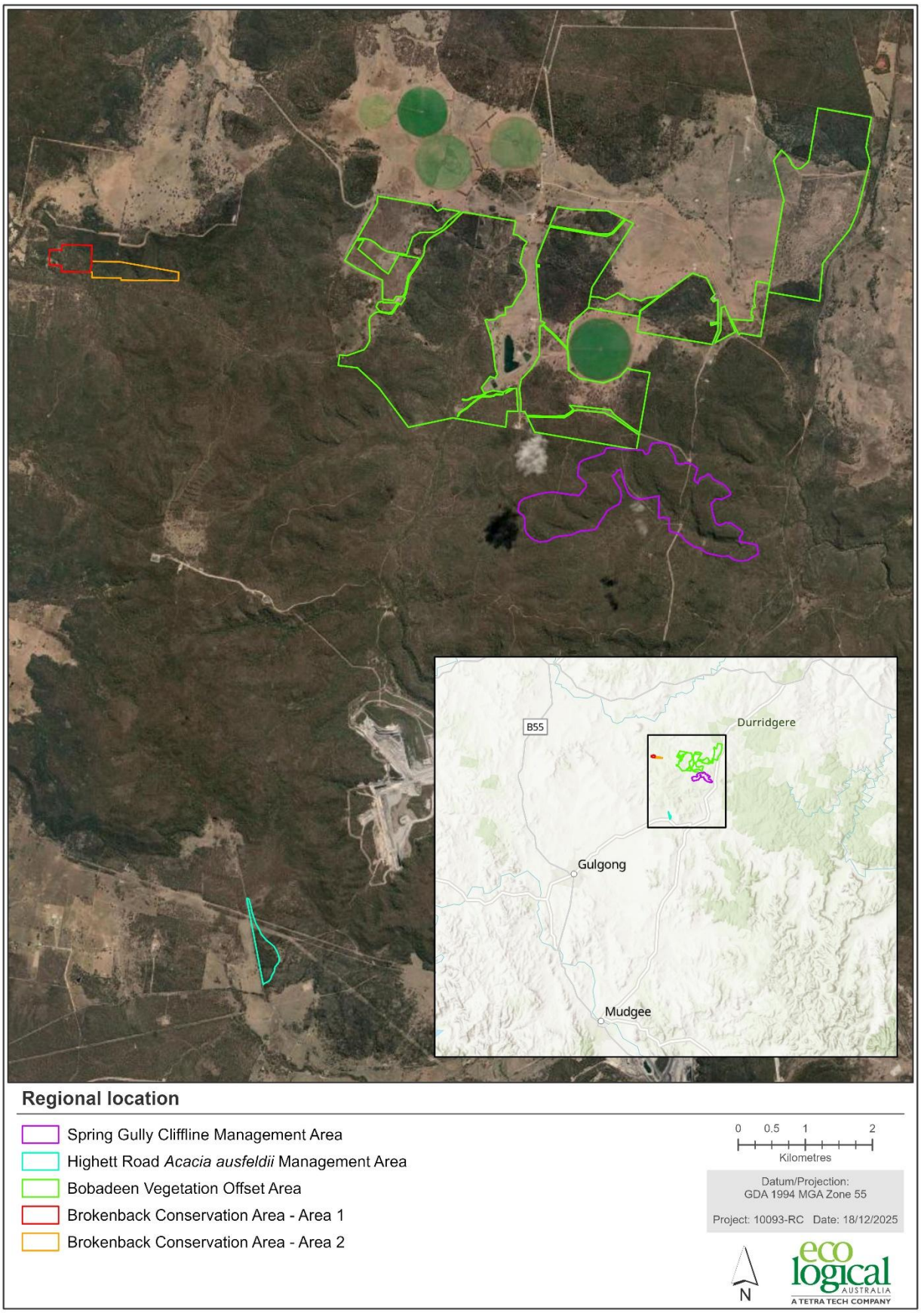

Figure 1: Regional location of Bobadeen Vegetation Offset Area

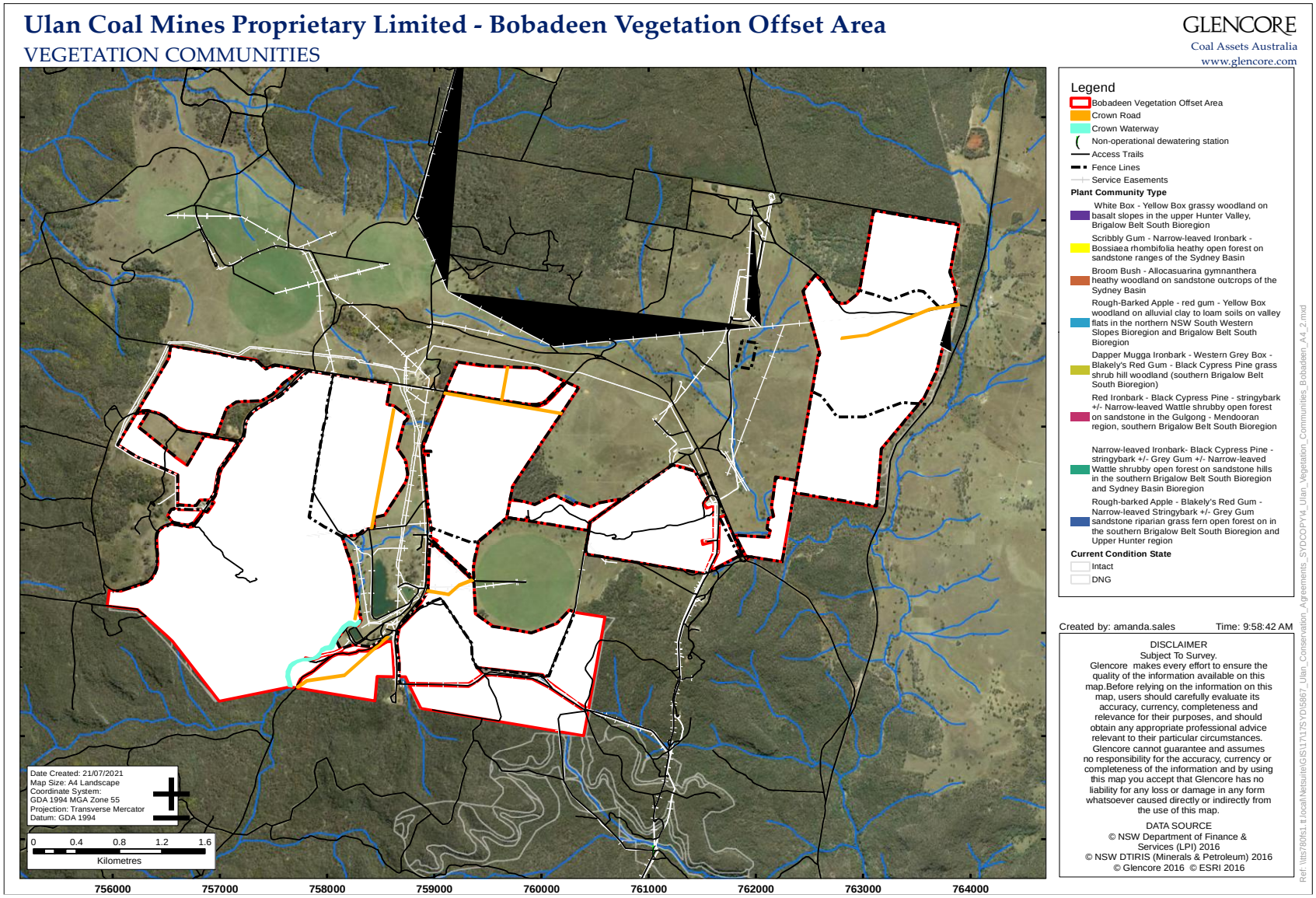

Figure 2: Bobadeen Vegetation Offset Area – vegetation communities

2. Methodology

Monitoring was undertaken in accordance with the Section 7 and Annexure D of the Conservation Agreement (UCMPL 2019) and the BioBanking Assessment Methodology (OEH 2014) on 14 – 29 May 2025 by ELA ecologists.

Monitoring undertaken in 2025 is the seventh year of monitoring for the Offset Area since the initial baseline monitoring which was undertaken in 2017. As per Annexure D, Section c) iii) of the Conservation Agreement, the results of 2025 monitoring were compared to results from 2017 to 2024 to determine changes from previous monitoring.

2.1. Quadrat and Photo-point Monitoring

Quadrat data was collected at 15 monitoring locations as shown in Figure 3 below. Data was collected in accordance with the BioBanking Assessment Methodology (OEH 2014) 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 1m 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 BioBanking Assessment Methodology (OEH 2014) 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).

As a part of the UCMPL Biodiversity Management Plan (BMP) (UCMPL 2024), annual inspections are undertaken by UCMPL representatives within the Offset Area. Previous monitoring programs saw full floristic monitoring occur at two sites within the Vegetation Offset Area between the initial

establishment in 2017 and the first monitoring period of 2020. Site BOB22 was monitored in 2018 and 2019 and BOBC1 in 2019. This data has also been provided in Table 5 (UCMPL 2019; ELA 2019; ELA 2020).

The BMP (UCMPL 2024) also contains fauna monitoring requirements throughout the Offset Area; however, there is no requirement for fauna survey within the Conservation Area in accordance with the Conservation Agreement (UCMPL 2019). Results of the fauna survey have also been summarised within this report, where relevant.

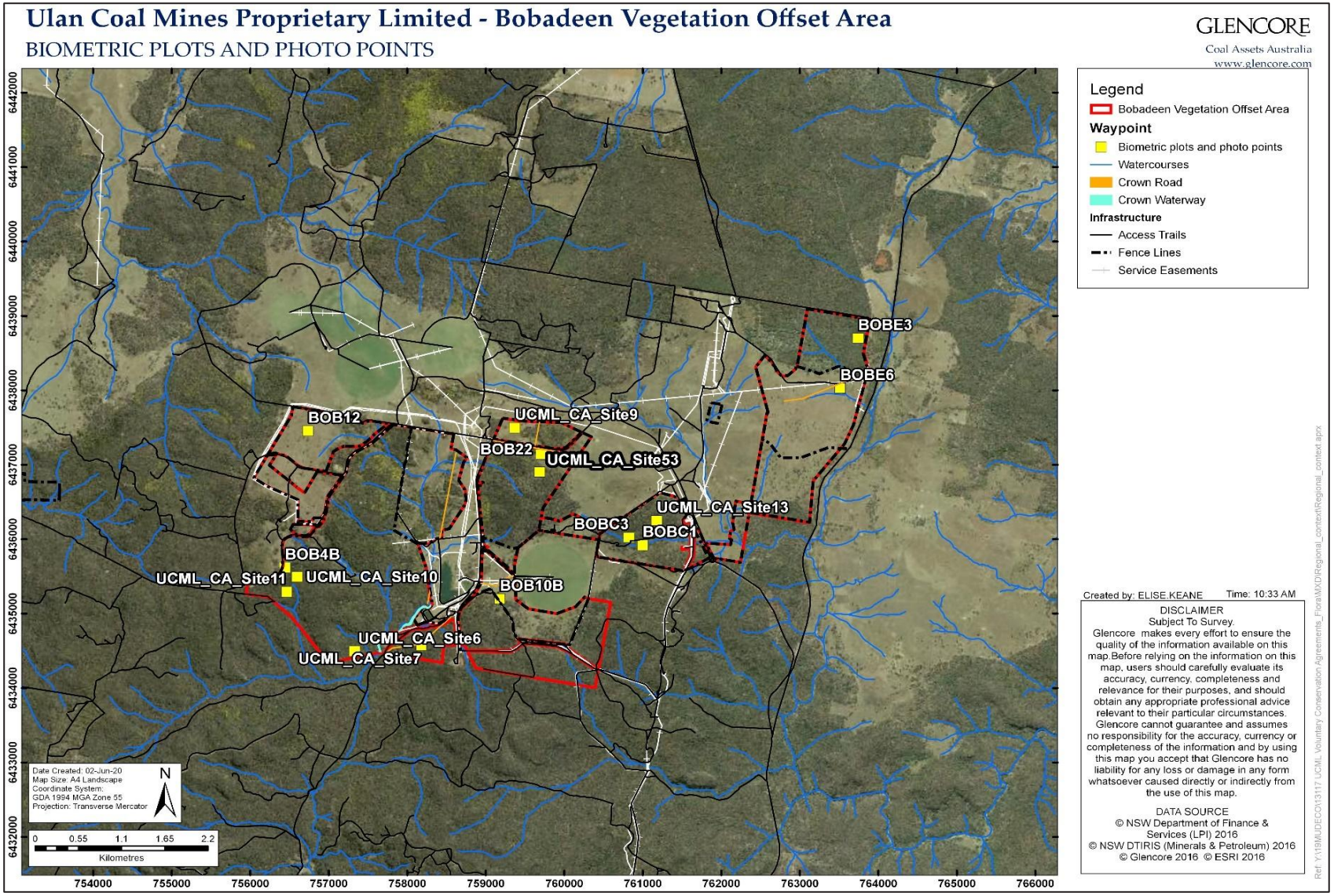

Figure 3: Bobadeen Vegetation Offset Area biometric plots and photo points

2.2. Walk-through Assessment

A walk-through assessment was also undertaken within the Offset Area along with quadrat monitoring and other occasional visits throughout the year. This assessment aims to record opportunistic sightings of management issues including fire events or impacts of fire management, weeds (including compiling a list of exotic species and recording 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 ±5 m depending upon access to satellites). Weeds listed under the Local Land Services (LLS) Central Tablelands Regional Strategic Weed Management Plan (CTRSWP) 2023 – 2027 (LLS 2022) were recorded using handheld GPS.

3. Results

3.1. Quadrat and Photo-point Monitoring

A summary of results is provided in Table 2 below. A full species list is provided in Appendix A. Monitoring data sheets and photos for each site are presented in Appendix B.

Table 2: 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)
281 Rough-Barked Apple – red gum – Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern NSW South Western Slopes Bioregion and Brigalow Belt South Bioregion (HU714)										
Benchmark values	**25**	**10**	**2**	**20**	**2**	**5**	**N/A**	**N/A**	**1.5**	**30**
BOBE6	28	0	4	34	0	0	50	4	0	2
403 Dapper Mugga Ironbark – Western Grey Box – Blakely's Red Gum – Black Cypress Pine grass shrub hill woodland in the southern Brigalow Belt South Bioregion (HU698)										
Benchmark values	**30**	**10**	**2**	**2**	**2**	**2**	**N/A**	**N/A**	**2**	**20**
UCML_CA_Site9	39	0	6.5	36	0	2	67	2	0	4
UCML_CA_Site53	29	20.5	13.2	6	4	12	60	0	0	48
478 Red Ironbark - Black Cypress Pine - stringybark +/- Narrow-leaved Wattle shrubby open forest on sandstone in the Gulgong - Mendooran region, southern Brigalow Belt South Bioregion (HU707)										
Benchmark values	**25**	**20**	**10**	**5**	**5**	**5**	**N/A**	**N/A**	**0.8**	**46**
BOBC3	60	19.3	10	36	2	12	100	0	0	5
UCML_CA_Site13	38	29	23	8	6	6	75	0	2	150
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)										
Benchmark values	**31**	**5**	**2**	**2**	**2**	**2**	**N/A**	**N/A**	**2**	**40**
BOB22	24	0	6.5	50	8	6	100	12	0	0
BOBE3	28	39	16.5	12	6	0	50	2	5	66
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)										
Benchmark values	**31**	**10**	**5**	**0**	**10**	**5**	**N/A**	**N/A**	**1.5**	**10**
BOB10B	38	0	20.5	44	4	6	75	6	0	1
BOBC1	46	22	5.5	14	2	22	100	2	3	18
1310 White Box – Yellow Box grassy woodland on basalt slopes in the upper Hunter Valley, Brigalow Belt South Bioregion (HU654)										
Benchmark values	**23**	**10**	**5**	**5**	**2**	**5**	**N/A**	**N/A**	**2**	**50**
BOB4B	38	13.7	11.3	6	12	2	100	0	1	5
BOB12	20	0	6.8	36	0	2	100	14	0	0
1675 Scribbly Gum – Narrow-leaved Ironbark – *Bossiaea rhombifolia* heathy open forest on sandstone ranges of the Sydney Basin (HU889)										
Benchmark values	**35**	**15**	**8**	**1**	**15**	**20**	**N/A**	**N/A**	**0.2**	**30**
UCML_CA_Site6	37	16.2	26	16	0	6	100	0	4	42
UCML_CA_Site7	36	21.5	18.4	18	12	12	60	0	1	35

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)
1709 Broom Bush – *Allocasuarina gymnanthera* heathy woodland on sandstone outcrops of the Sydney Basin (HU923)										
Benchmark values	**25**	**20**	**10**	**5**	**5**	**5**	**N/A**	**N/A**	**0.8**	**66**
UCML_CA_Site10	44	1	29.3	4	20	0	75	0	0	14
UCML_CA_Site11	43	20	8.7	10	4	2	75	0	0	6

3.2. Walk through assessment summary

Results from the walk-through assessment across the entire Offset Area is provided in Table 3. A map depicting locations of management issues identified is provided in Figure 5.

Table 3: 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 Offset Area.
Weeds	Three species listed as priority species under the Central Tablelands Regional Strategic Management Plan (CTRSWMP) 2023 – 2027 (LLS 2022) were identified throughout the Bobadeen Vegetation Offset Area by ELA during monitoring in 2025 (Figure 5): • *Chrysanthemoides monilifera* (boneseed) – recorded in BOB4B and opportunistically (Figure 4) • *Hypericum perforatum* (St John's wort) – recorded in BOB10B, BOB12, BOB22; BOB4B, BOBE6, UCML_CA_Site9 and opportunistically • *Senecio madagascariensis* (fireweed) – BOBE6 *Chrysanthemoides monilifera* has been recorded within the Offset Area every year since 2021. Investigations undertaken during 2023 indicate that the source of this weed species may be from an old ornamental garden located to the north of the western section of Offset Area. This species forms dense stands in remnant bushland, outcompetes native pants and reduces food and habitat for native birds and other animals (DPI 2024) Other exotic species identified by ELA within the Offset Area include: • *Alternanthera pungens* (khaki weed) • *Arctotheca calendula* (cape weed) • *Aster subulatus* (wild aster) • *Centaurea melitensis* (tocalote) • *Centaurium tenuiflorum* (slender centaury) • *Cineraria lyratiformis* (cineraria) • *Cirsium vulgare* (spear thistle) • *Conyza bonariensis* (flax-leaf fleabane) • *Conyza sp.* (fleabane) • *Cyclospermum leptophyllum* (slender celery) • *Echium plantagineum* (Paterson's curse) • *Eragrostis curvula* (African lovegrass) • *Gamochaeta calviceps* (cudweed) • *Gamochaeta purpurea* (purple cudweed) • *Gamochaeta sp.* (cudweeds) • *Hypochaeris glabra* (smooth cat's ear) • *Hypochaeris radicata* (cat's ear) • *Lepidium bonariense* (Argentine peppercress) • *Lysimachia arvensis* (scarlet pimpernel) • *Medicago sp.* (medick) • *Modiola caroliniana* (red-flowered mallow) • *Paronychia brasiliana (*Brazillian whitlow) • *Paspalum dilatatum* (paspalum) • *Plantago lanceolata* (ribwort plantain) • *Richardia stellaris* (field madder) • *Rumex acetosella* (sorrel) • *Salvia verbenaca* (wild clary)

Category	Comment
	• *Schkuhria pinnata* (dwarf marigold) • *Senecio jacobaea* (tansy ragwort) • *Setaria parviflora* (Marsh Bristlegrass) • *Silene* sp. (campion) • *Silybum marianum* (milk thistle) • *Sisymbrium sp.* (hedge mustard) • *Sisyrinchium rosulatum* (scourweed) • *Solanum nigrum* (black nightshade) • *Sonchus asper* (prickly sow-thistle) • *Sonchus oleraceus* (common sow-thistle) • *Stellaria media* (common chickweed) • *Trifolium glomeratum* (clustered clover) • *Trifolium* sp. (clover) • *Trifolium subterraneum* (subterranean clover) • *Verbena bonariensis* (tall verbena) There is a long history of agricultural land use (both cropping and grazing) within the Offset Area, which has resulted in the presence of a high number of exotic annual species. Following certain climatic patterns these species can dominate the herb layer on richer basalt soils in areas in the Offset Area, (e.g. BOBE6, BOB12 and BOB10B).  **Figure 4: *Chrysanthemoides monilifera* recorded in the Offset Area**
Pest animals	The following species were recorded opportunistically within the Offset Area via scats, diggings, calls heard and visual observation: • Fallow deer (*Dama dama*) • Feral pig (*Sus scrofa*) • Feral goat (*Capra hircus*) • European fox (*Vulpes vulpes*) • European hare (*Lepus europaeus*)
Visitor impact and vehicle access	No evidence of recent usage and no presence of new tracks.
Rubbish dumping	No evidence of rubbish dumping was recorded within the Offset Area.
Natural regeneration of disturbed areas	Natural regeneration of characteristic overstorey species (e.g. *Eucalyptus albens* (white box) and *Eucalyptus blakelyi* (Blakely's red gum) continues to occur throughout previously cleared areas.
Threatened species observations	Six threatened fauna species were identified during the 2025 surveys within the Offset Area (Figure 6):

Category	Comment
	• Grey-crowed babbler (*Pomatostomus temporalis temporalis*) which is listed vulnerable under the BC Act, approximately 1 km to the east of UCML_CA_Site13, and 350 m to the southwest of BOBC1. • South-eastern hooded robin (*Melanodryas cucullata cucullata*) which is listed as Endangered under the BC Act and EPBC Act were observed 1.2 km to the east of BOBC1. • Speckled warbler (*Pyrrholaemus sagittatus*), which is listed vulnerable under the BC Act, were observed 200 m southwest of BOBC3. • Brown treecreeper (*Climacteris picummus victoriae*) which is listed vulnerable under the BC Act and EPBC Act, were observed 200 m northeast of UCML_CA_Site6. • Little lorikeet (*Parvipsitta pusilla*) which is listed vulnerable under the BC Act, were observed 500 m north of BOB4B. • White-bellied Sea eagle (*Haliaeetus leucogaster*) which is listed vulnerable under the BC Act, 1.68 km to the northeast of UCML_CA_Site10, near Bobadeen Dam. No threatened flora species were recorded in the Offset Area during the 2025 surveys.
Other observations	No other observations were recorded.

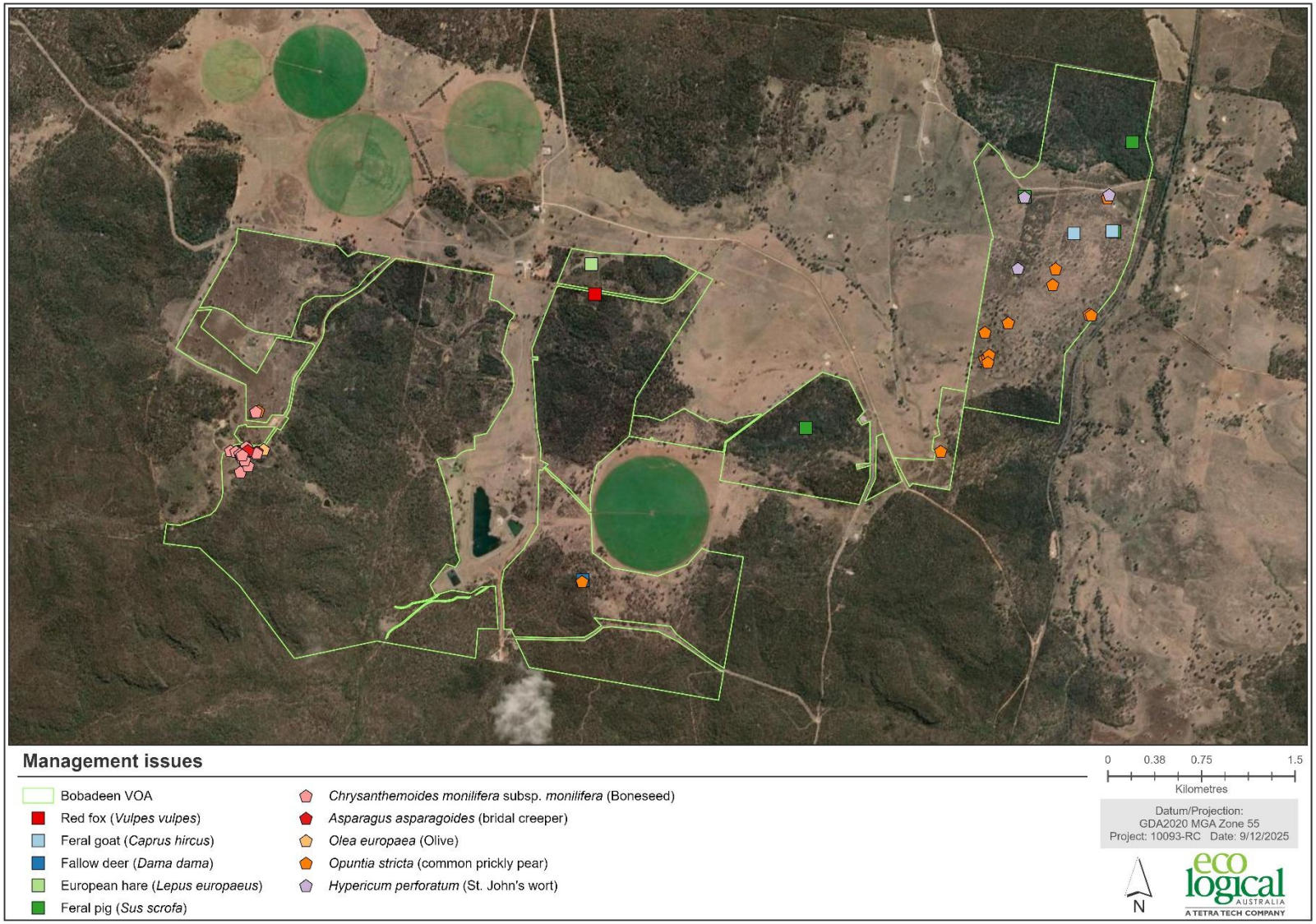

Figure 5: Management issues

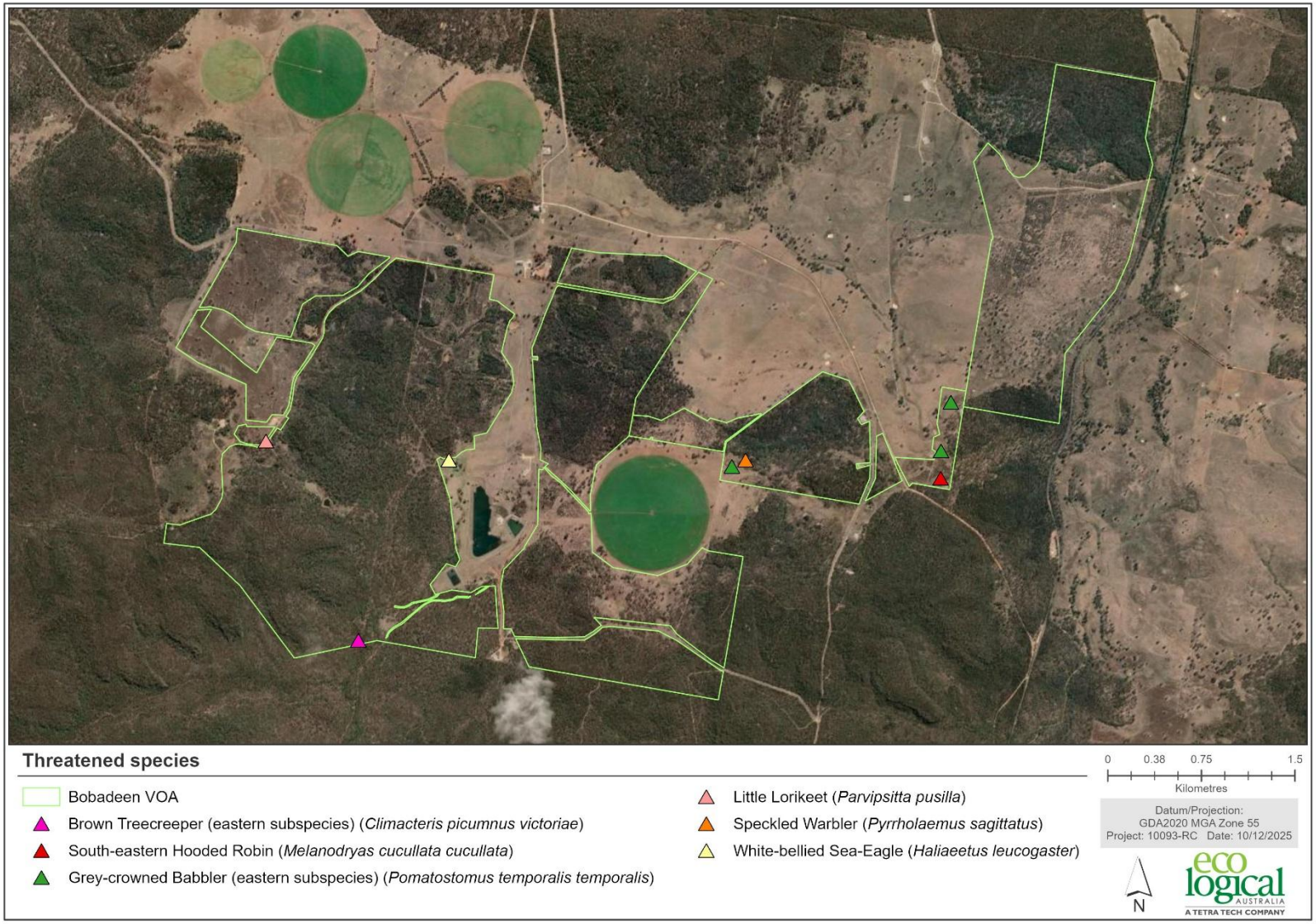

Figure 6: Threatened species

3.3. Management actions undertaken

3.3.1. Weed management

Environmental weed surveys were undertaken in 2025 throughout the Offset Area to map the distribution and density of High Threat Exotic (HTE) species listed under the CTRSWP by Toolijooa Environmental Restoration (Toolijooa Environmental Restoration 2025j).

The density of *Chrysanthemoides monilifera* was found to be greatest in 2024 within Site A (area of the western side of the Offset Area encompassing a former homestead and the decommissioned site of ventilation infrastructure), centred around, and extending from the house on Bobadeen Loop Road (Toolijooa Environmental Restoration 2024a). Over the last 12 months, all major densities of *Chrysanthemoides monilifera* have been treated to decrease seed production and restrict spread (Toolijooa Environmental Restoration 2025j).

Due to extensive control works carried out across the entirety of the Offset Area, *Hypocerum perforatum* is significantly less widespread. However, areas of high densities remain, with control measures working as an ongoing operation (Toolijooa Environmental Restoration 2025j).

An additional infestation assessment for *Senecio madagascariensis* was undertaken across the entire Offset Area as well as adjacent UCMPL controlled and leased properties in August 2025 (Toolijooa Environmental Restoration 2025a).

Targeted weed management works were undertaken throughout the Offset Area across 2025. The location, methodology, and target species of the management works are summarised below in Table 4.

Table 4: Targeted weed management within the Offset Area in 2025.

Month	Area	Weed Type	Method	Target Species
January (Toolijooa Environmental Restoration 2025b)	Bobadeen Conservation Area	Herbaceous	Inspection of previously sprayed areas	*Echium plantagineum* (Paterson's curse), *Heliotropium amplexicaule* (blue heliotrope) and *Hypericum perforatum*.
	Bobadeen East VOA	Herbaceous	Low volume blanket and spot spraying	*Heliotropium amplexicaule*, with incidental control of *Hypericum perforatum, Opuntia stricta, Senecio madagascariensis*, *Marrubium vulgare* (white horehound) and *Solanum pseudocapsicum* (Jerusalem cherry).
February (Toolijooa Environmental Restoration 2025c)	Bobadeen Conservation Area	Herbaceous	Follow up boom spraying throughout slashed planting area using a solution of 1.8L/ha of Starane Advanced with 5g/ha of Metsulfuron methyl.	*Hypericum perforatum* and *Cineraria lyratiformis*.
			High volume spraying between slashed and boom sprayed areas	*Hypericum perforatum* and *Cineraria lyratiformis* .
	Bobadeen East VOA	Herbaceous	High volume spraying	*Hypericum perforatum* and *Cineraria lyratiformis.*
			Low volume spraying of Roundup Biactive® at a rate of 10%	*Eragrostis curvula*.
March (Toolijooa Environmental Restoration 2025d)	Bobadeen East Offset	Herbaceous	Low volume foliar spraying	*Heliotropium amplexicaule*, *Senecio madagascariensis* and *Hypericum perforatum.*
			High volume foliar spraying	*Hypericum perforatum.*
			Low volume splattering using Roundup Biactive® at a rate of 5%.	*Eragrostis curvula.*
	Bobadeen Conservation Area	Herbaceous	Follow up boom spraying using a solution of 1.8L/ha of Starane Advanced with 5g/ha of Metsulfuron methyl.	*Hypericum perforatum* and *Cineraria lyratiformis.*
			Inspections of previous control works to understand success rate of treatment	N/A.
April (Toolijooa Environmental Restoration 2025e)	Bobadeen East Offset	Herbaceous	Low volume splattering using a solution of 10% Roundup Biactive®	*Eragrostis curvula, incidental Senecio madagascariensis* and *Hypericum perforatum.*
			Low volume foliar spraying sweeps	*Opuntia stricta*, *Tagetes minuta* (stinking Roger) and *Hypericum perforatum.*
May (Toolijooa Environmental Restoration 2025f)	Bobadeen East Offset	Herbaceous	Low volume splattering using Roundup Biactive® at a rate of 5%	*Eragrostis curvula*
		Woody	Low volume foliar spraying using a solution of 0.5% Roundup Biactive® with 2g/10L of Metsulfuron methyl.	*Chrysanthemoides monilifera subsp. monilifera* seedlings.

Month	Area	Weed Type	Method	Target Species
	Bobadeen Conservation Area	Herbaceous	Low volume foliar spraying using a solution of 0.5% Roundup Biactive® with 2g/10L of Metsulfuron methyl.	*Echium plantagineum and Senecio madagascariensis.*
			Low volume spraying using a solution of 0.5% Grazon Extra®.	*Solanum pseudocapsicum, Dolichandra unguis-cati* (cats claw creeper) and *Silybum marianum*.
			Inspections	*Senecio madagascariensis.*
	Bobadeen Homestead	Woody	Inspections of previous sprays, low volume foliar spraying	Emergent *Ailanthus altissima* (tree of heaven) suckers and seedlings
June (Toolijooa Environmental Restoration 2025g)	Bobadeen Conservation Area	Woody and herbaceous	Inspections	N/A
		Herbaceous	High volume foliar spraying	*Senecio madagascariensis* and *Opuntia stricta, Marrubium* vulgare infestations near the pivot, along roadsides and on top of hill, with incidental control of *Heliotropium amplexicaule*.
	Bobadeen East Offset Area	Woody and herbaceous	Inspections	N/A
		Herbaceous	Low volume using a solution of 0.4% Starane Advanced, with 1g/10L Metsulfuron methyl and surfactant.	*Senecio madagascariensis.*
			Low volume foliar spraying sweeps using a solution of 0.5% Grazon Extra, with 1g/10L Metsulfuron methyl and surfactant.	*Opuntia stricta.*
			High volume foliar spraying	*Senecio madagascariensis.*
			High volume spot spraying	*Senecio madagascariensis, Heliotropium amplexicaule* and *Opuntia stricta.*
August (Toolijooa Environmental Restoration 2025h)	Bobadeen Offset Area – Site A	Woody	Low volume foliar spraying	*Chrysanthemoides monilifera* subsp. *monilifera.*
			Low volume foliar spraying	*Chrysanthemoides monilifera* subsp. *monilifera.*

3.3.2. Pest animal management

During 2025, UCMPL completed the following feral animal control programs:

- Feral pig control using Hoggone and 1080 baited grain within the Offset Area
- Feral pig trapping on land adjacent to the Offset Area
- Feral goat shooting on land adjacent to the Offset Area
- Wild dog and fox baiting on land adjacent to the Offset Area.

Trail camera monitoring was also conducted throughout the Offset 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.

3.3.3. Erosion control

A Bobadeen Offset Erosion Remediation Plan has been prepared to address the previously identified active gully erosion at Gate 23 in the Bobadeen Offset Area (Figure 7). Erosion repairs were completed in Q2 2025 in consultation with BCT (Figure 8). UCMPL will continue to monitor the area for further erosion and growth of vegetation.

Figure 7: Erosion near Gate 23 identified during 2024

Figure 8: Repaired area of erosion near Gate 23

4. Discussion

4.1. Changes from previous monitoring

The monitoring results of 2017 to 2025 for each monitoring site, along with comparison to benchmark values, are provided below.

Discussion regarding change since the 2017 monitoring period on a site basis within each PCT is provided below. Several attributes including native species richness, ground cover grasses pfc, ground cover shrubs pfc and ground cover other pfc are extremely sensitive to rainfall and survey timing, with all attributes subject to small variations year to year due to observer interpretation.

4.1.1. PCT 281 Rough-Barked Apple – red gum – Yellow Box woodland on alluvial clay to loam soils on valley flats

The monitoring results of 2017 to 2025 for PCT 281, along with comparison to benchmark values, is provided in Table 5.

Native species richness at the BOBE6 site has shown a stabilising trend over recent monitoring periods, with the level slightly exceeding the benchmark in 2025. Native overstorey cover remained between 0–1%, as tree canopies were still generally under 6 m in height. Although overstorey (trees >6 m) and midstorey (1–6 m) cover were absent along the 50 m transect, a 20 m × 20 m floristic plot recorded a total foliage cover of 30%, primarily from *E. blakelyi* and *Eucalyptus melliodora* (yellow box), regardless of tree height. This discrepancy reflects the presence of a young tree stand and the site's orientation, which runs parallel to the planting rows (Figure 9). Revegetation efforts involving *E. blakelyi* and *E. melliodora* continue to be successful, with healthy individuals maintaining consistent canopy coverage and showing considerable growth since 2020 (Figure 9 and Figure 10).

Figure 9: BOBE6 during 2020

Figure 10: BOBE6 during 2025

Similarly, native midstorey cover remains low, composed of young eucalypts, with shrub species still absent. Native ground cover—grasses, Native ground cover—other and exotic cover have remained moderate and consistent with previous levels. Native species richness, midstorey cover and ground cover – grasses achieved the benchmark value in 2025.

HBTs are still absent from BOBE6 due to historical clearing and the immaturity of the current canopy. A small amount of LWD has accumulated from fallen trees.

Table 5: Monitoring results 2017 to 2025 - PCT 281

Site / Site type	Year	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)
Benchmark values		25	10	2	20	2	5	N/A	N/A	1.5	30
BOBE6 Revegetation	2017	15	0	0	46	0	8	0	56	0	0
	2020	32	0	0	10	0	22	0	36	0	0
	2021	25	0	0	60	0	6	100	4	0	0
	2022	29	0.5	3	80	0	0	0	6	0	0
	2023	28	0.5	7.5	68	0	2	0	4	0	0
	2024	23	1.0	4.0	38	0	2	0	0	0	0
	2025	28	0	4.0	34	0	0	50	4	0	2

4.1.2. PCT 403 Dapper Mugga Ironbark - Western Grey Box - Blakely's Red Gum - Black Cypress Pine grass shrub hill woodland

The monitoring results of 2017 to 2025 for PCT 403, along with comparison to benchmark values, is provided in Table 6.

UCML_CA_Site9 is situated in a previously cleared area that has undergone successful revegetation. The site now supports a mix of native species including *E. blakelyi*, *E. melliodora*, *Eucalyptus moluccana* (grey box), and several Acacia species. Trees along the transect, and within the site generally, are lower than 6 m in height, so their cover was recorded as native midstorey cover. No canopy cover was recorded however, canopy species are present. An increase in midstorey cover was observed, primarily due to the growth of young eucalypts. Native species richness, native ground cover (grasses, other, and shrubs), and exotic cover have all remained within historical ranges. Notably, exotic cover has returned to 0%.

UCML_CA_Site53, located in intact native vegetation, has shown consistent results across monitoring periods. All metrics achieved the benchmark value during 2025 except native species richness. Native species richness was within the historical range. A decrease in LWD is likely due to the accumulation of finer debris from senescing *Allocasuarina gymnanthera* and *Acacia linearifolia* (narrow-leaved wattle) that were under 10 cm in diameter, as well as the decomposition of larger woody material accumulated in previous years, with both factors making accurate detection of LWD difficult. Regardless, LWD at UCML_CA_Site53 remains above benchmark.

Table 6: Monitoring results 2017 to 2025 – PCT 403

Photo Point / Quadrat No	Year	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)
Benchmark values		30	10	2	2	2	2	N/A	N/A	2	20
UCML_CA_Site9	2017	32	0	0	28	0	2	100	12	0	0

Photo Point / Quadrat No	Year	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)
Revegetation	2020	44	0	9	48	0	2	100	0	0	0
	2021	47	0	2.5	24	2	12	100	12	0	1
	2022	45	5.1	0	58	2	2	100	6	0	0
	2023	38	1	2.5	44	2	16	100	2	0	0
	2024	23	6.5	1.5	30	2	4	100	22	0	1
	2025	39	6	6.5	36	0	2	67	2	0	4
UCML_CA_Site53 Remnant	2017	29	10	0.2	2	2	10	100	0	0	135
	2020	32	27.5	0.2	2	0	2	100	0	0	135
	2021	40	28.5	3	8	16	4	75	4	0	138
	2022	46	19	1.5	10	34	8	67	0	2	138
	2023	30	20.2	10.8	20	18	16	80	0	2	138
	2024	25	22.7	14.7	0	2	6	100	0	0	192
	2025	29	20.5	13.2	6	4	12	60	0	0	48

4.1.3. PCT 478 Red Ironbark - Black Cypress Pine - stringybark +/- Narrow-leaved Wattle shrubby open forest on sandstone

The monitoring results of 2017 to 2025 for PCT 478, along with comparison to benchmark values, is provided in Table 7.

Both sites recorded an increase in native species richness in 2025, with BOBC3 showing the highest native species richness observed across all monitoring sites and years.

At BOBC3, both overstorey and midstorey cover decreased in 2025, with overstorey at 19.3% and midstorey at 10% pfc, nearly meeting, or meeting the benchmark values of 20% and 10%, respectively. The decrease in overstorey and midstorey cover at this site is likely due to climatic conditions. Both overstorey and midstorey cover remain within the long-term range (2017-2025) recorded at this site. Exotic species cover remained at 0% for successive years. The total length of LWD has declined since 2023, with no recent additions from fallen logs. It is noted that LWD counts may fluctuate due to changes in detectability influenced by ground and litter cover. The number of HBTs is consistent with previous monitoring periods.

At UCML_CA_Site13, midstorey cover generally increased since 2017, while overstorey cover has remained relatively stable (within 7 percentage points) since 2020. Other vegetation components have remained consistent as well over recent monitoring periods.

Table 7: Monitoring results 2017 to 2025 – PCT 478

Photo Point / Quadrat No	Year	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)
Benchmark values		**25**	**20**	**10**	**5**	**5**	**5**	**N/A**	**N/A**	**0.8**	**46**
BOBC3 Remnant	2017	39	21	8	14	6	6	100	0	2	16.5
	2020	44	22	6	12	8	18	75	0	2	16.5
	2021	40	24	5	42	6	8	100	8	1	15
	2022	33	16.1	9.1	44	12	18	67	0	1	15
	2023	57	11.5	3.5	44	6	8	100	2	1	15
	2024	41	34.0	17.4	26	6	4	60	0	1	7
	2025	60	19.3	10.0	36	2	12	100	0	1	5
UCML_CA_Site13 Remnant	2017	29	45	1.5	0	0	2	100	0	0	151
	2020	16	33	4	0	0	2	75	0	0	150
	2021	21	26.5	13	6	10	10	100	4	0	150
	2022	27	25.5	7.3	6	18	16	100	0	0	150
	2023	37	31	12.5	2	2	2	67	0	0	165
	2024	34	26.0	12.5	8	2	4	75	0	0	158
	2025	38	29	23	8	6	6	75	0	0	150

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

The monitoring results of 2017 to 2025 for PCT 479, along with comparison to benchmark values, is provided in Table 8.

BOB22 is situated in a naturally regenerating area with scattered remnant trees and regenerating *Cassinia* species. In 2025, overstorey cover showed a slight decrease, returning to 0%. The decrease in overstorey cover is attributable to the senescence of an *Acacia linearifolia* individual which was present along the 50 m transect in previous years. Midstorey cover has fluctuated slightly over the years, however, has increased since 2020, as shown in Figure 11 compared to Figure 12.

The most notable change from the previous year was a rise in exotic species projected foliage coverage. This was associated with an increase in exotic species richness, with 12 species recorded in 2025, compared to between zero and five species recorded in previous years. Despite the increase in exotic species richness, all exotic species had been previously recorded at the site, except *Solanum nigrum,* and cover of perennial exotic species remains low and consistent with previous years.

Figure 11: BOB22 during 2018 (drought affected)

Figure 12: BOB22 during 2025

BOBE3 experienced several changes across vegetation components compared to the previous years. Overstorey canopy cover remains relatively consistent with previous years. This is expected due to the remnant condition of the vegetation. Midstorey cover increased, with *Cassinia sifton* (sifton bush) extending its presence alongside the dominant shrub *Cassinia quinquefaria*. LWD and groundcover of grasses, shrubs and other decreased; however, have remained within the long-term range recorded at this site.

Exotic species cover was recorded for the first time along the transect at this site in 2025. Despite this, exotic species have been recorded at this site in the 20 x 20 m plot since 2020. The two exotic species recorded in 2025, *Solanum nigrum* and *Hypochaeris radicata* are annual species, highly common in the greater landscape and generally do not require management intervention.

Table 8: Monitoring results 2017 to 2025 – PCT 479

Photo Point / Quadrat No	Year	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)
Benchmark values		**31**	**5**	**2**	**2**	**2**	**2**	**N/A**	**N/A**	**2**	**40**
BOB22 Regenerating	2017	21	2	1	84	0	4	67	0	0	0
	2018	23	0	1	28	0	2	100	0	0	0
	2019	15	0	0	28	0	2	100	0	0	0
	2020	41	4	0	30	2	32	100	2	0	0
	2021	36	4.5	2	60	2	16	67	4	0	0
	2022	32	0.2	1.3	72	8	16	100	0	0	0
	2023	32	1	5.5	66	10	0	100	0	0	0
	2024	28	0.2	9	62	4	4	100	0	0	0
	2025	24	0.0	6.5	50	8	6	100	12	0	0
BOBE3 Remnant	2017	17	15.5	8	3	0	0	100	0	0	30
	2020	21	14.4	1.1	2	2	4	50	0	0	133
	2021	26	15	3.5	10	0	48	70	0	0	150
	2022	36	10.5	7.5	16	12	8	100	0	0	80
	2023	38	24	21	14	2	2	100	0	0	55
	2024	33	12.1	9.1	20	8	4	100	0	0	173

Photo Point / Quadrat No	Year	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)
	2025	28	16.5	39	12	6	0	50	2	0	66

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

The monitoring results of 2017 to 2025 for PCT 481, along with comparison to benchmark values, is provided in Table 9.

BOB10B is situated in a formerly cleared area that has undergone revegetation. No major changes were recorded in 2025 compared to the previous year. However, over a longer timeframe, midstorey cover has shown a steady increase, indicating the success of revegetation efforts. A limitation of the 50 m transect methodology is that if trees do not intersect with 5 m increments along the 50 m transect, it does not get counted to overall canopy cover. Despite a recorded canopy cover of 0% along the transect, actual canopy cover is estimated at 10%. Species such as *A. floribunda*, *E blakelyi*, *E. crebra*, and multiple *Acacia* species have continued to establish and grow well.

Figure 13: BOB10B during 2020

Figure 14: BOB10B during 2025

BOBC1, located in intact vegetation, recorded results in 2025 that were consistent with previous monitoring years, despite some fluctuations in the past. All vegetation components remained within historical ranges, and the canopy appeared healthy. Exotic species cover was recorded again in 2025, following previous detections in 2021 (6%) and 2023 (4%). HBTs and LWD remained consistent with previous monitoring periods. Fluctuation in the number of HBTs recorded at BOBC1 is likely related to difficulties in detecting hollows in mature trees, particularly on overcast survey days.

BOBC1 met all benchmark values in 2025 except for one—Groundcover – shrubs, which remained below the target threshold by 8%.

Table 9: Monitoring results 2017 to 2025 – PCT 481

Photo Point / Quadrat No	Year	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)
Benchmark values		**31**	**10**	**5**	**0**	**10**	**5**	**N/A**	**N/A**	**1.5**	**10**
BOB10B Revegetation	2017	21	0	0	62	0	2	100	20	0	0
	2020	30	0	0	24	0	10	80	10	0	0
	2021	23	0	3.5	34	2	18	0	2	0	0
	2022	28	0	3.2	58	6	0	75	18	0	0
	2023	34	1.5	21	30	0	2	100	4	0	0
	2024	30	0	18.5	24	8	6	75	8	0	0
	2025	38	0	20.5	44	4	6	75	6	0	1
BOBC1 Remnant	2017	36	13.5	6	22	6	4	100	0	2	22
	2019	32	22.5	0	8	0	2	100	0	2	30
	2020	50	18.5	0.1	10	2	10	100	0	3	22
	2021	42	23	2.5	44	10	18	100	6	1	20
	2022	33	11.2	7.7	36	16	22	67	0	1	20
	2023	57	13	1.5	32	2	24	60	4	2	20
	2024	40	32.5	10.5	28	2	8	67	0	3	13
	2025	46	22.0	5.5	14	2	22	100	2	3	18

4.1.6. PCT 1310 White Box - Yellow Box grassy woodland on basalt slopes in the upper Hunter Valley

The monitoring results of 2017 to 2025 for PCT 1310, along with comparison to benchmark values, is provided in Table 10.

BOB4B, situated in intact vegetation, maintained relatively stable native species richness in 2025. The site experienced a small decrease in overstorey cover and overstorey cover recorded in 2025 was the lowest since 2017, largely due to ongoing natural senescence of *A. linearifolia.* In contrast, midstorey cover continued to increase. There is active regeneration of *E. albens* and *Brachychiton populneus* (kurrajong).

BOB12, located in a formerly cleared area that has undergone revegetation, showed results consistent with previous years, except for a decrease in exotic cover. All metrics at this site remain within the long-term range. Overstorey cover is expected to increase as trees mature. Exotic cover at BOB12 remains high compared to remnant monitoring sites within the Offset Area but is consistent with revegetation sites. Success of revegetation efforts are evident when comparing site photos from 2020 with 2025 (Figure 15 and Figure 16 respectively).

Figure 15: BOB12 during 2020

Figure 16: BOB12 during 2025

Table 10: Monitoring results 2017 to 2025 – PCT 1310

Photo Point / Quadrat No	Year	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)
Benchmark values		**23**	**10**	**5**	**5**	**2**	**5**	**N/A**	**N/A**	**2**	**50**
BOB4B Remnant	2017	27	19.5	0	16	0	2	100	0	0	26
	2020	39	21.5	0	4	0	4	100	0	2	10
	2021	50	18.5	0	20	2	16	0	0	3	20
	2022	44	17.52	1	22	14	4	100	10	3	12
	2023	37	16.1	1.7	22	22	2	100	4	3	24
	2024	40	22.0	6.0	10	2	6	100	0	4	27
	2025	38	13.7	11.3	6	12	2	100	0	4	5
BOB12 Revegetation	2017	25	0	0	50	0	0	0	28	0	0
	2020	28	0	0	6	0	32	100	42	0	0
	2021	24	0	4	64	8	0	100	10	0	0
	2022	37	3.5	3	56	0	8	100	24	0	0
	2023	25	0	0.2	26	0	2	100	68	0	0
	2024	19	0	8.8	20	0	4	100	58	0	0
	2025	20	0.0	6.8	36	0	2	100	14	0	0

4.1.7. PCT 1675 Scribbly Gum - Narrow-leaved Ironbark - *Bossiaea rhombifolia* heathy open forest on sandstone ranges

The monitoring results of 2017 to 2025 for PCT 1675, along with comparison to benchmark values, is provided in Table 11.

UCML_CA_Site6 recorded results in 2025 that were largely consistent with previous years, with two exceptions: a decrease in groundcover–shrubs and the identification of four (4) new HBTs. The decrease in groundcover–shrubs is likely attributed to the maturation of dominant shrub species *C.*

sifton and *Leucopogon muticus* (blunt beard-heath), which now contribute to the midstorey layer rather than being classified as groundcover.

UCML_CA_Site7 continues to develop a robust midstorey layer, with *C. sifton*, *L. muticus*, and *Persoonia linearis* (Narrow-leaved Geebung) contributing to its structure. Other vegetation components recorded in 2025 remained largely consistent with previous years. LWD and HBTs abundance remained unchanged from the previous monitoring.

Table 11: Monitoring results 2017 to 2025 – PCT 1675

Photo Point / Quadrat No	Year	Native species richness	Overstorey cover pfc	Midstorey cover 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)
Benchmark values		**35**	**15**	**8**	**1**	**15**	**20**	**N/A**	**N/A**	**0.2**	**30**
UCML_CA_Site6 Remnant	2017	44	20	2.5	10	8	2	100	0	0	42
	2020	32	20	15	6	0	4	75	0	0	50
	2021	39	16	4	42	12	16	50	0	0	50
	2022	39	13	14.5	40	6	8	25	0	1	50
	2023	45	15	9.2	14	38	14	100	2	1	50
	2024	38	16.0	31.0	18	24	10	100	0	0	25
	2025	37	16.2	26.0	16	0	6	100	0	4	42
UCML_CA_Site7 Remnant	2017	48	20	0	8	10	8	100	0	0	57
	2020	35	15.5	2	4	6	0	100	0	0	60
	2021	39	22	1.2	6	6	54	100	0	0	60
	2022	32	15	1.6	22	8	28	50	2	0	60
	2023	42	23	4	16	12	16	100	0	1	74
	2024	40	13.1	12.8	16	26	26	67	0	1	35
	2025	36	21.5	18.4	18	12	12	60	0	1	35

4.1.8. PCT 1709 Broom Bush - *Allocasuarina gymnanthera* heathy woodland on sandstone outcrops

The monitoring results of 2017 to 2025 for PCT 1709, along with comparison to benchmark values, is provided in Table 12.

Overstorey pfc and midstorey pfc has fluctuated since 2017. Prior to 2022, *Allocasuarina gymnanthera* was included in the overstorey pfc. Generally, this species exhibits a shrub or small tree habit and is 2 to 5 m tall (National Herbarium of NSW 2023), therefore, inclusion of this species in the midstorey component at UCML_CA_Site10 and UCML_CA_Site11 provides a more accurate structural representation of the sites. Both sites are dominated by *Allocasuarina gynmanthera* and presence of other shrub species is rare. Analysis of combined overstorey and midstorey pfc indicates that both sites have remained relatively stable over time. Groundcover– shrubs remain the dominant component of the ground-level vegetation at both sites.

Natural senescence of *A. gymnanthera* was noted at both sites in previous years. Regeneration of *A. gymnanthera* was present at both sites in 2025. Exotic species cover returned to 0% in 2025 at UCML_CA_Site11.

At both sites, LWD continues to show a decreasing trend. The senescing *A. gymnanthera* are not expected to contribute significantly to LWD due to their typically small diameter (<10 cm). Additionally, a HBT identified at each site in 2024 was not recorded in 2025, which may have been a result of temporary branch falls without forming persisting structural features.

Table 12: Monitoring results 2017 to 2025 – PCT 1709

Photo Point / Quadrat No	Year	Native species richness	Overstorey pfc (%)	Midstorey pfc (%)	Overstorey and 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		25	20	10	30	5	5	5	N/A	N/A	0.8	66
UCML_CA_Site10 Remnant	2017	33	18.5	2	20.5	2	4	2	100	0	0	20
	2020	29	22	0	22	2	2	0	100	0	0	20
	2021	48	25.5	0	25.5	2	6	8	100	0	0	20
	2022	46	3	16.5	19.5	6	12	6	100	0	0	35
	2023	56	2.7	6.6	9.3	6	26	8	100	0	0	35
	2024	54	8.2	10.2	18.4	6	12	0	100	0	1	18
	2025	44	1.0	29.3	30.3	4	20	0	75	0	0	14
UCML_CA_Site11 Remnant	2017	31	17	0	17	0	2	4	100	0	0	13.5
	2020	23	16.5	0	16.5	0	0	6	100	0	0	14
	2021	35	20.9	0	20.9	0	0	8	100	0	0	14
	2022	43	8	11.5	19.5	6	4	8	100	0	0	14
	2023	48	2.5	10	12.5	8	14	14	100	0	0	14
	2024	40	8.7	11.5	20.2	6	8	4	100	10	1	13
	2025	43	20.0	8.7	28.7	10	4	2	75	0	0	6

4.2. Condition of conservation values

The Bobadeen Vegetation Offset Area contains four main conservation values as outlined in the Conservation Agreement (UCMPL 2019):

- Eight (8) PCTs: PCT 281, PCT 403, PCT 478, PCT 479, PCT 481, PCT 1310, PCT 1675 and PCT 1709
- Contains habitat for 31 Vulnerable and four endangered species listed under the BC Act. Twelve of these species are also listed under the EPBC Act. The following species listed as vulnerable under the BC Act were recorded within the Offset Area since 2021: grey-crowned babbler (eastern subspecies) *(Pomatostomus temporalis temporalis),* magpie goose *(Anseranas semipalmata),* little lorikeet *(Glossopsitta pusilla),* speckled warbler *(Chthonicola sagittata),* white-throated needletail *(Hirundapus caudacutus)* and brown treecreeper (eastern subspecies) *(Climacteris picumnus victoriae).* These latter two are also listed as vulnerable under the EPBC Act. Gang-gang cockatoo *(Callocephalon fimbriatum),* which is listed as endangered under the BC Act and the EPBC Act has also been previously identified within the Offset Area. An additional threatened species observed in the Offset Area in 2025 was the south-eastern hooded robin (*Melanodryas cucullata cucullata*), listed as endangered under the BC Act and EPBC Act.

- Approximately 579.49 ha of CEEC as well as fauna habitat which has good connectivity to surrounding remnant woodland areas and contributes to flora and fauna species conservation outcomes in the Hunter-Central Rivers Catchment Management Authority.
- The Offset Area adjoins Bobadeen Grinding Groove Offset Area; therefore, it is likely that the Offset Area contains cultural heritage values.

These conservation values remain intact, with no damage or disturbance to these conservation values recorded throughout the Offset Area.

4.3. Effectiveness of management actions

4.3.1. Pest animal management

While pest species continue to be recorded within the Offset 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 Offset Area.

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

4.3.2. Weed management

Toolijooa Environmental Restoration reported that targeted management of *Alianthus altissma* and *Solanum sisymbrifolium* have yielded successful results in 2025, with no *Solanum sisymbriifolium* individuals being recorded within the Offset Area over the last 12 months (Toolijoa Environmental Restoration 2025a). Toolijoa Environmental Restoration are continuing *Alianthis altissma* are currently underway (late October to November 2025) to achieve complete eradication, as this species can sucker and reshoot from its extensive root system.

The infestation assessment undertaken by Toolijooa Environmental Restoration for *Senecio madagascariensis* found significant occurrences of this species in the north of Offset Area and into adjoining lease land not managed by UCMPL (Toolijooa Environmental Restoration 2025i). Despite having previously implemented weed control works with the Offset Area, including boom spraying in 2024 and high-volume spot spraying in 2025, seedlings remain abundant and further weed management is required. However, overall coverage appears to be reducing in the Offset Area (Toolijooa Environmental Restoration 2025a).

All major infestations of *Chrysanthemoides monilifera* were treated in 2025 by Toolijoa Environmental Restoration (2025i), which is expected to significantly decrease seed production.

Widespread treatment targeting *Hypericum perforatum* across the last 12 months has conveyed positive indicates of improvement over key areas, with a large area of plantings and a large regeneration buffer in the Offset Area performing particularly well since treatment (Toolijoa Environmental Restoration 2025i).

Targeted treatment of *Dolichandra unguis-cati* (Cats-claw creeper), *Heliotropium amplexicaule* (blue heliotrope), *Opuntia stricta* (common prickly pear) and *Pittosporum undulatum* was successful in part, however, follow up treatment is required for each species due to various reasons, such as seedlings re-emerging, tubers remaining, high potential for regrowth and to ensure full control (Toolijoa Environmental Restoration 2025i).

Whilst *Pittosporum undulatum* was treated as a weed by Toolijoa Environmental Restoration (2025i), the Offset Area is located to the west of the known natural distribution for this species and this species grows in sheltered situations in dry sclerophyll forest or woodland, consistent with the occurrence of this species within the Offset Area (National Herbarium of NSW 2025). It is unclear whether the occurrence of *Pittosporum undulatum* is a non-natural occurrence of this species, or a potential range extension of the natural extent of this species.

This continuous implementation of ongoing weed management is successfully contributing to the persistence of biodiversity values within the Offset Area.

5. Recommendations

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

Targeted management of *Chrysanthemoides monilifera, Senecio madagascariensis, Opuntia stricta* and *Hypericum perforatum* throughout the Offset Area yielded successful results in 2025, however ongoing targeted management is required to effectively eradicate each species (Toolijooa Environmental Restoration 2025a).

Any future weed surveys undertaken within the Offset Area are required to be undertaken in accordance with the legislative requirements of the NSW *Biosecurity Act 2015*, and the requirements outlined in the UCMPL Biodiversity Management Plan (UCMPL 2024), and associated UCMPL Weed Management Plan (ELA 2020b). Weed control measures in accordance with site specific control procedures should continue to be implemented to assist in the control and prevent the spread of CTRSWMP (LLS 2022) listed weeds identified in Table 3.

Ongoing pest animal control measures undertaken in accordance with site specific control procedures should continue to be implemented to target pest animal species that may degrade the Offset Area if left undamaged. Focus should be placed on targeting feral pig populations, as diggings can impact native ground cover and species.

6. References

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Ulan Coal Mines Proprietary Limited (UCMPL) 2019. *Bobadeen Vegetation Offset Conservation Agreement.*

Ulan Coal Mines Proprietary Limited (UCMPL) 2024. *Biodiversity Management Plan* version 7.

Appendix A Flora species list

Scientific name	Native/ exotic	BOB10B	BOB12	BOB22	BOB4B	BOBC1	BOBC3	BOBE3	BOBE6	UCML_CA_Site10	UCML_CA_Site11	UCML_CA_Site13	UCML_CA_Site53	UCML_CA_Site6	UCML_CA_Site7	UCML_CA_Site9
Acacia brownii	Native									✓						
Acacia buxifolia	Native						✓			✓	✓					✓
Acacia doratoxylon	Native	✓														
Acacia gladiiformis	Native									✓	✓					
Acacia implexa	Native					✓										
Acacia linearifolia	Native	✓				✓	✓	✓					✓			✓
Acacia paradoxa	Native															✓
Acacia sp.	Native				✓								✓	✓		
Acacia caesiella	Native														✓	
Acaena ovina	Native				✓	✓										
Acianthus fornicatus	Native											✓				
Acianthus sp.	Native						✓									
Acrotriche rigida	Native					✓	✓					✓	✓		✓	
Actinotus helianthi	Native										✓					
Ajuga australis	Native						✓					✓				
Allocasuarina gymnanthera	Native									✓	✓		✓			
Alternanthera pungens	Exotic	✓														
Amyema miquelii	Native	✓			✓											
Amyema quandang	Native												✓			
Amyema sp.	Native					✓										
Angophora floribunda	Native	✓		✓			✓	✓				✓		✓	✓	

Scientific name	Native/ exotic	BOB10B	BOB12	BOB22	BOB4B	BOBC1	BOBC3	BOBE3	BOBE6	UCML_CA_Site10	UCML_CA_Site11	UCML_CA_Site13	UCML_CA_Site53	UCML_CA_Site6	UCML_CA_Site7	UCML_CA_Site9
Anthosachne scabra	Native								✓							
Aotus subglauca	Native														✓	
Arctotheca calendula	Exotic	✓														✓
Aristida ramosa	Native	✓	✓	✓	✓	✓			✓	✓	✓				✓	✓
Aristida vagans	Native	✓		✓	✓	✓	✓		✓			✓		✓	✓	✓
Aristida leichhardtiana	Native									✓						
Arundinella nepalensis	Native					✓								✓	✓	
Asperula conferta	Native				✓		✓									✓
Aster subulatus	Exotic								✓							
Astroloma humifusum	Native	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Austrostipa pubescens	Native									✓	✓					
Austrostipa scabra	Native	✓	✓		✓	✓										
Austrostipa verticillata	Native		✓													
Billardiera scandens	Native									✓						
Boronia ledifolia	Native									✓	✓					
Bossiaea rhombifolia	Native														✓	
Bothriochloa macra	Native	✓	✓	✓		✓			✓							✓
Brachychiton populneus	Native				✓											
Brachyloma daphnoides	Native										✓				✓	
Callitris endlicheri	Native					✓	✓	✓		✓		✓				
Calotis cuneifolia	Native	✓		✓		✓	✓	✓				✓	✓	✓		✓
Calotis lappulacea	Native	✓				✓	✓									✓
Calytrix tetragona	Native										✓					

Scientific name	Native/ exotic	BOB10B	BOB12	BOB22	BOB4B	BOBC1	BOBC3	BOBE3	BOBE6	UCML_CA_Site10	UCML_CA_Site11	UCML_CA_Site13	UCML_CA_Site53	UCML_CA_Site6	UCML_CA_Site7	UCML_CA_Site9
Cardamine paucijuga	Native				✓											
Carex appressa	Native					✓	✓									
Carex inversa	Native		✓	✓	✓	✓			✓							
Cassinia quinquefaria	Native	✓					✓	✓				✓				
Cassinia sifton	Native	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Centaurea melitensis	Exotic			✓												
Centaurium tenuiflorum	Exotic			✓												✓
Cheilanthes austrotenuifolia	Native							✓								
Cheilanthes sieberi	Native	✓	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓
Chloris truncata	Native					✓			✓							
Chrysanthmoides monilifera	Exotic				✓											
Chrysocephalum apiculatum	Native													✓		
Cineraria lyratiformis	Exotic	✓				✓										
Cirsium vulgare	Exotic		✓						✓							
Conyza bonariensis	Exotic	✓		✓		✓			✓							✓
Conyza sp.	Exotic			✓												
Cotula australis	Native		✓			✓	✓									
Cyclospermum leptophyllum	Exotic								✓							
Cymbonotus lawsonianus	Native	✓	✓	✓		✓	✓									✓
Cymbopogon refractus	Native															✓
Cynodon dactylon	Native								✓							✓
Cynoglossum australe	Native	✓		✓			✓									
Cyperus gracilis	Native				✓	✓	✓		✓							

Scientific name	Native/ exotic	BOB10B	BOB12	BOB22	BOB4B	BOBC1	BOBC3	BOBE3	BOBE6	UCML_CA_Site10	UCML_CA_Site11	UCML_CA_Site13	UCML_CA_Site53	UCML_CA_Site6	UCML_CA_Site7	UCML_CA_Site9
Dianella revoluta	Native					✓									✓	
Dichelachne micrantha	Native													✓		
Dichondra repens	Native	✓	✓	✓	✓	✓			✓			✓	✓	✓		✓
Digitaria diffusa	Native	✓						✓				✓		✓		✓
Digitaria parviflora	Native						✓									
Dillwynia sericea	Native									✓	✓				✓	
Dodonaea viscosa	Native									✓			✓			
Echinopogon caespitosus	Native						✓	✓						✓	✓	
Echinopogon sp.	Native											✓				
Echium plantagineum	Exotic	✓	✓			✓			✓							✓
Einadia hastata	Native			✓		✓	✓	✓				✓				
Einadia nutans	Native					✓	✓					✓				
Einadia polygonoides	Native				✓											
Entolasia stricta	Native									✓	✓					
Eragrostis cilianensis	Native	✓		✓												✓
Eragrostis curvula	Exotic	✓														
Eragrostis leptostachya	Native	✓		✓	✓	✓	✓	✓	✓			✓				✓
Erodium crinitum	Native	✓	✓													
Eucalyptus albens	Native		✓		✓											
Eucalyptus blakelyi	Native	✓				✓			✓					✓		✓
Eucalyptus crebra	Native	✓					✓	✓		✓		✓		✓	✓	
Eucalyptus dwyeri	Native									✓	✓					
Eucalyptus fibrosa	Native									✓	✓		✓			

Scientific name	Native/ exotic	BOB10B	BOB12	BOB22	BOB4B	BOBC1	BOBC3	BOBE3	BOBE6	UCML_CA_Site10	UCML_CA_Site11	UCML_CA_Site13	UCML_CA_Site53	UCML_CA_Site6	UCML_CA_Site7	UCML_CA_Site9
Eucalyptus melliodora	Native					✓			✓							✓
Eucalyptus moluccana	Native												✓			✓
Eucalyptus rossii	Native													✓	✓	
Eucalyptus sideroxylon	Native												✓			
Eucalyptus sparsifolia	Native						✓				✓	✓				
Euchiton sphaericus	Native						✓									
Euphorbia drummondii	Native	✓														
Exocarpos cupressiformis	Native						✓									
Fimbristylis dichotoma	Native								✓							
Gahnia aspera	Native	✓	✓	✓	✓	✓	✓	✓		✓			✓	✓	✓	✓
Galium sp.	Native/exotic					✓										
Gamochaeta calviceps	Exotic					✓										
Gamochaeta purpurea	Exotic	✓		✓												✓
Gamochaeta sp.	Exotic								✓							
Geranium solanderi	Native				✓	✓	✓		✓							
Glycine clandestina	Native		✓			✓	✓						✓			✓
Glycine sp.	Native						✓									
Glycine tabacina	Native		✓	✓	✓	✓			✓					✓		
Gompholobium huegelii	Native													✓		
Gonocarpus elatus	Native													✓		
Gonocarpus sp.	Native						✓									
Gonocarpus tetragynus	Native					✓					✓	✓				
Goodenia hederacea	Native					✓	✓	✓		✓	✓	✓	✓	✓	✓	

Scientific name	Native/ exotic	BOB10B	BOB12	BOB22	BOB4B	BOBC1	BOBC3	BOBE3	BOBE6	UCML_CA_Site10	UCML_CA_Site11	UCML_CA_Site13	UCML_CA_Site53	UCML_CA_Site6	UCML_CA_Site7	UCML_CA_Site9
Goodenia paniculata	Native														✓	
Grevillea ramosissima	Native									✓	✓					
Grevillea sericea	Native									✓	✓			✓	✓	
Grona varians	Native				✓		✓									
Haloragis heterophylla	Native			✓		✓			✓							✓
Hardenbergia violacea	Native						✓			✓					✓	
Harmogia densifolia	Native										✓					
Hibbertia circumdans	Native										✓					
Hibbertia crinita	Native									✓	✓					
Hibbertia obtusifolia	Native									✓					✓	
Hibbertia riparia	Native									✓						
Hydrocotyle laxiflora	Native	✓		✓	✓	✓	✓							✓		✓
Hypericum gramineum	Native													✓		
Hypericum perforatum	Exotic	✓	✓	✓	✓				✓							✓
Hypochaeris glabra	Exotic		✓	✓	✓		✓	✓								
Hypochaeris radicata	Exotic	✓	✓	✓	✓	✓			✓					✓		✓
Indigofera australis	Native						✓					✓				
Juncus filicaulis	Native	✓			✓	✓										✓
Juncus holmolocaulis	Native								✓							
Juncus sp.	Native/exotic	✓		✓					✓							
Juncus sp. native	Native								✓							
Juncus subglaucus	Native							✓								
Lagenophora stipitata	Native				✓											

Scientific name	Native/ exotic	BOB10B	BOB12	BOB22	BOB4B	BOBC1	BOBC3	BOBE3	BOBE6	UCML_CA_Site10	UCML_CA_Site11	UCML_CA_Site13	UCML_CA_Site53	UCML_CA_Site6	UCML_CA_Site7	UCML_CA_Site9
Laxmannia gracilis	Native					✓	✓									✓
Lepidium bonariense	Exotic								✓							
Leptospermum parvifolium	Native										✓					
Leucopogon attenuatus	Native									✓	✓					
Leucopogon muticus	Native									✓	✓			✓	✓	
Lissanthe strigosa	Native				✓					✓						
Lomandra briggsiana	Native				✓											
Lomandra confertifolia	Native						✓							✓		
Lomandra filiformis	Native	✓			✓			✓		✓	✓		✓			
Lomandra glauca	Native									✓	✓		✓	✓	✓	
Lomandra longifolia	Native															✓
Lomandra multiflora	Native						✓	✓		✓	✓	✓		✓	✓	
Lysimachia arvensis	Exotic								✓							
Macrozamia secunda	Native							✓		✓						
Medicago sp.	Exotic		✓													
Melichrus erubescens	Native									✓	✓					
Melichrus urceolatus	Native					✓	✓				✓	✓			✓	
Mentha diemenica	Native		✓													
Mentha satureioides	Native		✓						✓							
Microlaena stipoides	Native	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Modiola caroliniana	Exotic	✓	✓	✓					✓							
Monotoca scoparia	Native										✓					
Olearia elliptica	Native						✓				✓					

Scientific name	Native/ exotic	BOB10B	BOB12	BOB22	BOB4B	BOBC1	BOBC3	BOBE3	BOBE6	UCML_CA_Site10	UCML_CA_Site11	UCML_CA_Site13	UCML_CA_Site53	UCML_CA_Site6	UCML_CA_Site7	UCML_CA_Site9
Oncinocalyx betchei	Native				✓											
Opercularia diphylla	Native													✓		
Opercularia hispida	Native						✓					✓				
Oxalis perennans	Native	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓			✓
Panicum effusum	Native	✓							✓							✓
Paronychia brasiliana	Exotic					✓										
Paspalum dilatatum	Exotic								✓							✓
Patersonia sericea	Native										✓				✓	
Persoonia linearis	Native						✓			✓	✓	✓	✓	✓	✓	
Phyllanthus hirtellus	Native						✓	✓			✓	✓	✓			
Plantago lanceolata	Exotic								✓							✓
Platysace ericoides	Native						✓			✓	✓	✓		✓	✓	
Poa sieberiana	Native					✓										
Podolepis sp.	Native											✓				
Podolobium ilicifolium	Native						✓			✓	✓					
Pomax umbellata	Native						✓	✓		✓	✓	✓		✓	✓	
Poranthera microphylla	Native							✓				✓		✓		
Prostanthera howelliae	Native									✓	✓					
Pseudanthus divaricatissimus	Native									✓	✓					
Pterostylis nutans	Native						✓					✓				
Pterostylis sp.	Native							✓		✓	✓					
Richardia stellaris	Exotic	✓		✓					✓							✓
Rumex acetosella	Exotic															✓

Scientific name	Native/ exotic	BOB10B	BOB12	BOB22	BOB4B	BOBC1	BOBC3	BOBE3	BOBE6	UCML_CA_Site10	UCML_CA_Site11	UCML_CA_Site13	UCML_CA_Site53	UCML_CA_Site6	UCML_CA_Site7	UCML_CA_Site9
Rumex brownii	Native		✓		✓	✓	✓		✓							
Rytidosperma caespitosum	Native				✓		✓		✓							✓
Rytidosperma racemosum	Native						✓									
Rytidosperma sp.	Native	✓														
Salvia verbenaca	Exotic		✓													
Sannantha cunninghamii	Native							✓			✓		✓	✓	✓	
Schkuhria pinnata	Exotic	✓		✓					✓							
Schoenus ericetorum	Native					✓										
Senecio quadridentatus	Native					✓			✓							✓
Senecio sp.	Native/exotic			✓	✓		✓		✓			✓				
Setaria parviflora	Exotic															✓
Sida corrugata	Native		✓													✓
Silene sp.	Exotic								✓							
Silybum marianum	Exotic		✓													
Sisymbrium sp.	Exotic		✓													
Sisyrinchium rosulatum	Exotic								✓							
Solanum nigrum	Exotic			✓				✓								
Solenogyne bellioides	Native				✓		✓					✓			✓	
Solenogyne dominii	Native			✓												
Sonchus asper	Exotic		✓													
Sonchus oleraceus	Exotic		✓													
Sporobolus creber	Native	✓	✓	✓					✓							✓
Stackhousia monogyna	Native			✓												

Scientific name	Native/ exotic	BOB10B	BOB12	BOB22	BOB4B	BOBC1	BOBC3	BOBE3	BOBE6	UCML_CA_Site10	UCML_CA_Site11	UCML_CA_Site13	UCML_CA_Site53	UCML_CA_Site6	UCML_CA_Site7	UCML_CA_Site9
Stackhousia viminea	Native	✓											✓			✓
Stellaria media	Exotic						✓									
Stypandra glauca	Native										✓					
Styphelia triflora	Native	✓						✓		✓		✓	✓	✓	✓	
Swainsona galegifolia	Native				✓											
Thysanotus patersonii	Native						✓						✓			
Trifolium glomeratum	Exotic	✓														
Trifolium sp.	Exotic											✓				
Trifolium subterraneum	Exotic	✓							✓							
Verbena bonariensis	Exotic								✓							
Veronica plebeia	Native				✓		✓					✓	✓			✓
Vittadinia cuneata	Native	✓														
Wahlenbergia communis	Native						✓					✓				
Wahlenbergia gracilis	Native				✓								✓			
Wahlenbergia sp.	Native				✓									✓	✓	✓
Wahlenbergia stricta	Native	✓							✓							
Xanthorrhoea johnsonii	Native									✓						
Xerochrysum viscosum	Native	✓														

Appendix B Monitoring Data Sheets

Table 13: BOB10B monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	BOB10B		Date	21/05/2025
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				74.5 %
Overstorey:				0 %
Midstorey:				20.5 %
Groundcover(grass):				44 %
Groundcover (shrub):				4 %
Groundcover (other):				6 %
Native species richness:				38
Proportion of canopy species regenerating				75 %
Exotic cover				6 %
Number of trees with hollows				0
Total length of fallen logs				1m
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 (*Hypericum perforatum*) listed as a priority weed in the CTRSWMP (approx. 0.2% pfc, 50 abundance) Low densities of exotic annual weed species including: • *Alternanthera pungens* (approx.0.1% pfc, 1 abundance) • *Arctotheca calendula* (approx.0.1% pfc, 50 abundance) • *Cineraria lyratiformis* (approx.2% pfc, 100 abundance) • *Conyza bonariensis* (approx.0.1% pfc, 1 abundance) • *Echium plantagineum* (approx.0.1% pfc, 5 abundance) • *Eragrostis curvula* (approx.0.1% pfc, 50 abundance) • *Gamochaeta purpurea* (approx.0.1% pfc, 20 abundance) • *Hypochaeris radicata* (approx.0.1% pfc, 20 abundance) • *Modiola caroliniana* (approx.0.1% pfc, 20 abundance) • *Richardia stellaris* (approx.0.1% pfc, 10 abundance) • *Schkuhria pinnata* (approx.0.1% pfc, 20 abundance) • *Trifolium glomeratum* (approx.0.1% pfc, 50 abundance) • *Trifolium subterraneum* (approx.0.1% pfc, 50 abundance)	
Pest animals			Nil	
Visitor impact/vehicles			Nil	

Monitoring Data Sheet	
Rubbish dumping	Nil

Figure 17: BOB10B North 2025

Figure 18: BOB10B East 2025

Figure 19: BOB10B South 2025

Figure 20: BOB10B West 2025

Table 14: BOB12 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	BOB12		Date	20/05/2025
Vegetation Community	1310 - White Box - Yellow Box grassy woodland on basalt slopes in the upper Hunter Valley, BBS Bioregion			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				44.8 %
Overstorey:				0 %
Midstorey:				6.8 %
Groundcover(grass):				36 %
Groundcover (shrub):				0 %
Groundcover (other):				2 %
Native species richness:				20
Proportion of canopy species regenerating				100 %
Exotic cover				14 %
Number of trees with hollows				0
Total length of fallen logs				0m
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 (*Hypericum perforatum*) listed as a priority weed listed in the CTRSWMP (approx. 1% pfc, 100 abundance) Moderate density of *Echium plantagineum* (approx. 15% pfc, 1000 abundance) Low densities of exotic annual weed species including: *Cirsium vulgare* (approx.0.1% pfc, 20 abundance) *Hypochaeris glabra* (approx.0.5% pfc, 50 abundance) *Hypochaeris radicata* (approx.1% pfc, 100 abundance) *Medicago* sp. (approx.0.1% pfc, 100 abundance) *Modiola caroliniana* (approx.0.1% pfc, 20 abundance) *Salvia verbenaca* (approx.0.1% pfc, 5 abundance) *Silybum marianum* (approx.0.2% pfc, 20 abundance) *Sisymbrium* sp. (approx.0.1% pfc, 10 abundance) *Sonchus asper* (approx.1% pfc, 100 abundance) *Sonchus oleraceus* (approx.0.5% pfc, 50 abundance)	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 21: BOB12 North

Figure 22: BOB12 East

Figure 23: BOB12 South

Figure 24: BOB12 West

Table 15: BOB22 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	BOB22		Date	19/05/2025
Vegetation Community	479 - Narrow-leaved Ironbark - Black Cypress Pine - stringybark shrubby open forest			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				70.5 %
Overstorey:				0 %
Midstorey:				6.5 %
Groundcover(grass):				50 %
Groundcover (shrub):				8 %
Groundcover (other):				6 %
Native species richness:				24
Proportion of canopy species regenerating				100 %
Exotic cover				12 %
Number of trees with hollows				0
Total length of fallen logs				0m
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 (*Hypericum perforatum*) listed as a priority weed listed in the CTRSWMP (approx. 0.1% pfc, 5 abundance) Low densities of exotic annual weed species including: *Centaurea melitensis* (approx.0.1% pfc, 5 abundance) *Centaurium tenuiflorum* (approx.0.1% pfc, 5 abundance) *Conyza bonariensis* (approx.0.1% pfc, 50 abundance) *Gamochaeta purpurea* (approx.0.2% pfc, 50 abundance) *Hypochaeris glabra* (approx.0.1% pfc, 10 abundance) *Hypochaeris radicata* (approx.0.1% pfc, 10 abundance) *Modiola caroliniana* (approx.0.1% pfc, 20 abundance) *Richardia stellaris* (approx.0.1% pfc, 20 abundance) *Schkuhria pinnata* (approx.0.1% pfc, 5 abundance) *Solanum nigrum* (approx.0.1% pfc, 5 abundance)	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 25: BOB22 North

Figure 26: BOB22 East

Figure 27: BOB22 South

Figure 28: BOB22 West

Table 16: BOB4B monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	BOB4B		Date	15/05/2025
Vegetation Community	1310 - White Box - Yellow Box grassy woodland on basalt slopes in the upper Hunter Valley, BBS Bioregion			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				45 %
Overstorey:				13.7 %
Midstorey:				11.3 %
Groundcover(grass):				6 %
Groundcover (shrub):				12 %
Groundcover (other):				2 %
Native species richness:				38
Proportion of canopy species regenerating				100 %
Exotic cover				0 %
Number of trees with hollows				1
Total length of fallen logs				5m
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Nil	
Threatened species sightings			Nil	
Fire event/fuel			Nil	
Weeds			Two species (*Chrysanthmoides monilifera; Hypericum perforatum*) listed as a priority weed listed in the CTRSWMP (approx. 0.1% pfc, 2 abundance; 0.1% pfc, 20 abundance) Low densities of exotic annual weed species including: *Hypochaeris glabra* (approx.0.1% pfc, 1 abundance) *Hypochaeris radicata* (approx.0.1% pfc, 1 abundance)	
Pest animals			Pig scat present	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 29: BOB4B North

Figure 30: BOB4B East

Figure 31: BOB4B South

Figure 32: BOB4B West

Table 17: BOBC1 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	BOBC1		Date	28/05/2025
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				65.5 %
Overstorey:				22 %
Midstorey:				5.5 %
Groundcover(grass):				14 %
Groundcover (shrub):				2 %
Groundcover (other):				22 %
Native species richness:				46
Proportion of canopy species regenerating				100 %
Exotic cover				2 %
Number of trees with hollows				3
Total length of fallen logs				18m
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Nil	
Threatened species sightings			Nil	
Fire event/fuel			Nil	
Weeds			Low densities of exotic annual weed species including: *Cineraria lyratiformis* (approx.0.1% pfc, 1 abundance) *Conyza bonariensis* (approx.0.1% pfc, 1 abundance) *Echium plantagineum* (approx.0.1% pfc, 1 abundance) *Gamochaeta calviceps* (approx.0.1% pfc, 5 abundance) *Hypochaeris radicata* (approx.0.1% pfc, 10 abundance) *Paronychia brasiliana* (approx.0.1% pfc, 5 abundance)	
Pest animals			Pig diggings present	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 33: BOBC1 North

Figure 34: BOBC1 East

Figure 35: BOBC1 South

Figure 36: BOBC1 West

Table 18: BOBC3 monitoring data sheet 2024

Monitoring Data Sheet				
Monitoring Point Number	BOBC3		Date	28/05/2025
Vegetation Community	478 - Red Ironbark - Black Cypress Pine - stringybark shrubby open forest			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				79.3 %
Overstorey:				19.3 %
Midstorey:				10 %
Groundcover(grass):				36 %
Groundcover (shrub):				2 %
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				5m
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Nil	
Threatened species sightings			Nil	
Fire event/fuel			Nil	
Weeds			Low densities of exotic annual weed species including: *Hypochaeris glabra* (approx.0.1% pfc, 1 abundance) *Stellaria media* (approx.0.2% pfc, 50 abundance)	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 37: BOBC3 North

Figure 38: BOBC3 East

Figure 39: BOBC3 South

Figure 40: BOBC3 West

Table 19: BOBE3 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	BOBE3		Date	26/05/2025
Vegetation Community	479 - Narrow-leaved Ironbark - Black Cypress Pine - stringybark shrubby open forest			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				73.5 %
Overstorey:				39 %
Midstorey:				16.5 %
Groundcover(grass):				12 %
Groundcover (shrub):				6 %
Groundcover (other):				0 %
Native species richness:				28
Proportion of canopy species regenerating				50 %
Exotic cover				2 %
Number of trees with hollows				5
Total length of fallen logs				66m
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Nil	
Threatened species sightings			Nil	
Fire event/fuel			Nil	
Weeds			Low densities of exotic annual weed species including: *Hypochaeris glabra* (approx.0.1% pfc, 10 abundance) *Solanum nigrum* (approx.0.1% pfc, 1 abundance)	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 41: BOBE3 North

Figure 42: BOBE3 East

Figure 43: BOBE3 South

Figure 44: BOBE3 West

Table 20: BOBE6 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	BOBE6		Date	14/05/2025
Vegetation Community	281 - Rough-barked Apple - Red Gum - Yellow Box woodland on alluvial clay to loam soils on valley flats in the northern SNW South Western Bioregion and BBS Bioregion			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				38 %
Overstorey:				0 %
Midstorey:				4 %
Groundcover(grass):				34 %
Groundcover (shrub):				0 %
Groundcover (other):				0 %
Native species richness:				28
Proportion of canopy species regenerating				50 %
Exotic cover				4 %
Number of trees with hollows				0
Total length of fallen logs				2m
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 (*Hypericum perforatum*) listed as a priority weed listed in the CTRSWMP (approx. 0.1% pfc, 5 abundance) Low densities of exotic annual weed species including: • *Aster subulatus* (approx.0.1% pfc, 10 abundance) • *Cirsium vulgare* (approx.0.1% pfc, 10 abundance) • *Conyza bonariensis* (approx.0.1% pfc, 10 abundance) • *Cyclospermum leptophyllum* (approx.0.1% pfc, 5 abundance) • *Echium plantagineum* (approx.0.1% pfc, 10 abundance) • *Gamochaeta sp.* (approx.0.1% pfc, 10 abundance) • *Hypochaeris radicata* (approx.0.1% pfc, 10 abundance) • *Lepidium bonariense* (approx.0.1% pfc, 1 abundance) • *Lysimachia arvensis* (approx.0.1% pfc, 5 abundance) • *Modiola caroliniana* (approx.0.1% pfc, 1 abundance) • *Paspalum dilatatum* (approx.0.1% pfc, 10 abundance) • *Plantago lanceolata* (approx.0.3% pfc, 100 abundance) • *Richardia stellaris* (approx.0.1% pfc, 10 abundance) • *Schkuhria pinnata* (approx.0.1% pfc, 10 abundance) • *Senecio madagascariensis* (approx.0.1% pfc, 10 abundance) • *Silene sp.* (approx.0.1% pfc, 10 abundance)	

Monitoring Data Sheet	
	• *Sisyrinchium rosulatum* (approx.0.1% pfc, 1 abundance) • *Trifolium subterraneum* (approx.0.1% pfc, 3 abundance) • *Verbena bonariensis* (approx.0.1% pfc, 50 abundance)
Pest animals	Nil
Visitor impact/vehicles	Nil
Rubbish dumping	Nil

Figure 45: BOBE6 North

Figure 46: BOBE6 East

Figure 47: BOBE6 South

Figure 48: BOBE6 West

Table 21: UCML_CA_Site10 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	UCML_CA_Site10		Date	22/05/2025
Vegetation Community	1709 - Broom Bush - *Allocasuarina gymnanthera* heathy woodland on sandstone outcrops of the Sydney Basin			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				54.3 %
Overstorey:				1 %
Midstorey:				29.3 %
Groundcover(grass):				4 %
Groundcover (shrub):				20 %
Groundcover (other):				0 %
Native species richness:				44
Proportion of canopy species regenerating				75 %
Exotic cover				0 %
Number of trees with hollows				0
Total length of fallen logs				14m
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Nil	
Threatened species sightings			Nil	
Fire event/fuel			Nil	
Weeds			Nil	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 49: UCML_CA_Site10 North

Figure 50: UCML_CA_Site10 East

Figure 51: UCML_CA_Site10 South

Figure 52: UCML_CA_Site10 West

Table 22: UCML_CA_Site11 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	UCML_CA_Site11		Date	22/05/2025
Vegetation Community	1709 - Broom Bush - *Allocasuarina gymnanthera* heathy woodland on sandstone outcrops of the Sydney Basin			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				44.7 %
Overstorey:				20 %
Midstorey:				8.7 %
Groundcover(grass):				10 %
Groundcover (shrub):				4 %
Groundcover (other):				2 %
Native species richness:				43
Proportion of canopy species regenerating				75 %
Exotic cover				0 %
Number of trees with hollows				0
Total length of fallen logs				6m
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Nil	
Threatened species sightings			Nil	
Fire event/fuel			Nil	
Weeds			Nil	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 53: UCML_CA_Site11 North

Figure 54: UCML_CA_Site11 East

Figure 55: UCML_CA_Site11 South

Figure 56: UCML_CA_Site11 West

Table 23: UCML_CA_Site13 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	UCML_CA_Site13		Date	28/5/2025
Vegetation Community	478 - Red Ironbark - Black Cypress Pine - stringybark shrubby open forest			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				71 %
Overstorey:				28.5 %
Midstorey:				22.5 %
Groundcover(grass):				8 %
Groundcover (shrub):				6 %
Groundcover (other):				6 %
Native species richness:				38
Proportion of canopy species regenerating				75 %
Exotic cover				0 %
Number of trees with hollows				2
Total length of fallen logs				150m
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Nil	
Threatened species sightings			Nil	
Fire event/fuel			Nil	
Weeds			Low densities of exotic annual weed species including: *Trifolium sp.* (approx.0.1% pfc, 5 abundance)	
Pest animals			Pig scat present	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 57: UCML_CA_Site13 North

Figure 58: UCML_CA_Site13 East

Figure 59: UCML_CA_Site13 South

Figure 60: UCML_CA_Site13 West

Table 24: UCML_CA_Site53 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	UCML_CA_Site53		Date	19/05/2025
Vegetation Community	403 - Dapper Mugga Ironbark - Western Grey Box - Blakely's Red Gum - Black Cypress Pine grass shrub hill woodland (southern BBS Bioregion)			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				55.7 %
Overstorey:				20.5 %
Midstorey:				13.2 %
Groundcover(grass):				6 %
Groundcover (shrub):				4 %
Groundcover (other):				12 %
Native species richness:				29
Proportion of canopy species regenerating				60 %
Exotic cover				0 %
Number of trees with hollows				0
Total length of fallen logs				48m
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Nil	
Threatened species sightings			Nil	
Fire event/fuel			Nil	
Weeds			Nil	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 61: UCML_CA_Site53 North

Figure 62: UCML_CA_Site53 East

Figure 63: UCML_CA_Site53 South

Figure 64: UCML_CA_Site53 West

Table 25: UCML_CA_Site6 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	UCML_CA_Site6		Date	29/05/2025
Vegetation Community	1675 - Scribbly Gum - Narrow-leaved Ironbark - *Bossiaea rhombifolia* heathy open forest			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				64.2 %
Overstorey:				16.2 %
Midstorey:				26 %
Groundcover(grass):				16 %
Groundcover (shrub):				0 %
Groundcover (other):				6 %
Native species richness:				37
Proportion of canopy species regenerating				100 %
Exotic cover				0 %
Number of trees with hollows				4
Total length of fallen logs				42m
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Nil	
Threatened species sightings			Nil	
Fire event/fuel			Nil	
Weeds			Low densities of exotic annual weed species including: *Hypochaeris radicata* (approx.0.1% pfc, 5 abundance)	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 65: UCML_CA_Site6 North

Figure 66: UCML_CA_Site6 East

Figure 67: UCML_CA_Site6 South

Figure 68: UCML_CA_Site6 West

Table 26: UCML_CA_Site7 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	UCML_CA_Site7		Date	21/05/2025
Vegetation Community	1675 - Scribbly Gum - Narrow-leaved Ironbark - *Bossiaea rhombifolia* heathy open forest			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				81.9 %
Overstorey:				21.5 %
Midstorey:				18.4 %
Groundcover(grass):				18 %
Groundcover (shrub):				12 %
Groundcover (other):				12 %
Native species richness:				36
Proportion of canopy species regenerating				60 %
Exotic cover				0 %
Number of trees with hollows				0
Total length of fallen logs				0m
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Nil	
Threatened species sightings			Nil	
Fire event/fuel			Nil	
Weeds			Nil	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 69: UCML_CA_Site7 North

Figure 70: UCML_CA_Site7 East

Figure 71: UCML_CA_Site7 South

Figure 72: UCML_CA_Site7 West

Table 27: UCML_CA_Site9 monitoring data sheet 2025

Monitoring Data Sheet				
Monitoring Point Number	UCML_CA_Site9		Date	22/05/2025
Vegetation Community	403 - Dapper Mugga Ironbark - Western Grey Box - Blakely's Red Gum - Black Cypress Pine grass shrub hill woodland (southern BBS Bioregion)			
1. Site Photo(s)Taken				
2. Floristic BioMetric attributes				
Native cover				44.5 %
Overstorey:				0 %
Midstorey:				6.5 %
Groundcover(grass):				36 %
Groundcover (shrub):				0 %
Groundcover (other):				2 %
Native species richness:				39
Proportion of canopy species regenerating				67 %
Exotic cover				2 %
Number of trees with hollows				0
Total length of fallen logs				4m
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 (Hypericum perforatum) listed as a priority weed listed in the CTRSWMP (approx. 0.1% pfc, 5 abundance) Low densities of exotic annual weed species including: *Arctotheca calendula* (approx.0.1% pfc, 20 abundance) *Centaurium tenuiflorum* (approx.0.1% pfc, 10 abundance) *Conyza bonariensis* (approx.0.1% pfc, 50 abundance) *Echium plantagineum* (approx.0.1% pfc, 50 abundance) *Gamochaeta purpurea* (approx.1% pfc, 200 abundance) *Hypochaeris radicata* (approx.0.2% pfc, 100 abundance) *Paspalum dilatatum* (approx.0.1% pfc, 5 abundance) *Plantago lanceolata* (approx.0.1% pfc, 5 abundance) *Richardia stellaris* (approx.0.1% pfc, 5 abundance) *Rumex acetosella* (approx.0.1% pfc, 5 abundance) *Setaria parviflora* (approx.0.1% pfc, 10 abundance)	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	

Figure 73: UCML_CA_Site9 North

Figure 74: UCML_CA_Site9 East

Figure 75: UCML_CA_Site9 South

Figure 76: UCML_CA_Site9 West