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# Tharbogang Quarry and Landfill Offset Monitoring Report 2023



Lot 181 and 182 / DP756035, Hillside Drive, Tharbogang, NSW

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Annual Monitoring Report 2023

Prepared for: Griffith City Council

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## Glossary and abbreviations

Acronym	Description
DNG	Derived native grassland
GCC	Griffith City Council
LLS	Local Land Services
MZ	Management Zone
OEH	Office of Environment and Heritage

# 1 Introduction

Ecoplanning was commissioned to prepare the Tharbogang Quarry and Landfill Offset Annual Monitoring Report 2023 to comply with the Conservation Agreement between the Minister Administering the *National Parks and Wildlife Act 1974* and Griffith City Council (GCC) for Tharbogang Quarry and Landfill (2015). This report complies with Annexure D of the Conservation Agreement, to satisfy a commitment made to secure a biodiversity offset relating to the expansion of the existing landfill and quarry. The subject site is located at Lots 181 and 182 in Deposited Plan 756035 (known as Tharbogang Quarry and Landfill), approximately 10 km northwest of Griffith.

Monitoring of the Conservation Area is undertaken annually, with this report documenting year 8 of annual monitoring.

The Conservation Agreement requires that the annual monitoring report is to include:

- A description of all completed management actions undertaken in the previous 12-month period.
- Copies of all receipts from third party contractors engaged by the owner to undertake management actions listed in items 1 and 2 of Annexure C to the Conservation Agreement.
- Completed monitoring data sheets (including photographs) using the template provided in Table 4 of Annexure D to the Conservation Agreement (see below), including quarterly inspection data and stock impact data collected by the owner.
- A discussion of the changes recorded at photo monitoring points and quadrats.
- A discussion of the condition of Conservation Values.
- A discussion of the effectiveness of any management actions implemented.
- Recommendations and proposed management actions to be performed in following year.

## 2 Monitoring methodology

Monitoring was consistent with Annexure D of the Conservation Agreement and previous monitoring, and included:

- Photo point sampling
- Collection of biometric data
- Fauna monitoring
- Walk through assessment.

Monitoring occurred from 18 to 21 September 2023.

Four photos (one in each cardinal direction) were taken at each of the eight monitoring photo points and at the six Biobanking monitoring points. Observations were taken on the presence of weeds, erosion, vegetation condition and management issues. Vegetation condition and management issues were compared to previous years.

Floristic data was collected at each of the six Biobanking monitoring sites in accordance with the Biobanking Assessment Methodology (DECCW 2010). This data was compared with baseline data collected in 2015, benchmark data outlined by DECCW (2010), and data collected during the previous monitoring year.

Surveys for microchiropteran bats were conducted in each management zone. These surveys occurred in the same locations as those in previous monitoring years. Ultrasonic recording devices, specifically 'Anabat Express' and 'Anabat Swift', were used. Ultrasonic calls were recorded over two nights, with recording occurring from one hour before sunset until one hour after sunrise.

Bird surveys were undertaken at the same sites as previous monitoring years (2016-2022), including at one site in derived native grassland (DNG) (MZ1), at two sites in open woodland (MZ2), at two sites in woodland (MZ3) and one in *Callitris* woodland. A 20-minute survey was conducted at each site in the morning and evening over a two-day period. Each site was two hectares in size and all birds observed or heard were recorded.

The Conservation Area was traversed to record opportunistic sightings of weed species, evidence of feral animals, natural regeneration of previously disturbed areas and sightings of threatened species.

### 3 Completed management actions

**Table 3.1: Management actions undertaken during Year 8 – 2023 monitoring period.**

Management action	Timing	Status
Monitoring Biobanking monitoring plots and photo points	Year 8	Complete – results of monitoring are provided
Recommend weed management thresholds and commence weed management actions in the Conservation Area in Year 1	Years 1 - 5	Weed management occurred during 2023.
Pest animal control (local co-ordination with LLS and OEH)	Years 1 - 10	Pest animal control actions were undertaken.
	Years 1 – 4 Initial Rabbit Control	No pest animal control actions were undertaken. No evidence of rabbits or hares was observed in the Conservation Area during quarterly inspections. Hares were observed during the 2023 annual monitoring.
	Years 1-10 Fox Control	No pest animal control actions were undertaken. No evidence of foxes was observed in the Conservation Area during quarterly inspections. A Fox and fox scats were observed during annual monitoring.
	Years 1 – 10 Feral Goat Control	No pest animal control actions were undertaken. No evidence of feral goats was observed during the quarterly inspections or annual monitoring.
	Years 1 – 10 Feral Cat Control	No pest animal control actions were undertaken. No evidence of feral cats was observed during quarterly inspections or annual monitoring.
Fire management hazard reduction burn	Years 1 – 10	No fire management actions were undertaken.
Maintain vehicle access to Conservation Area for fire management, weed and fencing management.	Year 2-10 maintain tracks and fire breaks	Tracks were inspected during the monitoring period. No action was required.

Management action	Timing	Status
Fencing, gates and signage	Year 1	The boundary of the Conservation Area has been fenced and signage erected. Western fence line completed in 2017. The northern boundary fence completed in 2018.
	Year 2-10 – maintain fences and gates	Fences and gates re-inspected during monitoring. The southern boundary fence of the Conservation Area was compromised. Action is required to fix damage.
Quarterly inspections and stock management data	Years 1 - 10	Inspections were conducted in December 2022, March, June and September 2023. Weed control works conducted September 2023. No pest control (vertebrate) was documented. No prescribed grazing occurred in year 8.
Annual Reports for Monitoring Program	Years 1 -10	Monitoring was conducted in September 2023.

## 4 Photo monitoring points and quadrats

### *Photo Point 1 (PP1) (from top left bearing N, E, S, W)*

Photo Point 1 monitors an erode channel and pasture weeds.

Erosion: Monitoring in 2023 did not observe any active erosion along the drainage line.

Vegetation – general: Vegetation appears to be in moderate condition, despite a reduction in rainfall compared to the previous monitoring year. Overall vegetation cover was lower than the previous year, with significantly lower exotic vegetation cover and higher litter and bare ground cover values. Recruitment of canopy and midstorey species was present in the area.

Vegetation – cover: Groundcover was estimated to be approximately 90% in the area surrounding the photo point in 2023, which remains high, but is slightly less than the vegetative groundcover in 2022 (95%)

Weeds: *Hordeum leporinum* (Barley Grass), *Lolium rigidum* (Annual Ryegrass), *Echium plantagineum* (Paterson's Curse), *Vulpia* sp. and *Romulea rosea* (Onion Grass) were common exotic species observed in 2023.

Threatened species sightings: Nil.

Pest animals: A feral fox was sighted adjacent to the monitoring point.



*Photo Point 2 (PP2) (from top left bearing N, E, S, W)*

Photo Point 2 monitors an eroded channel, pasture weeds and woodland health. Erosion appeared inactive along the drainage line and stabilised by vegetation cover.

Erosion: Monitoring in 2023 did not observe active erosion.

Vegetation – general: Vegetation surrounding the photo point is in good health, with *Callitris* regeneration present and substantial midstorey cover. Native grasses and shrubs are common throughout the groundlayer. Exotic vegetation has reduced since the previous monitoring year, as has overall vegetative groundcover.

Vegetation – cover: Vegetative groundcover, excluding litter and cryptograms, was estimated to be 55%, a substantial reduction since the previous monitoring year. Estimated canopy cover was the same as the previous monitoring year (10%), however, midstorey cover increased from 15% to 20% in 2023.

Weeds: *Echium plantagineum*, *Arctotheca calendula* (Capeweed), *Lactuca serriola* (Prickly Lettuce), *Vulpia* sp., *Bromus* sp. and *Lolium rigidum* were common exotic species observed in 2023. Exotic groundcover was estimated at 15% in 2023.

Threatened species sightings: Nil.

Pest animals: Nil.



*Photo Point 3 (PP3) (from top left bearing N, E, S, W)*

Photo Point 3 monitors a weed infested area, which during baseline survey included priority weeds *Lycium ferocissimum*, *Marrubium vulgare* and *Opuntia* sp. and other weeds such as *Hordeum leporinum*, *Echium plantagineum* and *Arctotheca calendula*.

Erosion: Monitoring in 2023 did not observe active erosion.

Vegetation – general: Vegetation appears to be in good condition. Vegetation biomass has fluctuated since the previous monitoring year, with a reduction in exotic groundcover and an increase in native grasses, shrubs and forbs. Bare ground has reduced since 2022, however, litter cover has substantially increased. Recruitment of canopy and midstorey species was present within the plot.

Vegetation – cover: Vegetative groundcover was estimated to be approximately 70%, a slight reduction in groundcover vegetation since 2022, largely driven by a reduction in exotic grass and forb cover. Midstorey cover has decreased since 2022, likely due to observer bias.

Weeds: Exotic groundcover was estimated at 10%. *Hordeum leporinum*, *Vulpia* sp., *Opuntia stricta*, *Lolium rigidum*, *Sisymbrium erysimoides*, *Marrubium vulgare* were common species.

Threatened species sightings: Grey-Crowned Babbler (*Pomatostomus temporalis temporalis*)

Pest animals: Nil.



#### *Photo Point 4 (PP4) (from top left bearing N, E, S, W)*

Photo Point 4 monitors priority weeds and eucalypt health. Priority weeds observed in the baseline survey included *Lycium ferocissimum*, *Marrubium vulgare* and *Opuntia* sp.

Erosion: Monitoring in 2023 did not observe active erosion.

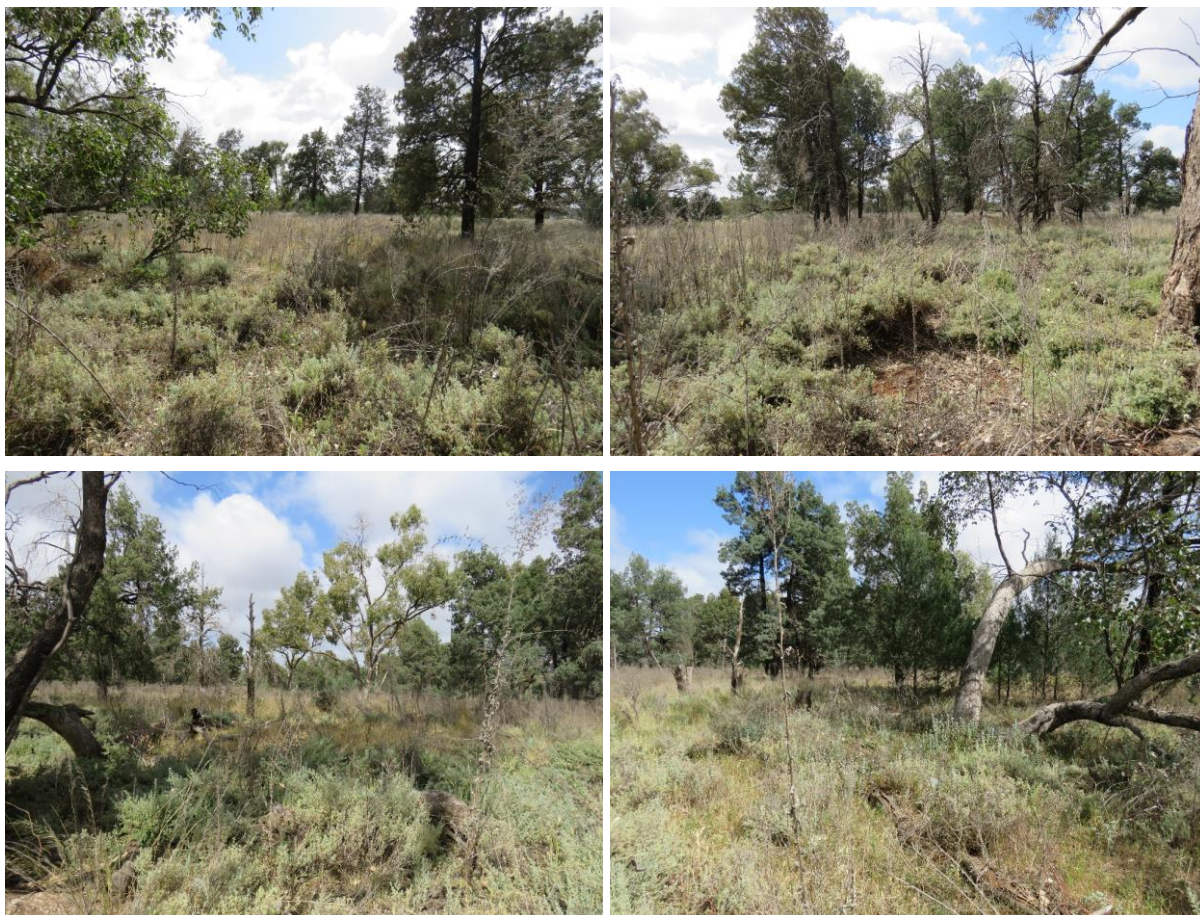
Vegetation – general: The vegetation was generally in good health, with both *Callitris glaucophylla* and *Eucalyptus populnea* regenerating through the ground layer and midstorey. The biomass of both native and exotic species is generally consistent with the previous monitoring year. A high cover of native shrubs, grasses and forbs were interspersed with a several species of exotic grasses and forbs throughout the understorey.

Vegetation – cover: Vegetative groundcover was estimated to be approximately 50% in 2023. This represents a substantial decline in native groundcover compared with the previous monitoring year. However, this metric has previously been heavily influenced by annual rainfall, which is consistent with the results recorded this year.

Weeds: *Marrubium vulgare*, *Hordeum leporinum*, *Lolium rigidum*, *Vulpia* sp. and *Lactuca serriola* were common weed species observed. Exotic groundcover was estimated at 10% in 2023.

Threatened species sightings: Monitoring observed Grey-crowned Babbler.

Pest animals: Nil.



*Photo Point 5 (PP5) (from top left bearing N, E, S, W)*

Photo Point 5 monitors priority weeds and eucalypt health.

Erosion: Monitoring in 2023 did not observe active erosion.

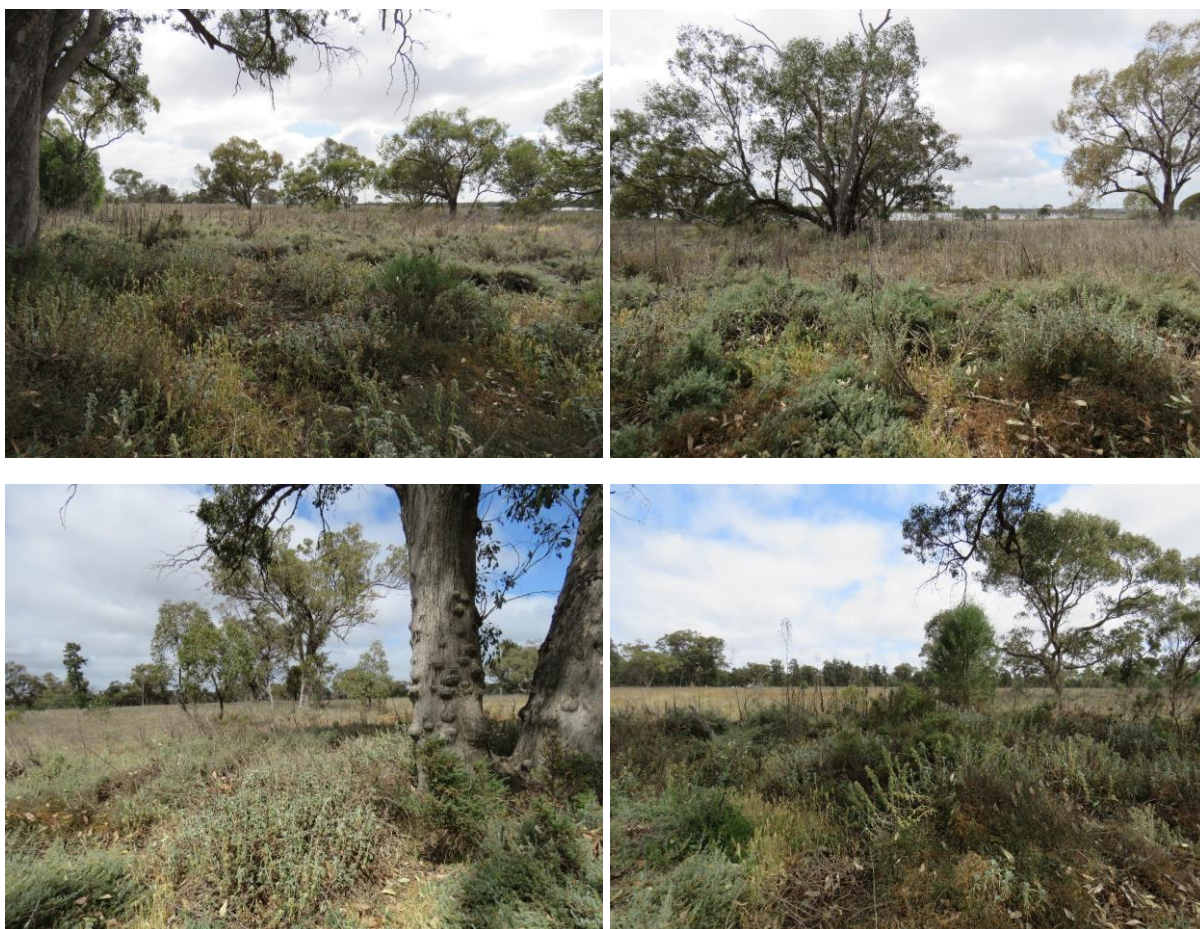
Vegetation – general: The vegetation surrounding the photo point was in good condition, with *Eucalyptus populnea*, *Callitris glaucophylla* and *Acacia oswaldii* present in the midstorey. Exotic species, including *Marrubium vulgare*, were more concentrated around the base of mature trees, with native grasses and shrubs such as *Austrostipa scabra*, *Enchylaena tomentosa* and *Einadia nutans* subsp. *nutans* dominating the ground layer.

Vegetation – cover: Vegetative groundcover has declined from approximately 70% in 2022 to approximately 40% in 2023. This decline is driven by a moderate decrease in native and exotic forb cover. Canopy and midstorey cover scores did not change from the previous monitoring year.

Weeds: *Marrubium vulgare*, *Hordeum leporinum*, *Lactuca serriola* and *Vulpia* sp. were common weed species observed. Exotic groundcover was estimated at 5% in 2023.

Threatened species sightings: Monitoring observed Grey-crowned Babbler.

Pest animals: Nil.



*Photo Point 6 (PP6) (from top left bearing N, E, S, W)*

Photo Point 6 monitors an eroded channel, eucalypt health and priority weeds. During the baseline survey high coverage of the priority weed *Opuntia* sp. was recorded. Significant effort has been made to the area to remove *Opuntia* sp. from the area.

Erosion: Monitoring in 2023 did not observe active erosion around the drainage line. Drainage line appeared to be well vegetated.

Vegetation – general: Vegetation appeared to be in moderate condition, with regeneration of *Eucalyptus populnea* and *Callitris glaucophylla* present in the groundlayer and midstorey. The canopy layer and sparse midstorey appeared in similar condition to the previous monitoring year, however, both native and exotic groundcover scores have declined since 2022.

Vegetation – cover: Overall vegetative groundcover declined from approximately 75% in 2022 to approximately 45% in 2023. This decline was driven by a decrease in the cover of native grasses, shrubs and forbs, as well as a decline in exotic vegetation cover. Midstorey cover was the same the previous monitoring year. The slight decline in canopy cover over the same period is likely due to observer bias, as canopy health appeared to be in good condition.

Weeds: *Echium plantagineum*, *Vulpia* sp. and *Bromus* sp. were common exotic species observed in 2023. Exotic groundcover was estimated at 15% in 2023.

Threatened species sightings: Nil.

Pest animals: Nil.



*Photo Point 7 (PP7) (from top left bearing N, E, S, W)*

Photo Point 7 monitors eucalyptus health and regrowth, and general woodland health. Eucalypt regrowth was present during the baseline survey, with minor dieback in the canopy. The vegetation is generally low and sparse with few weeds.

Erosion: Monitoring in 2023 did not observe active erosion.

Vegetation – general: The vegetation surrounding the photo point was in good condition, with a high cover of native grasses and forbs and a low cover of exotic species scattered throughout the ground layer. Both tree species present in the canopy, *Eucalyptus populnea* and *Callitris glaucophylla*, were naturally regenerating and were present in the midstorey.

Vegetation – cover: Overall vegetative groundcover slightly increased from the previous monitoring year, contrasting the trend observed at other monitoring sites. Exotic groundcover declined from 10% to 5% in 2023, whilst native grasses increased from 20% to 42% cover over the same period.

Weeds: *Medicago laciniata* (Cut-leaved Medic), *Arctotheca calendula*, *Echium plantagineum* and *Trifolium arvense* (Haresfoot Clover) were common exotic species observed in 2023. Exotic groundcover was estimated at 5% in 2023.

Threatened species sightings: Nil.

Pest animals: Nil.



*Photo Point 8 (PP8) (from top left bearing N, E, S, W)*

Photo Point 8 monitors priority weeds, pasture weeds, the perimeter track and eucalypt health. During baseline survey the priority weed *Lycium ferocissimum* was recorded, with a high abundance of other weeds in the area.

Erosion: Monitoring in 2023 did not observe active erosion.

Vegetation – general: Vegetation appeared to be in moderate condition, with a substantial cover of exotic annual grasses and forbs throughout the ground layer. Both tree species present in the canopy, *Eucalyptus populnea* and *Allocasuarina luehmannii*, were naturally regenerating in the ground layer.

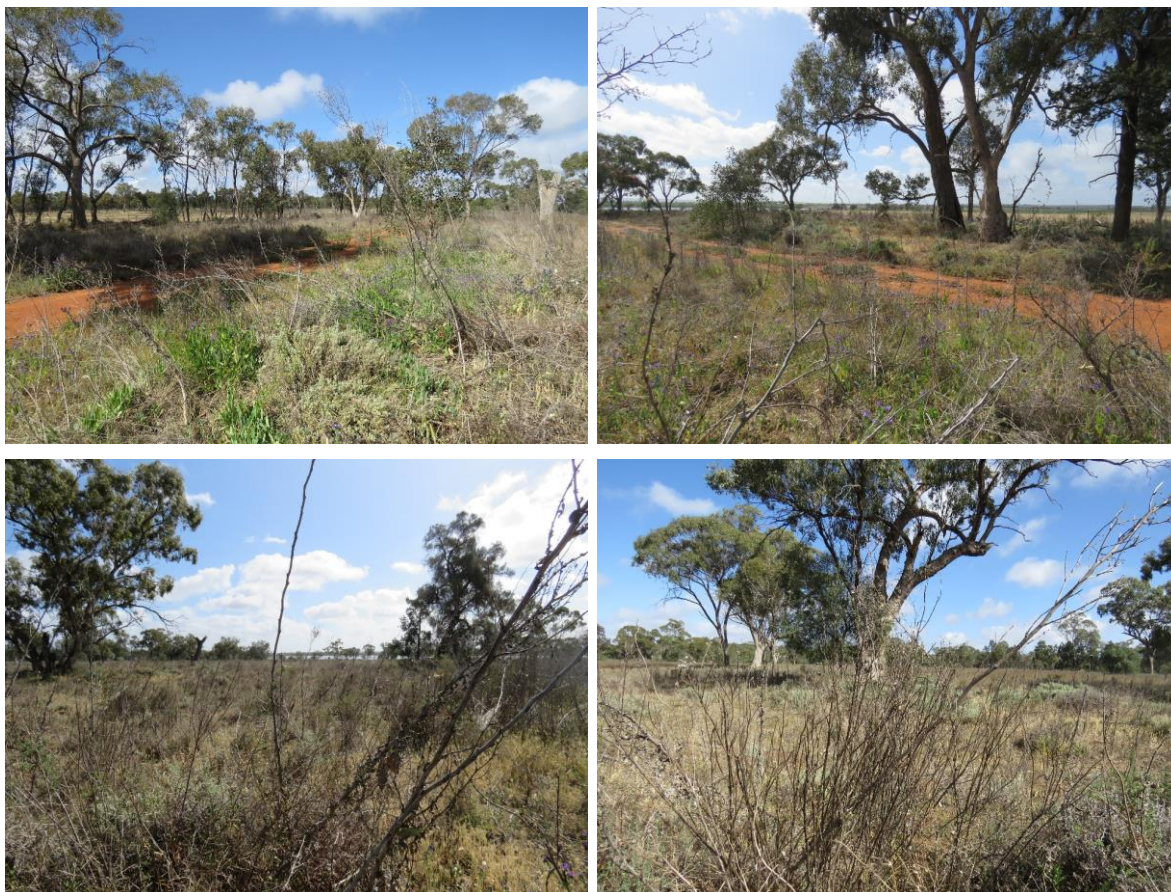
Vegetation – cover: Overall vegetative cover has slightly decreased from 80% in 2022 to 75% in 2023. Within this period, native groundcover vegetation has increased from 25% to 40% and whilst exotic groundcovers have decreased from 55% cover to 35%. Canopy and midstorey covers remain the same as the previous monitoring year.

Weeds: *Echium plantagineum*, *Hordeum leporinum*, *Marrubium vulgare* and *Lactuca serriola* were common exotic species observed in 2023.

Threatened species sightings: Nil.

Pest animals: Nil.

Fire event/fuel/fire breaks: The fire break was in good condition with no evidence of fire.



*Photo Point 9 (BOA1) (from top left bearing N, E, S, W)*

This photo point monitors a Biobanking plot located in open woodland. During baseline survey the plot was in good condition with a high abundance and diversity of native flora (esp. *Austrostipa scabra*, *Goodenia pusilliflora* and *Hyalosperma semisterile*) with a low cover of weeds (8%).

Erosion: Monitoring in 2023 did not observe active erosion.

Vegetation – general: Vegetation appeared to be in good condition with a high cover and diversity of cover of native grasses and forbs and a low diversity of exotic species. Both native and exotic biomass was reduced compared with the previous monitoring year. Both tree species present in the canopy, *Eucalyptus populnea* and *Callitris glaucophylla*, were naturally regenerating. *Callitris glaucophylla* and *Geijera parviflora* were present in the midstorey.

Vegetation – cover: Overall vegetative groundcover surrounding the photo point was the same as the previous monitoring year (60%). Total native groundcover was approximately 42% whilst exotic cover was estimated at 18%. The transect did not intersect with midstorey or canopy species, however, the overall plot contained approximately 5% midstorey cover and 5% canopy cover.

Weeds: *Vulpia* sp. and *Echium plantagineum* were the two dominate exotic species throughout the plot.

Threatened species sightings: Nil.

Pest animals: Nil.

Fire event/fuel/fire breaks: No evidence of fire damage. The fire trail adjacent to the photo point was in good condition.





*Photo Point 10 (BOA2) (from top left bearing N, E, S, W)*

This photo point monitors a Biobanking plot located in woodland. During the baseline survey the plot contained a high cover of weeds (*Bromus* sp., *Vulpia* sp., *Echium plantagineum*, and *Hypochaeris radicata*) but also a high diversity of native flora (e.g. *Austrostipa scabra* and *Rytidosperma semisterile*).

Erosion: Monitoring in 2023 did not observe active erosion.

Vegetation – general: Vegetation appeared to be in good condition with a high cover of native grasses throughout the ground layer. Both tree species present in the canopy, *Eucalyptus populnea* and *Callitris glaucophylla*, were naturally regenerating. *Callitris glaucophylla* was present in the midstorey.

Vegetation – cover: Overall groundcover has substantially declined since the previous monitoring year, decreasing from approximately 60% in 2022 to 35% in 2023. Exotic was estimated at 4% in 2023, similar to the previous year's cover score.

Weeds: *Vulpia* sp., *Asphodelus fistulosus* (Onion Weed) and *Echium plantagineum* were common exotic species observed in 2023.

Threatened species sightings: Nil.

Pest animals: Nil.



*Photo Point 11 (BOA3) (from top left bearing N, E, S, W)*

This photo point monitors a Biobanking plot located in open woodland. During the baseline survey the plot was in good condition with a high abundance and diversity of native flora (*Austrostipa scabra* and *Goodenia pusilliflora*) with a moderate cover of weeds (*Vulpia* sp. and *Arctotheca calendula*).

Erosion: Monitoring in 2023 did not observe active erosion.

Vegetation – general: Vegetation appeared to be in moderate condition with a high cover of native grasses and a moderate cover of exotic species throughout the ground layer. *Callitris glaucophylla* was the only species present in the canopy and the midstorey. *Callitris glaucophylla* was also naturally regenerating in throughout the ground layer.

Vegetation – cover: Overall groundcover has substantially decreased since the previous monitoring year, declined from approximately 88% in 2022 to 57% in 2023. Exotic was estimated at 15% in 2023, similar to the previous year's cover score.

Weeds: *Vulpia* sp. and *Echium plantagineum* were the two dominate exotic species in the plot.

Threatened species sightings: Nil.

Pest animals: Nil.

Fire event/fuel/fire breaks: No evidence of fire damage. The fire trail adjacent to the photo point was in good condition.



*Photo Point 12 (BOA4) (from top left bearing N, E, S, W)*

This photo point monitors a Biobanking plot located in a DNG which was previously a gravel extraction pit.

Erosion: Monitoring in 2023 did not observe active erosion. Previous monitoring years have observed minor stone wash surrounding the photo point, however, increased groundcover vegetation in 2022 appears to have stabilised this erosion.

Vegetation – general: Vegetation appeared to be in good condition with a moderate cover of native grasses and low cover of exotic species in the ground layer. Both tree species present in the canopy, *Eucalyptus populnea* and *Callitris glaucophylla*, were naturally regenerating. *Callitris glaucophylla* was present in the midstorey.

Vegetation – cover: Overall vegetative groundcover was generally higher the previous monitoring year. In 2023, bare ground cover was estimated at approximately 50%, native vegetation cover was estimated at approximately 33% and exotic cover was estimated at 5%.

Weeds: *Arctotheca calendula*, *Vulpia* sp., *Opuntia stricta* and *Leontodon rhagadioloides* (Cretan Weed) were common weed species throughout the plot.

Threatened species sightings: Nil.

Pest animals: Nil.



*Photo Point 13 (BOA5) (from top left bearing N, E, S, W)*

This photo point monitors a Biobanking plot located within a *Callitris glaucophylla* thicket.

Erosion: Monitoring in 2023 did not observe active erosion.

Vegetation – general: Vegetation appeared to be in good condition with a mix of native grasses, shrubs and forbs present in the ground layer. Both *Eucalyptus populnea* and *Callitris glaucophylla* were present in the canopy and were regenerating, however, only *Callitris glaucophylla* was contained within the midstorey.

Vegetation – cover: The area surrounding the photo point contained a dense midstorey layer of *Callitris glaucophylla*, with an estimated cover of 54%. The canopy was significantly less dense than the midstorey, with an estimated cover of 4%. Litter cover was elevated due to the high *Callitris* cover, with litter cover estimated at 60%. No weeds were observed along the transect, however, some weeds were present throughout the wider area.

Weeds: *Romulea rosea* and *Vulpia* sp. were present within the plot.

Threatened species sightings: Nil.

Pest animals: Nil.

Rubbish dumping: A small amount of plastic rubbish blown across from the adjacent landfill was present within the plot.



*Photo Point 14 (BOA6) (from top left bearing N, E, S, W)*

This photo point monitors a Biobanking plot located in woodland. During the baseline survey the plot had a high cover of weeds (*Arctotheca calendula*, *Bromus* sp., *Echium plantagineum* and *Medicago* sp.), but also had a high diversity of native flora (*Dichopogon fimbriatum*, *Austrostipa scabra*, *Triptilodiscus pygmaea* and *Stuartina muelleri*).

Erosion: Monitoring in 2023 did not observe active erosion.

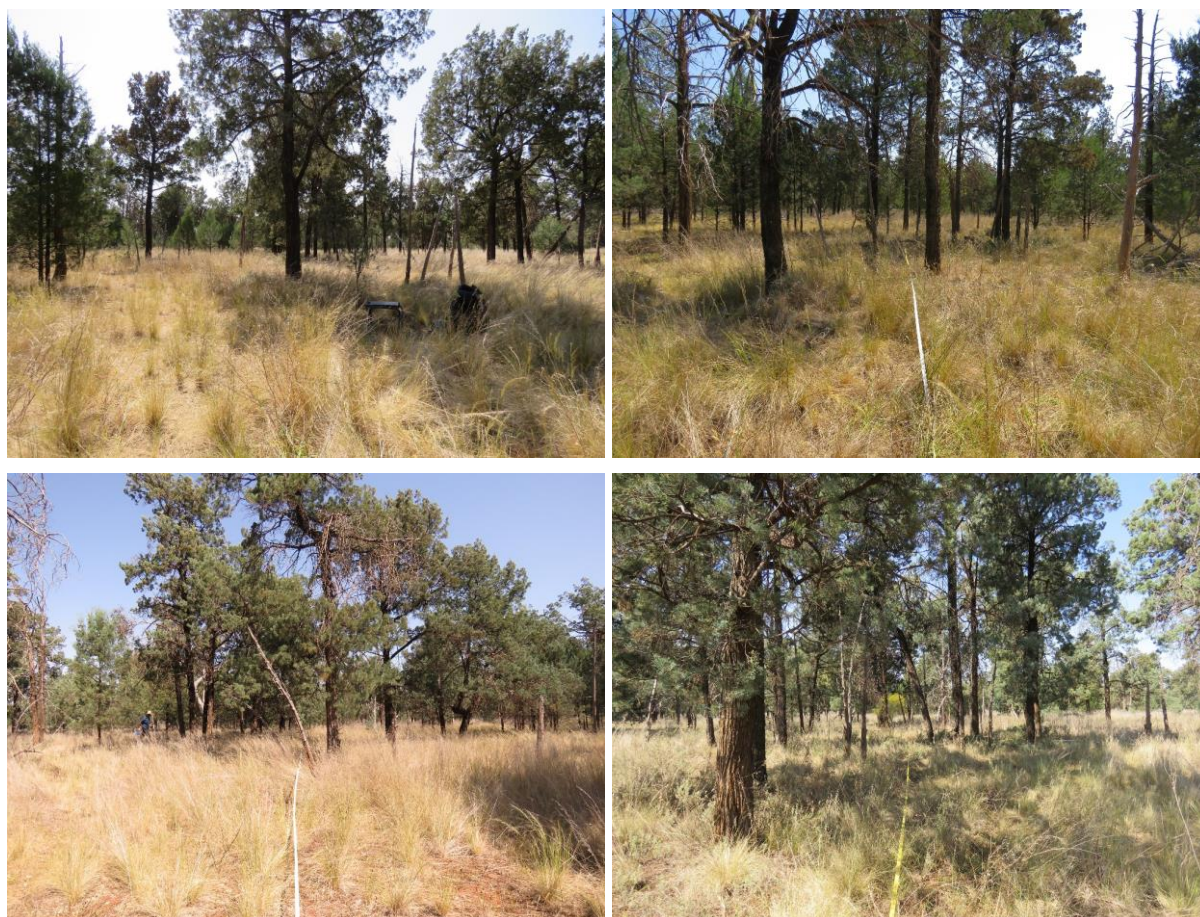
Vegetation – general: Vegetation appeared to be in good condition with a high cover of native grasses, shrubs and forbs present in the ground layer. Only *Callitris glaucophylla* was present in the canopy layer, however, both *Eucalyptus populnea* and *Callitris glaucophylla* were present in the midstorey and were regenerating in the ground layer.

Vegetation – cover: Canopy cover within the plot was estimated at 35% whilst midstorey cover was estimated at 12%. Overall vegetative groundcover had increased since the previous year, driven by a substantial increase in the cover of native grass. Exotic cover remains low, estimated at 1% cover.

Weeds: *Romulea rosea*, *Echium plantagineum*, *Lactuca serriola* and *Conyza* sp. were common weed species observed in 2023.

Threatened species sightings: Monitoring observed Grey-crowned Babbler.

Pest animals: Nil.



**Table 4.1: Plant Community Type benchmarks and quadrat scores recorded in September 2023, with the range of values from previous monitoring periods in brackets. Values within the benchmark are highlighted in green.**

Quadrat number	Native species richness	Overstorey cover %	Mid-storey cover %	Ground cover – grasses %	Ground cover – shrubs %	Ground cover – other %	Exotic cover	Number of trees with hollows	Proportion overstorey regen.	Total length of fallen logs (m)*
<i>Benchmark:</i>	>=23	14-27	33-38	5-22	0-21	0-20	N/A	>=3	1	>=33
BOA1	43 (26-46)	0 (0-0)	0 (0-5)	30 (0-72)	2 (0-4)	10 (0-80)	18 (0-52)	0 (0-0)	1 (0-1)	0 (0-0)
BOA2	36 (22-47)	4 (0-4)	20 (0-20)	26 (0-14)	0 (0-4)	5 (0-34)	4 (0-52)	0 (0-0)	1 (0-1)	24.5 (0-51)
BOA3	39 (22-48)	2 (0-2)	8 (0-10)	30 (0-52)	2 (0-4)	10 (0-68)	15 (0-48)	0 (0-0)	1 (0-1)	1.5 (0-30)
BOA4	29 (21-39)	0 (0-1)	4 (0-4)	30 (0-34)	1 (0-4)	2 (0-50)	5 (0-28)	0 (0-0)	1 (0-1)	0 (0-0)
BOA5	39 (20-46)	4 (0-4)	54 (0-60)	14 (0-16)	0 (0-0)	6 (0-78)	0 (0-42)	0 (0-0)	1 (0-1)	2.5 (0-5)
BOA6	30 (18-44)	35 (0-36)	12 (0-12)	50 (0-50)	10 (0-10)	8 (0-38)	1 (0-70)	1 (0-1)	1 (0-1)	10 (0-22)

\*Data not collected in 2023. Data is from the 2021 monitoring year.gft

## 5 Condition of conservation values

Conservation values within this report refer to the biodiversity values of the Conservation Area and are specified in Annexure B of the Conservation Agreement.

The 2023 monitoring period saw a decline in native species richness at all six of the Biobanking monitoring sites compared with the previous monitoring year. It is likely that a decline in rainfall over the past twelve months resulted in less recruitment of annuals and semi-perennials, potentially made species identification more difficult, decreasing the species richness score.

Reduced rainfall and landscape moisture has likely driven the trend of decreased vegetative groundcover scores that was observed in 2023. At four of the six Biobanking monitoring sites, both native grass cover and native shrub cover has declined, and at all six sites 'other' native cover has declined, which includes native forbs and herbs. Notably, exotic cover has declined at three Biobanking site, however, was slightly higher at two sites and was the same at one site. *Arctotheca calendula*, *Echium plantagineum* and *Vulpia* sp. were common weeds at the Biobanking monitoring sites, which aligns with the observations of previous years. Both native and exotic groundcover scores can vary significantly between seasons and across years, influenced by rainfall, other climatic factors and management actions.

Overstorey cover scores at the Biobanking sites were similar to the previous monitoring year, except for at site BOA6, where canopy cover was more than twice what was observed in 2022. Midstorey cover scores were similar to the previous monitoring year at the majority of the Biobanking sites, except for at BOA2 and BOA5, which observed significant increases in midstorey cover scores. Whilst canopy and midstorey cover scores may vary between monitoring years due to climatic conditions, some variation may be due to observer bias.

**Figure 6.1** illustrates the distribution of weeds in the Conservation Area. Several previously documented weeds were dead or not found during the most recent survey. Weed control actions have previously been effective at reducing the cover of *Opuntia stricta* and *Lycium ferocissimum*. A general reduction in native grass cover since the previous monitoring year may have increased weed observation, as exotic species were less obscured throughout the ground layer.

The 2023 field survey recorded 54 species of birds within the Conservation Area during the bird surveys (the same number recorded in 2022) with six additional species recorded incidentally (**Appendix B**). Two species recorded within the Conservation Area are listed as vulnerable under the *Biodiversity Conservation Act 2016*, Grey-crowned Babbler (*Pomatostomus temporalis*) and Southern Whiteface (*Aphelocephala leucopsis*). Southern Whiteface is also listed as vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999*. Nine species of bird were recorded for the first time in 2023, four of which were recorded incidentally. Only one species, the Common Starling, is considered a pest species. A full fauna species list in **Appendix B**.

The 2023 survey recorded seven species of microbat within the Conservation Area, with an additional eight possible identifications (**Appendix C**). Fewer microbat species could be identified confidently during this monitoring period, however, the total number of confident and possible identifications were the highest recorded. Three threatened microbat species were recorded as "possible" identifications.

## 6 Effectiveness of management actions

The following management actions have been undertaken within the Conservation Area in the past twelve (12) months.

### 6.1 Monitoring of Biobanking plots and photo points

The annual monitoring of Biobanking photo points and monitoring plots was undertaken in September 2023. The monitoring methodology followed Table 4 - Annexure C of the Conservation Agreement (2015) and **Table 3.1** of this report. No significant variations in methodology occurred in the 2023 monitoring period. The extent and possible cause of variation in results across monitoring years is outlined in this report.

### 6.2 Annual reporting for the monitoring program

This Annual Monitoring Report meets the specifications in Annexure D Monitoring Program of the Conservation Agreement (2015).

### 6.3 Weed management

Weed management occurred in September 2023. Previous weed management actions were evident as many past occurrences of weeds were found dead or not found during the 2023 monitoring survey. Weed treatments appear to include both herbicide application and the mechanical removal of weeds, with mechanical removal focused on *Opuntia* sp., as recommended in 2021. Several piles of *Opuntia* sp. that were mechanically removed and stockpiled for later disposal were observed in 2023. Herbicide treatment of *Lycium ferocissimum* has previously been an effective control of this species as evident by dead plants throughout the Conservation Area. *Asphodelus fistulosus* (Onion Weed) appears to spread throughout the south and west of the Conservation Area without treatment.

### 6.4 Feral animal management

A fox and evidence of fox and rabbit scat were observed during the 2023 annual monitoring survey period. However, no evidence of feral animals was outlined within the quarterly inspection reports and no pest control activities were conducted during the previous year.

### 6.5 Fire trail and vehicle access

All trails were in fair to good condition.

### 6.6 Fencing

In previous years fences were observed to be working order. However, during the 2023 annual monitoring survey period the southern boundary fence was significantly compromised. Inadequate fencing undermines the efficacy of all feral management actions and, therefore, fixing the fence line is a management priority.

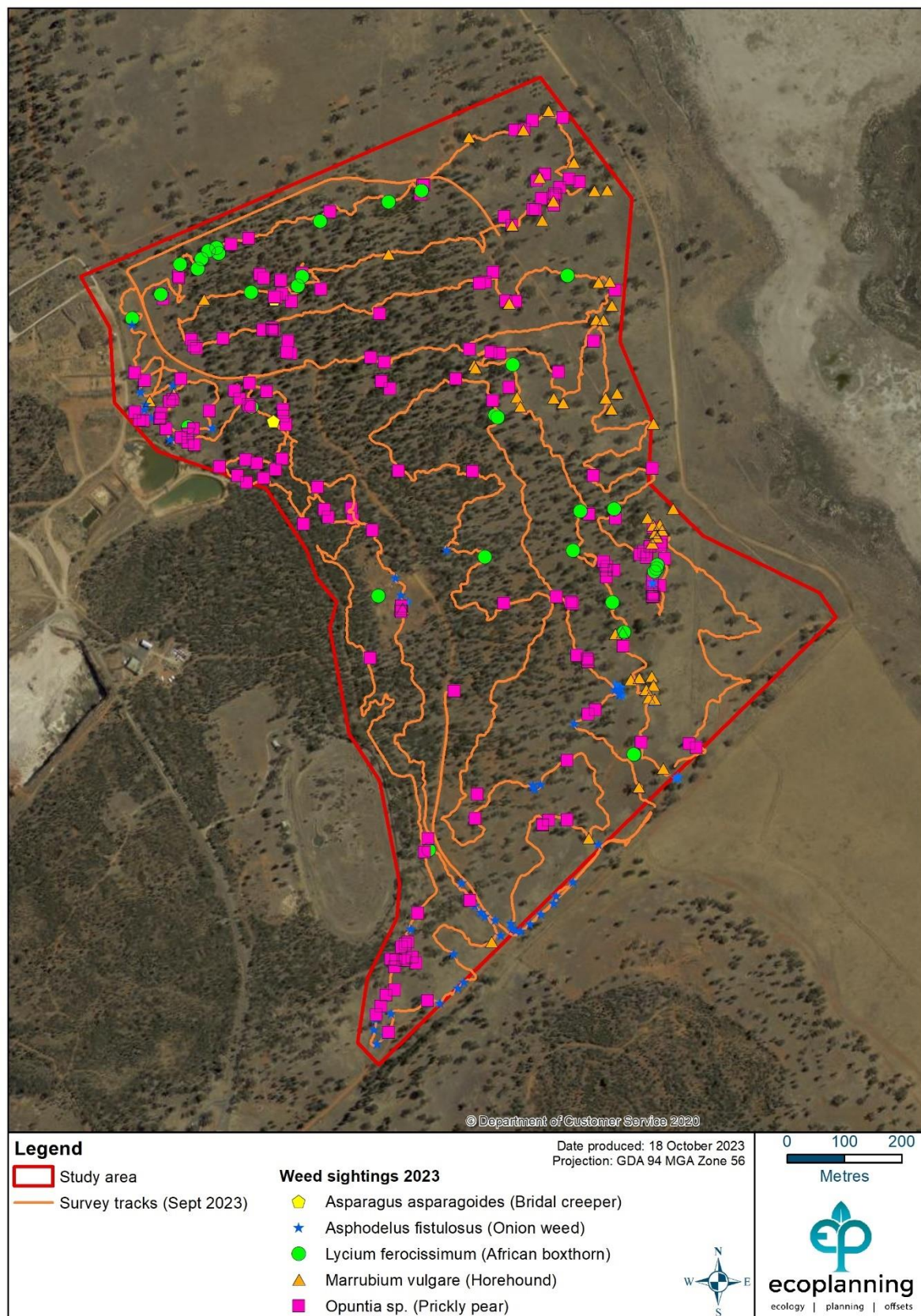
## 6.7 Quarterly inspections

Quarterly inspections of the Conservation Area were conducted in December 2022, March, June and September 2023 by Riverina Agriconsultants. The inspections include observations on:

- Erosion
- Weeds
- Vegetation cover and diversity
- Litter cover
- Dieback
- Soil stability
- Feral animals

Similarly to previous years, the recommendations arising from the quarterly inspection reporting included:

- Monitor and control weeds.
- Monitor erosion lines.



**Figure 6.1: Weed sightings within the Conservation Area.**

## 7 Recommendations

The following recommendations are prescribed for the Conservation Area:

- Prioritise the repair and maintenance of the boundary fence.
- Pest management should be conducted following the repair and inspection of the boundary fence. Evidence of feral hares and foxes was observed during the annual monitoring period. Pest management actions within the offset area ideally should coincide with management actions around the landfill to maximise effectiveness.
- Continue to monitor weeds and undertake weed management actions, particularly for *Lycium ferocissimum*, *Opuntia* sp. and *Marrubium vulgare*. *Asparagus asparagoides* was first observed this year during annual monitoring. Targeted treatment and removal of this exotic species should be prioritised before it becomes widely spread throughout the Conservation Area.
- Continue to conduct annual monitoring and quarterly inspections in 2024.

## 8 References

NSW Department of Environment, Climate Change and Water (DECCW) (2010). Draft BioBanking Assessment Methodology (version 2). Accessed at:

<https://www.environment.nsw.gov.au/resources/biobanking/10800draftbbamv2.pdf>

## Appendix A Biobanking plot species list

Species name	Common name	BOA1									BOA2									BOA3								
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023			
Exotic species																												
<i>Aira cupaniana</i>																												
<i>Arctotheca calendula</i>	Capeweed	x		x	x	x	x			x	x	x	x	x	x	x	x	x	x	x	x	x			x			
<i>Asparagus asparagoides</i>	Bridal Creeper																											
<i>Brassicaceae sp.</i>																												
<i>Bromus rubens</i>						x					x				x	x	x		x		x		x					
<i>Bromus sp.</i>			x		x				x	x	x	x	x	x	x			x	x									
<i>Capsella bursa-pastoris</i>	Shepherd's Purse																				x							
<i>Carthamus lanatus</i>	Saffron Thistle																	x		x								
<i>Centaurea sp.</i>																x	x								x			
<i>Chenopodiaceae indeterminate</i>	Salt-bushes																											
<i>Chondrilla juncea</i>	Skeleton Weed																											
<i>Cirsium vulgare</i>	Spear Thistle																											
<i>Conyza sp.</i>															x		x								x			
<i>Echium plantagineum</i>	Paterson's Curse	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x			
<i>Ehrharta longiflora</i>	Annual Veldtgrass															x												
<i>Eragrostis sp.</i>																												
<i>Erodium cicutarium</i>	Common Crowfoot																	x				x						
<i>Euphorbiaceae indeterminate</i>	Spurges																					x						
<i>Hordeum leporinum</i>	Barley Grass	x	x				x	x		x	x		x	x	x		x	x										
<i>Hypochaeris glabra</i>		x					x	x	x	x	x				x	x			x				x		x			
<i>Hypochaeris radicata</i>	Catsear	x	x		x	x		x	x	x	x		x	x	x	x	x	x	x		x	x		x	x			
<i>Iris sp.</i>																												
<i>Lactuca serriola</i>	Prickly Lettuce		x			x	x	x	x	x	x			x	x	x	x					x			x			
<i>Lamarckia aurea</i>	Goldentop																											

Species name	Common name	BOA1								BOA2								BOA3							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
<i>Leontodon rhagadioloides</i>	Cretan Weed	x			x	x		x	x							x		x			x				
<i>Lepidium</i> sp.							x																		
<i>Leptorhynchos</i> sp.					x																				
<i>Lolium rigidum</i>	Wimmera Ryegrass						x	x			x		x	x	x	x	x				x				
<i>Lycium ferocissimum</i>	African Boxthorn				x	x	x	x	x																
<i>Medicago laciniata</i>	Cut-leaved Medic	x	x	x	x	x	x	x	x									x	x	x	x	x	x		
<i>Medicago minima</i>	Woolly Burr Medic				x	x				x	x	x	x	x	x	x					x	x	x		
<i>Medicago</i> sp.										x															
<i>Medicago truncatula</i>	Barrel Medic		x	x	x						x	x	x		x	x	x	x	x						x
<i>Moraea setifolia</i>	Thread Iris																								
<i>Opuntia</i> sp.	Prickly Pear																								
<i>Opuntia stricta</i>								x									x								
<i>Pentaschistis airoides</i>	False Hairgrass						x				x		x	x	x	x	x				x		x		
<i>Petrorhagia nanteuilii</i>																									
<i>Raphanus raphanistrum</i>	Wild Radish									x															
<i>Romulea rosea</i>	Onion Grass				x			x				x	x	x	x	x			x	x	x	x	x		
<i>Rostraria cristata</i>	Annual Cat's Tail																								x
<i>Salvia verbenaca</i>																									
<i>Silene tridentata</i>	Catchfly													x		x	x								
<i>Sisymbrium erysimoides</i>	Smooth Mustard	x				x				x	x		x	x	x			x							
<i>Sisymbrium irio</i>	London Rocket	x								x			x	x											
<i>Sonchus oleraceus</i>	Common Sowthistle	x			x	x	x	x	x	x			x	x	x	x	x	x			x	x	x		x
<i>Taraxacum officinale</i>	Dandelion																								
<i>Trifolium arvense</i>	Haresfoot Clover						x			x	x		x	x	x	x	x	x			x	x	x		x
<i>Trifolium glomeratum</i>	Clustered Clover										x						x		x						x
<i>Trifolium</i> sp.													x								x	x			
Unknown grass																					x				

Species name	Common name	BOA1									BOA2								BOA3							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	
Unknown green fleshy lily														x								x				
Veronica arvensis	Wall Speedwell									x								x								
Vulpia myuros	Rat's Tail Fescue	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			x	
Native species																										
Actinobole uliginosum	Flannel Cudweed	x	x		x	x	x	x	x	x	x		x	x	x	x	x	x	x		x	x	x	x	x	
Aphanes australiana													x	x	x	x					x	x	x	x		
Aristida behriana	Bunch Wiregrass	x	x		x	x	x	x	x		x	x		x		x	x	x	x			x	x	x	x	
Aristida jerichoensis	Jericho Wire-grass								x						x	x							x	x		
Aristida sp.																					x	x	x			
Arthropodium minus	Small Vanilla Lily		x	x	x		x															x	x			
Asperula conferta	Common Woodruff															x										
Atriplex semibaccata	Creeping Saltbush		x	x			x	x		x	x	x		x	x	x	x	x	x						x	
Austrostipa bigeniculata		x	x	x	x			x	x		x	x					x	x	x	x	x			x		
Austrostipa scabra	Speargrass	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Austrostipa sp.											x					x										
Brachychiton populneus	Kurrajong									x	x	x	x	x	x	x	x									
Brachyscome lineariloba	Hard-headed Daisy	x																					x			
Bromus arenarius																	x									
Bromus sp.																										
Bulbine bulbosa	Bulbine Lily	x			x	x	x	x	x	x			x	x	x	x	x		x		x	x	x	x	x	
Bulbine semibarbata																										
Calandrinia eremaea					x					x			x	x	x		x				x	x	x			
Callitris glaucophylla	White Cypress Pine	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Calotis hispidula	Bogan Flea	x		x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	
Cheilanthes sieberi	Mulga Fern	x	x					x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	
Chenopodium desertorum						x	x	x	x					x												
Chenopodium sp.																										

Species name	Common name	BOA1								BOA2								BOA3							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
<i>Chloris</i> sp.		x	x	x	x					x								x	x	x					
<i>Chloris truncata</i>	Windmill Grass																								
<i>Chrysocephalum apiculatum</i>	Common Everlasting	x	x		x	x	x	x	x									x	x		x			x	x
<i>Convolvulus erubescens</i> complex							x	x	x		x			x	x	x	x		x	x	x	x	x	x	x
<i>Convolvulus</i> sp.																									
<i>Crassula colorata</i>			x			x	x	x	x					x	x	x	x					x	x	x	x
<i>Crassula decumbens</i>																									
<i>Crassula</i> sp.		x			x					x			x					x			x				
<i>Daucus glochidiatus</i>	Native Carrot							x																	
<i>Dianella</i> sp.		x	x	x	x	x	x	x	x																
<i>Dichelachne</i> sp.																									
<i>Dichopogon fimbriatum</i>	Chocolate Lily		x	x	x	x	x	x	x		x		x	x	x		x		x	x	x	x	x	x	x
<i>Dichopogon</i> sp.		x								x								x							
<i>Dodonaea</i> sp.																									
<i>Einadia nutans</i>	Climbing Saltbush	x	x												x			x	x						
<i>Einadia nutans</i> subsp. <i>nutans</i>		x		x	x	x	x	x	x	x			x	x		x	x				x	x	x	x	x
<i>Enchylaena tomentosa</i>	Ruby Saltbush	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				x	x	x	x	x
<i>Enteropogon acicularis</i>							x	x	x			x			x	x	x								x
<i>Eragrostis</i> sp.	A Lovegrass							x	x							x	x								x
<i>Erodium crinitum</i>	Blue Storksbill	x	x	x	x	x	x	x		x	x	x	x	x	x	x		x	x	x	x	x	x	x	x
<i>Eucalyptus populnea</i>	Poplar Box	x	x	x	x	x	x	x	x										x	x	x	x	x	x	x
<i>Euphorbia drummondii</i>	Caustic Weed				x	x	x		x					x		x						x	x		
<i>Euphorbia</i> sp.																									
<i>Goodenia cycloptera</i>		x	x	x	x	x	x	x	x															x	
<i>Goodenia pusilliflora</i>		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x

Species name	Common name	BOA1									BOA2									BOA3								
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023			
<i>Goodenia</i> sp.																												
<i>Hyalosperma glutinosum</i> subsp. <i>glutinosum</i>			x	x							x	x	x						x	x	x				x			
<i>Hyalosperma semisterile</i>		x			x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x			
<i>Hyalosperma</i> sp.																												
<i>Hyalosperma</i> sp. 2		x																										
<i>Hypoxis glabella</i> var. <i>glabella</i>	Star Grass																											
<i>Isoetopsis graminifolia</i>	Grass Cushion	x			x	x	x	x		x			x	x	x	x		x		x	x	x	x	x	x			
<i>Leptorhynchus squamatus</i>	Scaly Buttons					x	x	x	x																			
<i>Limonium</i> sp.																												
<i>Maireana enchylaenoides</i>	Wingless Fissure Weed	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
<i>Maireana excavata</i>	Bottle Bluebush	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			
<i>Millotia myosotidifolia</i>	Broad-leaved Millotia																											
<i>Minuria leptophylla</i>																												
<i>Monachather paradoxus</i>	Bandicoot Grass							x	x							x								x				
<i>Ophioglossum lusitanicum</i>	Adders Tongue	x						x		x					x	x					x	x	x					
<i>Ophioglossum</i> sp.														x				x										
<i>Oxalis perennans</i>		x			x	x	x	x	x	x	x		x	x	x			x		x	x		x					
<i>Paspalidium distans</i>															x	x												
<i>Paspalidium</i> sp.															x													
<i>Phyllanthus fuernrohrii</i>															x						x							
<i>Pimelea</i> sp.																												
<i>Pimelea trichostachya</i>																												

Species name	Common name	BOA1								BOA2								BOA3							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
<i>Pittosporum angustifolium</i>		x	x	x	x	x	x	x	x						x	x									
<i>Plantago debilis</i>														x								x			
<i>Pseudognaphalium luteoalbum</i>	Jersey Cudweed								x																
<i>Pterostylis bicolor</i>	Black-tip Greenhood																								
<i>Ptilotus spathulatus</i>	Pussy Tails	x	x	x	x	x	x	x																	
<i>Ranunculus sessiliflorus</i>										x			x	x	x	x									
<i>Rhodanthe corymbiflora</i>	Small White Sunray					x							x												
<i>Rhodanthe diffusa</i>										x			x	x	x	x	x	x			x	x	x	x	x
<i>Rhodanthe laevis</i>	Smooth Sunray																								
<i>Rhodanthe pygmaea</i>	Pygmy Sunray	x		x	x	x	x	x	x	x			x	x	x			x	x		x	x	x	x	x
<i>Rytidosperma caespitosum</i>																								x	
<i>Rytidosperma</i> sp.		x	x	x	x	x	x	x	x	x	x	x	x	x				x	x	x	x	x	x		x
<i>Salsola australis</i> (syn. <i>S. kali</i> and <i>S. tragus</i> )	Soft Roly Poly	x	x			x	x		x	x	x	x										x			x
<i>Sclerolaena diacantha</i>						x	x	x	x						x	x						x	x		
<i>Sclerolaena</i> sp.				x	x																				
<i>Senecio quadridentatus</i>	Cotton Fireweed																								
<i>Senna artemisioides</i>	Silver Cassia									x		x	x			x	x								
<i>Sida corrugata</i>	Corrugated Sida	x	x	x	x	x	x	x	x	x	x			x	x	x	x	x	x	x	x	x	x	x	x
<i>Sida cunninghamii</i>	Ridged Sida	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Solanum esuriale</i>	Quena																	x	x						
<i>Solanum</i> sp.											x														
<i>Spergularia</i> sp.																									
<i>Stackhousia monogyna</i>	Creamy Stackhousia									x	x	x	x	x	x	x	x	x							
<i>Stuartina muelleri</i>	Spoon Cudweed					x				x			x	x	x	x	x	x			x	x	x	x	x

Species name	Common name	BOA1								BOA2								BOA3							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
<i>Thyridolepis mitchelliana</i>	Mulga Mitchell Grass																x								
<i>Thysanotus patersonii</i>	Twining Fringe Lily																								
<i>Tricoryne elatior</i>	Yellow Autumn-lily				x			x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Tripogon loliiformis</i>	Five-minute Grass						x	x	x						x	x	x						x	x	x
<i>Triptilodiscus pygmaeus</i>	Common sunray	x			x	x		x		x			x	x	x	x	x	x	x		x	x	x	x	x
Unknown Asteraceae																									
Unknown grass																									
<i>Vicia</i> sp.																									
<i>Vittadinia cuneata</i>	Fuzzweed		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Vittadinia dissecta</i>	Dissected New Holland Daisy																								
<i>Vittadinia</i> sp.	Fuzzweed							x	x							x	x					x		x	x
<i>Wahlenbergia communis</i>	Tufted Bluebell							x					x												
<i>Wahlenbergia</i> sp.		x			x		x		x	x					x	x	x				x		x	x	x
<i>Wahlenbergia</i> sp. (broad leaf)																		x				x		x	
<i>Wahlenbergia stricta</i>	Tall Bluebell					x								x											
<i>Wurmbea dioica</i>	Early Nancy									x			x	x											
<i>Xerochrysum bracteatum</i>	Golden Everlasting		x		x		x	x	x	x	x		x	x	x		x	x			x	x	x	x	x

Species name	Common name	BOA4								BOA5								BOA6							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
Exotic species																									
<i>Aira cupaniana</i>											x								x						
<i>Arctotheca calendula</i>	Capeweed	x	x	x	x	x	x	x	x	x			x	x	x		x	x	x	x	x	x	x	x	
<i>Asparagus asparagoides</i>	Bridal Creeper												x	x	x										
Brassicaceae sp.																					x				
<i>Bromus rubens</i>			x		x	x	x	x	x				x	x				x		x					
<i>Bromus</i> sp.		x	x							x	x	x		x	x			x	x	x	x	x	x	x	
<i>Capsella bursa-pastoris</i>	Shepherd's Purse																			x					
<i>Carthamus lanatus</i>	Saffron Thistle	x	x	x	x	x	x	x	x				x					x							
<i>Centaurea</i> sp.																	x						x		
<i>Chenopodiaceae indeterminate</i>	Salt-bushes													x											
<i>Chondrilla juncea</i>	Skeleton Weed							x																x	
<i>Cirsium vulgare</i>	Spear Thistle							x	x	x															
<i>Conyza</i> sp.									x								x								x
<i>Echium plantagineum</i>	Paterson's Curse	x	x		x	x	x	x		x	x		x	x	x		x	x	x		x	x	x	x	x
<i>Ehrharta longiflora</i>	Annual Veldtgrass																								
<i>Eragrostis</i> sp.																				x					
<i>Erodium cicutarium</i>	Common Crowfoot																								
<i>Euphorbiaceae indeterminate</i>	Spurges													x								x	x		
<i>Hordeum leporinum</i>	Barley Grass				x					x	x	x	x	x	x		x	x	x			x	x	x	x
<i>Hypochaeris glabra</i>								x						x	x			x	x					x	
<i>Hypochaeris radicata</i>	Catsear	x	x		x	x	x	x	x	x	x		x	x	x		x	x	x		x	x		x	x
<i>Iris</i> sp.																							x		
<i>Lactuca serriola</i>	Prickly Lettuce									x	x							x					x	x	x
<i>Lamarckia aurea</i>	Goldentop													x	x										

Species name	Common name	BOA4								BOA5								BOA6							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
<i>Leontodon rhagadioloides</i>	Cretan Weed	x			x	x	x	x	x																
<i>Lepidium</i> sp.																									
<i>Leptorhynchos</i> sp.																									
<i>Lolium rigidum</i>	Wimmera Ryegrass				x	x	x	x	x	x	x							x	x		x	x		x	
<i>Lycium ferocissimum</i>	African Boxthorn																								
<i>Medicago laciniata</i>	Cut-leaved Medic					x	x			x				x	x		x	x		x	x	x	x		
<i>Medicago minima</i>	Woolly Burr Medic	x	x		x	x	x	x	x					x	x		x				x	x	x		
<i>Medicago</i> sp.										x	x			x	x			x							
<i>Medicago truncatula</i>	Barrel Medic	x	x		x		x	x				x					x			x	x		x	x	x
<i>Moraea setifolia</i>	Thread Iris																								x
<i>Opuntia</i> sp.	Prickly Pear	x		x		x	x					x		x						x					
<i>Opuntia stricta</i>			x		x			x	x		x		x				x		x						x
<i>Pentstemon airoides</i>	False Hairgrass												x	x	x		x				x	x	x	x	x
<i>Petrorhagia nanteuillii</i>								x	x																
<i>Raphanus raphanistrum</i>	Wild Radish																								
<i>Romulea rosea</i>	Onion Grass					x						x	x	x	x					x	x	x	x		
<i>Rostraria cristata</i>	Annual Cat's Tail																								x
<i>Salvia verbenaca</i>							x	x	x																
<i>Silene tridentata</i>	Catchfly	x			x	x	x	x	x									x				x			
<i>Sisymbrium erysimoides</i>	Smooth Mustard	x			x	x	x	x		x			x	x			x	x			x	x	x	x	
<i>Sisymbrium irio</i>	London Rocket																	x			x	x	x		
<i>Sonchus oleraceus</i>	Common Sowthistle	x			x	x	x	x	x	x			x	x	x		x	x			x	x	x	x	x
<i>Taraxacum officinale</i>	Dandelion																								
<i>Trifolium arvense</i>	Haresfoot Clover							x	x		x		x	x	x			x	x		x	x	x	x	x
<i>Trifolium glomeratum</i>	Clustered Clover										x								x						x
<i>Trifolium</i> sp.														x	x			x			x		x		
Unknown grass											x														

Species name	Common name	BOA4								BOA5								BOA6							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
Unknown green fleshy lily														x	x										
<i>Veronica arvensis</i>	Wall Speedwell									x															
<i>Vulpia myuros</i>	Rat's Tail Fescue	x	x		x	x			x	x	x		x	x	x		x	x	x		x	x	x		x
Native species																									
<i>Actinobole uliginosum</i>	Flannel Cudweed							x		x	x		x	x	x	x	x	x	x		x	x	x	x	x
<i>Aphanes australiana</i>													x	x	x	x		x				x	x	x	
<i>Aristida behriana</i>	Bunch Wiregrass		x	x	x	x	x	x	x			x													
<i>Aristida jerichoensis</i>	Jericho Wire-grass							x	x																
<i>Aristida</i> sp.						x	x																		
<i>Arthropodium minus</i>	Small Vanilla Lily									x		x	x	x	x	x	x	x	x		x	x	x	x	x
<i>Asperula conferta</i>	Common Woodruff																								
<i>Atriplex semibaccata</i>	Creeping Saltbush	x	x	x	x	x	x																		
<i>Austrostipa bigeniculata</i>												x													
<i>Austrostipa scabra</i>	Speargrass	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x	x
<i>Austrostipa</i> sp.																									
<i>Brachychiton populneus</i>	Kurrajong																								
<i>Brachyscome lineariloba</i>	Hard-headed Daisy																								
<i>Bromus arenarius</i>																	x								x
<i>Bromus</i> sp.																x	x							x	
<i>Bulbine bulbosa</i>	Bulbine Lily	x			x	x	x	x	x	x		x		x	x	x	x	x			x	x	x	x	x
<i>Bulbine semibarbata</i>										x				x	x	x									
<i>Calandrinia eremaea</i>										x			x	x	x	x		x			x		x	x	
<i>Callitris glaucophylla</i>	White Cypress Pine	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Calotis hispidula</i>	Bogan Flea			x	x	x	x	x	x	x	x		x	x	x	x	x	x			x	x	x	x	x
<i>Cheilanthes sieberi</i>	Mulga Fern									x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Chenopodium desertorum</i>						x	x												x	x	x	x	x	x	x

Species name	Common name	BOA4								BOA5								BOA6							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
<i>Chenopodium</i> sp.																		x							
<i>Chloris</i> sp.							x			x	x	x													
<i>Chloris truncata</i>	Windmill Grass							x	x								x								
<i>Chrysocephalum apiculatum</i>	Common Everlasting	x	x	x	x	x	x	x	x	x	x		x	x		x	x								
<i>Convolvulus erubescens</i> complex			x	x	x	x	x	x	x					x	x	x						x	x		x
<i>Convolvulus</i> sp.		x																							
<i>Crassula colorata</i>											x			x	x	x	x		x			x	x	x	x
<i>Crassula decumbens</i>																		x							
<i>Crassula</i> sp.										x			x					x			x				
<i>Daucus glochidiatus</i>	Native Carrot							x																	
<i>Dianella</i> sp.																									
<i>Dichelachne</i> sp.										x								x							
<i>Dichopogon fimbriatum</i>	Chocolate Lily										x	x	x	x	x	x			x	x	x	x	x	x	x
<i>Dichopogon</i> sp.										x								x							
<i>Dodonaea</i> sp.																x	x								
<i>Einadia nutans</i>	Climbing Saltbush		x	x			x			x	x	x						x	x						
<i>Einadia nutans</i> subsp. <i>nutans</i>					x		x	x	x				x	x		x	x				x	x	x	x	x
<i>Enchylaena tomentosa</i>	Ruby Saltbush	x	x	x	x	x	x	x	x		x	x	x	x		x	x	x	x	x	x	x	x	x	x
<i>Enteropogon acicularis</i>						x	x	x	x							x							x	x	x
<i>Eragrostis</i> sp.	A Lovegrass															x	x					x		x	x
<i>Erodium crinitum</i>	Blue Storksbill	x			x	x				x		x	x	x		x		x	x	x	x	x	x	x	
<i>Eucalyptus populnea</i>	Poplar Box	x	x	x	x	x	x	x	x		x		x	x		x		x	x		x	x	x	x	
<i>Euphorbia drummondii</i>	Caustic Weed				x	x	x	x						x	x							x	x		
<i>Euphorbia</i> sp.										x															

Species name	Common name	BOA4								BOA5								BOA6							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
<i>Goodenia cycloptera</i>					x			x	x				x			x	x								
<i>Goodenia pusilliflora</i>		x	x	x	x	x	x	x	x	x		x	x	x		x		x	x	x	x	x	x	x	
<i>Goodenia</i> sp.						x	x							x		x									
<i>Hyalosperma glutinosum</i> subsp. <i>glutinosum</i>			x	x															x	x					
<i>Hyalosperma semisterile</i>		x			x	x	x	x	x			x	x	x		x	x			x	x	x	x	x	x
<i>Hyalosperma</i> sp.										x															
<i>Hyalosperma</i> sp. 2										x								x							
<i>Hypoxis glabella</i> var. <i>glabella</i>	Star Grass																							x	
<i>Isoetopsis graminifolia</i>	Grass Cushion	x			x	x	x	x	x	x			x	x		x		x				x	x		
<i>Leptorhynchos squamatus</i>	Scaly Buttons																								
<i>Limonium</i> sp.						x	x																		
<i>Maireana enchylaenoides</i>	Wingless Fissure Weed	x		x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Maireana excavata</i>	Bottle Bluebush		x	x	x	x	x	x	x									x	x		x		x	x	x
<i>Millotia myosotidifolia</i>	Broad-leaved Millotia									x			x	x	x	x	x								
<i>Minuria leptophylla</i>		x	x	x	x	x	x	x	x																
<i>Monachather paradoxus</i>	Bandicoot Grass															x	x							x	
<i>Ophioglossum lusitanicum</i>	Adders Tongue																					x	x		
<i>Ophioglossum</i> sp.																									
<i>Oxalis perennans</i>			x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
<i>Paspalidium distans</i>							x	x							x								x		
<i>Paspalidium</i> sp.														x		x	x				x	x	x	x	x
<i>Phyllanthus fuernrohrii</i>									x						x	x	x					x	x		
<i>Pimelea</i> sp.								x																	

Species name	Common name	BOA4								BOA5								BOA6							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
<i>Pimelea trichostachya</i>							x																		
<i>Pittosporum angustifolium</i>																									
<i>Plantago debilis</i>																									
<i>Pseudognaphalium luteoalbum</i>	Jersey Cudweed																								
<i>Pterostylis bicolor</i>	Black-tip Greenhood							x		x						x									
<i>Ptilotus spathulatus</i>	Pussy Tails	x	x	x	x	x	x	x	x																
<i>Ranunculus sessiliflorus</i>															x			x				x	x	x	
<i>Rhodanthe corymbiflora</i>	Small White Sunray				x		x							x								x	x		
<i>Rhodanthe diffusa</i>													x	x	x	x	x				x	x	x	x	
<i>Rhodanthe laevis</i>	Smooth Sunray												x	x	x	x	x							x	
<i>Rhodanthe pygmaea</i>	Pygmy Sunray	x			x	x	x						x												
<i>Rytidosperma caespitosum</i>								x	x																
<i>Rytidosperma</i> sp.		x	x	x	x	x		x	x	x	x	x	x			x	x	x	x	x	x	x	x	x	x
<i>Salsola australis</i> (syn. <i>S. kali</i> and <i>S. tragus</i> )	Soft Roly Poly	x	x			x	x																x		
<i>Sclerolaena diacantha</i>						x	x									x									
<i>Sclerolaena</i> sp.																									
<i>Senecio quadridentatus</i>	Cotton Fireweed																								x
<i>Senna artemisioides</i>	Silver Cassia																								
<i>Sida corrugata</i>	Corrugated Sida	x	x	x	x	x	x		x	x	x		x	x	x		x	x	x		x	x	x	x	x
<i>Sida cunninghamii</i>	Ridged Sida	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<i>Solanum esuriale</i>	Quena		x			x	x																		
<i>Solanum</i> sp.																									
<i>Spergularia</i> sp.										x															

Species name	Common name	BOA4								BOA5								BOA6							
		2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023	2015	2017	2018	2019	2020	2021	2022	2023
<i>Stackhousia monogyna</i>	Creamy Stackhousia									x	x		x		x	x	x								
<i>Stuartina muelleri</i>	Spoon Cudweed							x		x	x		x		x	x	x	x			x	x	x	x	x
<i>Thyridolepis mitchelliana</i>	Mulga Mitchell Grass								x								x								
<i>Thysanotus patersonii</i>	Twining Fringe Lily									x			x	x	x		x								
<i>Tricoryne elatior</i>	Yellow Autumn-lily											x		x		x			x	x	x	x	x	x	x
<i>Tripogon loliiformis</i>	Five-minute Grass													x		x	x					x	x	x	x
<i>Triptilodiscus pygmaeus</i>	Common sunray									x	x		x	x	x	x	x	x	x		x	x	x	x	x
Unknown Asteraceae																				x					
Unknown grass				x						x	x									x					
<i>Vicia</i> sp.																								x	
<i>Vittadinia cuneata</i>	Fuzzweed	x	x	x	x	x	x	x	x		x	x		x	x		x	x	x	x		x	x		x
<i>Vittadinia dissecta</i>	Dissected New Holland Daisy																								
<i>Vittadinia</i> sp.	Fuzzweed																						x		
<i>Wahlenbergia communis</i>	Tufted Bluebell																x								
<i>Wahlenbergia</i> sp.										x	x				x	x	x	x					x	x	
<i>Wahlenbergia</i> sp. (broad leaf)																									
<i>Wahlenbergia stricta</i>	Tall Bluebell													x		x									
<i>Wurmbea dioica</i>	Early Nancy												x												
<i>Xerochrysum bracteatum</i>	Golden Everlasting		x		x	x	x	x	x	x	x		x	x	x	x	x	x	x		x	x	x	x	x

## Appendix B Bird survey species list

Species name	Common name	BC Act Listing	EPBC Act Listing	BOA2	BOA3	BOA4	BOA5	BOA6	Bird 6	Incidentals	Previously recorded
<i>Acanthagenys rufogularis</i>	Spiny-cheeked Honeyeater			x	x	x	x	x	x		x
<i>Acanthiza apicalis</i>	Inland Thornbill										x
<i>Acanthiza chrysorrhoa</i>	Yellow-rumped Thornbill			x		x	x	x	x		x
<i>Acanthiza nana</i>	Yellow Thornbill			x		x	x			x	x
<i>Acanthiza reguloides</i>	Buff-rumped Thornbill										x
<i>Acanthiza uropygialis</i>	Chestnut-rumped Thornbill			x		x	x	x	x		x
<i>Accipiter cirrocephalus</i>	Collared Sparrowhawk										x
<i>Agotheles cristatus</i>	Australian Owlet-nightjar								x		x
<i>Anas gracilis</i>	Grey Teal									x	
<i>Anas superciliosa</i>	Pacific Black Duck										x
<i>Aphelocephala leucopsis</i>	Southern Whiteface		V							x	x
<i>Aquila audax</i>	Wedge-tailed Eagle										x
<i>Ardea pacifica</i>	White-necked Heron										x
<i>Artamus cyanopterus</i>	Dusky Woodswallow	V									x
<i>Artamus leucorhynchus</i>	White-breasted Woodswallow			x	x	x		x	x		x
<i>Artamus personatus</i>	Masked Woodswallow										x
<i>Artamus sp.</i>	A Woodswallow								x		
<i>Artamus superciliosus</i>	White-browed Woodswallow			x	x				x		x
<i>Aythya australis</i>	Hardhead									x	
<i>Barnardius zonarius</i>	Australian Ringneck			x	x	x	x	x	x		x
<i>Cacatua galerita</i>	Sulphur-crested Cockatoo										x
<i>Cacatua leadbeateri</i>	Major Mitchell's Cockatoo	V									x
<i>Cacatua sanguinea</i>	Little Corella							x			
<i>Chalcites basalis</i>	Horsefield's Bronze-Cuckoo			x					x		x

Species name	Common name	BC Act Listing	EPBC Act Listing	BOA2	BOA3	BOA4	BOA5	BOA6	Bird 6	Incidentals	Previously recorded
<i>Chenonetta jubata</i>	Australian Wood Duck										x
<i>Chroicocephalus novaehollandiae</i>	Silver Gull							x			x
<i>Chrysococcyx lucidus</i>	Shinny Bronze Cuckoo										x
<i>Cincloramphus mathewsi</i>	Rufous Songlark										x
<i>Circus approximans</i>	Swamp harrier										x
<i>Circus assimilis</i>	Spotted Harrier										x
<i>Colluricincla harmonica</i>	Grey Shrike-thrush										x
<i>Columba livia</i>	Rock Dove										x
<i>Coracina novaehollandiae</i>	Black-faced Cuckoo-shrike			x		x					x
<i>Corcorax melanorhamphos</i>	White-winged Chough				x			x	x		x
<i>Corvus bennetti</i>	Little Crow										x
<i>Corvus coronoides</i>	Australian Raven			x	x						x
<i>Corvus mellori</i>	Little Raven			x	x	x	x	x	x		x
<i>Cracticus nigrogularis</i>	Pied Butcherbird				x						x
<i>Cracticus tibicen</i>	Australian Magpie			x	x			x	x		x
<i>Cracticus torquatus</i>	Grey Butcherbird			x	x	x	x	x			x
<i>Cygnus atratus</i>	Black Swan									x	
<i>Dacelo novaeguineae</i>	Laughing Kookaburra			x							x
<i>Dicaeum hirundinaceum</i>	Mistletoe Bird										x
<i>Egretta novaehollandiae</i>	White-faced Heron				x						
<i>Eolophus roseicapilla</i>	Galah			x	x			x			x
<i>Eopsaltria australis</i>	Eastern Yellow Robin					x	x				x
<i>Falco berigora</i>	Brown Falcon										x
<i>Falco cenchroides</i>	Nankeen Kestrel			x							x
<i>Falco subniger</i>	Black Falcon				x		x	x			x
<i>Fulica atra</i>	Eurasian Coot									x	

Species name	Common name	BC Act Listing	EPBC Act Listing	BOA2	BOA3	BOA4	BOA5	BOA6	Bird 6	Incidentals	Previously recorded
<i>Geopelia humeralis</i>	Bar-shouldered Dove										x
<i>Geopelia placida</i>	Peaceful Dove			x	x	x	x	x	x		x
<i>Gerygone fusca</i>	Western Gerygone					x	x		x		x
<i>Grallina cyanoleuca</i>	Magpie Lark			x	x	x	x	x	x		x
<i>Haliastur sphenurus</i>	Whistling Kite			x	x	x	x	x			x
<i>Lalage sueurii</i>	White-winged Triller										x
<i>Malurus lamberti</i>	Variegated Fairy-wren					x					
<i>Manorina flavigula</i>	Yellow-throated Miner			x	x	x	x	x	x		x
<i>Melopsittacus undulatus</i>	Budgerig										x
<i>Merops ornatus</i>	Rainbow Bee-eater										x
<i>Milvus migrans</i>	Black Kite			x	x	x	x	x	x		x
<i>Northiella haematogaster</i>	Blue Bonnet			x	x			x	x		x
<i>Nymphicus hollandicus</i>	Cockatiel				x		x		x		x
<i>Ocyphaps lophotes</i>	Crested Pigeon			x	x	x	x	x	x		x
<i>Pachycephala rufiventris</i>	Rufous Whistler			x		x	x		x		x
<i>Pardalotus striatus</i>	Striated Pardalote			x	x	x	x	x	x		x
<i>Pelecanus conspicillatus</i>	Australian Pelican										x
<i>Petrochelidon nigricans</i>	Tree Martin										x
<i>Petroica goodenovii</i>	Red-capped Robin					x	x				x
<i>Phalacrocorax carbo</i>	Black Cormorant			x	x		x			x	x
<i>Phalacrocorax varius</i>	Australian Pied Cormorant				x		x				x
<i>Phaps chalcoptera</i>	Common Bronzewing							x			x
<i>Philemon citreogularis</i>	Little Friarbird			x		x	x	x	x		x
<i>Plectorhyncha lanceolata</i>	Striped Honeyeater			x		x	x				x
<i>Plegadis falcinellus</i>	Glossy Ibis										x
<i>Polytelis swainsonii</i>	Superb Parrot	V	V								x

Species name	Common name	BC Act Listing	EPBC Act Listing	BOA2	BOA3	BOA4	BOA5	BOA6	Bird 6	Incidentals	Previously recorded
<i>Pomatostomus superciliosus</i>	White-browed Babbler					x	x				
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler	V		x	x		x	x	x		x
<i>Psephotus haematonotus</i>	Red-rumped Parrot			x	x	x	x	x	x		x
<i>Pyrrholaemus sagittatus</i>	Speckled Warbler	V									x
<i>Rhipidura albiscapa</i>	Grey Fantail			x		x	x		x		x
<i>Rhipidura leucophrys</i>	Willie Wagtail			x	x	x	x	x	x		x
<i>Smicrornis brevirostris</i>	Weebil					x	x		x		x
<i>Struthidea cinerea</i>	Apostlebird			x	x			x			x
<i>Sturnus vulgaris</i>	Common Starling				x	x	x	x	x		x
<i>Tadorna tadornoides</i>	Australian Shelduck										x
<i>Taeniopygia bichenovii</i>	Double-barred Finch									x	x
<i>Threskiornis moluccus</i>	Australian White Ibis			x	x	x	x	x	x		x
<i>Threskiornis spinicollis</i>	Straw-necked Ibis			x		x	x		x		x
<i>Todiramphus sanctus</i>	Sacred Kingfisher										x
<i>Trichoglossus haematodus</i>	Rainbow Lorikeet										x
<i>Turdus merula</i>	Common Blackbird					x	x				
<i>Turnix varius</i>	Painted Buttonquail										x
<i>Vanellus miles</i>	Masked Lapwing										x
<i>Zosterops lateralis</i>	Silvereeye										x

## Appendix C Bat survey species list

Species name	Common name	BC Act Listing	EPBC Act Listing	2016	2017	2018	2019	2020	2021	2022	2023
<i>Austronomus australis</i>	White-striped Freetail Bat			X			X	X	X	X	X
<i>Chalinolobus gouldii</i>	Gould's Wattled Bat			X	X	X	X	X	X	X	X
<i>Chalinolobus morio</i>	Chocolate Wattled Bat			X	X	X	X	X	X	X	X
<i>Chalinolobus picatus</i>	Little Pied Bat	V		X	X			X			P
<i>Miniopterus australis</i>	Little Bent-winged Bat	V					X				
<i>Miniopterus orianae oceanensis</i>	Large Bent-winged Bat	V					X				
<i>Mormopterus (Ozimops) kitcheneri</i>	South-western Freetail Bat			X							
<i>Nyctophilus</i> sp.	Long-eared Bat			X	X	X	X	X	X		X
<i>Ozimops ridei</i>	Ride's Freetail Bat								P	X	P
<i>Ozimops petersi</i>	Inland Freetail Bat			X	X	X	X	X	X	X	P
<i>Ozimops planiceps</i>	South-eastern Freetail Bat				X	X	X	X	X	X	P
<i>Rhinolophus megaphyllus</i>	Eastern Horseshoe Bat						X				
<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail Bat	V						X			P
<i>Scotorepens balstoni</i>	Inland Broad-nosed Bat			X	X	X	X	X	X	X	X
<i>Scotorepens greyii</i>	Little Broad-nosed Bat			X	X	X	X	X	X	X	X
<i>Vespadelus baverstocki</i>	Inland Forest Bat	V		X					P	P	P
<i>Vespadelus darlingtoni</i>	Large Forest Bat				X				P	X	P
<i>Vespadelus regulus</i>	Southern Forest Bat			P			X	X	X		P
<i>Vespadelus vulturnus</i>	Little Forest Bat			X	X	X	X	X	X	X	X

## Appendix D Photo point monitoring data sheets

PP1

Monitoring Data Sheet				
Monitoring Point Number	PP1		Date	21/9/23
1. Site Photo(s)	3551 - 3554			
2. Floristic BioMetric attributes				
Native cover	% cover		Dominant species	
Overstorey:	1		E. pop	
Midstorey:	1		E. pop, Acacia osu	
Groundcover(grass - shrubs - other):	20	10	10	A. scabra, Enteropogon, Eriophorum, Muehlenbergia, Vittadinia
Litter:	15			
Bare ground:	10			
Cryptogams:	5			
Proportion of canopy species regenerating	11			
Exotic cover	30		Hordeum, Vulpia, Lolium, Echinum, Conium	
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Yes, increased ground cover, mostly with weeds	
Threatened species sightings			Nil	
Fire event/fuel/fire breaks			Nil	
Weeds			High cover Hordeum, Conium, Echinum	
Pest animals			Fox sighted	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	
Erosion			No active along drainage	
Fencing			Nil	

PP2

Monitoring Data Sheet				
Monitoring Point Number	PP2		Date	20.9.23
1. Site Photo(s)	3507-3510			
2. Floristic BioMetric attributes				
Native cover	% cover		Dominant species	
Overstorey:	10%		Callitris; Euc. pop.	
Midstorey:	20%		Geyeria; Callitris;	
Groundcover(grass - shrubs - other):	35%	10%	0%	Austro scabra; Enchyloena tomen;
Litter:	20%			
Bare ground:	5%			
Cryptogams:	15%			
Proportion of canopy species regenerating	50%		Callitris	
Exotic cover	15%		Lactuca; Vulpia; patens; Cape weed; Medica; Bromus; Galium	
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Present; Callitris regen	
Threatened species sightings			Nil	
Fire event/fuel/fire breaks			Track is maintained. No fire damage.	
Weeds			Moderate cover. See above	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	
Erosion			Nil	
Fencing			Nil	

PP3

Monitoring Data Sheet				
Monitoring Point Number	PP3		Date	20.9.23
1. Site Photo(s)	3526 - 3529			
2. Floristic BioMetric attributes				
Native cover	% cover		Dominant species	
Overstorey:	5%		Eucalyptus pop.	
Midstorey:	1%		Callitris; Acacia swainsonii	
Groundcover (grass - shrubs - other):	60%	45% 10% 5%	Entolasia, Austro. Scabro; Enchyliana;	
Litter:	30%			
Bare ground:	1%			
Cryptogams:	1%			
Proportion of canopy species regenerating	100%		Euc. pop.	
Exotic cover	10%		Lolium; Hordeum; Sisymbrium Vulgaris;	
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Euc. pop. regen.	
Threatened species sightings			Grey crowned babbler.	
Fire event/fuel/fire breaks			No evidence of fire damage.	
Weeds			Horehound; Echium plant.; Prickly pear; Lolium; Hordeum; Sisymbrium.	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	
Erosion			Nil	
Fencing			Nil	



PP4

Monitoring Data Sheet			
Monitoring Point Number	PP4	Date	21/9/23
1. Site Photo(s)	3543 - 3546		
2. Floristic BioMetric attributes			
Native cover	% cover	Dominant species	
Overstorey:	8	Epop, Callitris	
Midstorey:	1	Callitris, Epop	
Groundcover(grass - shrubs - other):	35   10   5	Endymiaena, styra scab tenuosus, Entropogon, Aristida bach	
Litter:	25		
Bare ground:	5		
Cryptogams:	10		
Proportion of canopy species regenerating	212		
Exotic cover	10	Marrubium, Hordenum, Lolium	
3. Opportunistic observations	GPS coordinates	Photo number	Observations
Natural regeneration of disturbed areas			Nil
Threatened species sightings			GCB in BOA3 survey
Fire event/fuel/fire breaks			Nil
Weeds			Marrubium, Hordenum, Lolium Lactuca, Vulpia
Pest animals			Nil
Visitor impact/vehicles			Nil
Rubbish dumping			Nil
Erosion			Nil
Fencing			Nil

PP5

Monitoring Data Sheet				
Monitoring Point Number	PP5		Date	21/9/23
1. Site Photo(s)	3547 - 3550			
2. Floristic BioMetric attributes				
Native cover	% cover		Dominant species	
Overstorey:	5		E. pop	
Midstorey:	1		Callitris, E. pop, Acacia osc	
Groundcover(grass - shrubs - other):	20	10	5	Enchylaena, E. hadra, Entero P, Maireana decal, Stipa solida
Litter:	30			
Bare ground:	20			
Cryptogams:	5			
Proportion of canopy species regenerating	2/2			
Exotic cover	5		Hordeum, Marrubium, Lactuca	
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			increased ground cover with weeds	
Threatened species sightings			GCB	
Fire event/fuel/fire breaks			Nil	
Weeds			Hordeum, Marrubium, Lactuca, Vulpia	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	
Erosion			Nil	
Fencing			Nil	



PP6

Monitoring Data Sheet			
Monitoring Point Number	PP6		Date
1. Site Photo(s)	3511-3514		
2. Floristic BioMetric attributes			
Native cover	% cover		Dominant species
Overstorey:	10%		Callitris; Euc. pop.
Midstorey:	5%		Callitris; Grevia;
Groundcover(grass - shrubs - other):	30%	15% 10% 5%	Enchyliana tomentosa; Austro. scabra;
Litter:	25%		
Bare ground:	10%		
Cryptogams:	20%		
Proportion of canopy species regenerating	100%		Callitris; Euc. pop.
Exotic cover	15%		Echin. plant; Vulpis; Bromus;
3. Opportunistic observations	GPS coordinates	Photo number	Observations
Natural regeneration of disturbed areas			Present - Callitris reg.; Euc. reg.
Threatened species sightings			Nil
Fire event/fuel/fire breaks			No evidence of fire damage.
Weeds			Moderate cover. See above.
Pest animals			Fox scat.
Visitor impact/vehicles			Nil.
Rubbish dumping			Nil
Erosion			Nil
Fencing			Fence to southwest maintained.

PP7

Monitoring Data Sheet			
Monitoring Point Number	PP7		Date
1. Site Photo(s)	3555-3558		
2. Floristic BioMetric attributes			
Native cover	% cover	Dominant species	
Overstorey:	10%	Callitris - Euc. pop	
Midstorey:	5%	Euc. pop, Callitris	
Groundcover(grass - shrubs - other): 55%	42% 3% 10%	Austro. scabra, Aristida ben Enchytaena;	
Litter:	15%		
Bare ground:	10% 80%		
Cryptogams:	15% 9%		
Proportion of canopy species regenerating	100%	both Callitris + Euc. pop	
Exotic cover	5%	Vulpia; Echium	
3. Opportunistic observations	GPS coordinates	Photo number	Observations
Natural regeneration of disturbed areas			Present. Both Callitris + Euc. pop.
Threatened species sightings			Nil.
Fire event/fuel/fire breaks			No evidence of fire damage.
Weeds			Echium;
Pest animals			Nil
Visitor impact/vehicles			Nil
Rubbish dumping			Nil
Erosion			Nil
Fencing			Nil. No fencing in immediate area.



PP8

Monitoring Data Sheet				
Monitoring Point Number	PP8		Date	21.9.23
1. Site Photo(s)	3539 - 3542			
2. Floristic BioMetric attributes				
Native cover	% cover		Dominant species	
Overstorey:	5%		Euc. popp; Euc. Myrtosa leucomani	
Midstorey:	1%		Euc. popp.	
Groundcover (grass - shrubs - other):	40%	20% 15% 5%	Enchyrtama, Xanthorrhoea, Sclerophylla, Acroplex, A. S. Sclerophylla	
Litter:	24%			
Bare ground:	1%			
Cryptogams:	0%			
Proportion of canopy species regenerating	100%			
Exotic cover	35%		Eucalyptus, Hordewort	
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Present - euc. pop. regen.	
Threatened species sightings			Nil.	
Fire event/fuel/fire breaks			Fire trail/road maintained. no evidence of fire damage.	
Weeds			Hordewort, Eucalyptus, Cactica. horse bound to phacelia	
Pest animals			Nil.	
Visitor impact/vehicles			Nil.	
Rubbish dumping			Nil.	
Erosion			Nil.	
Fencing			Boundary fence maintained	

BOA1

Monitoring Data Sheet				
Monitoring Point Number	BOA 1		Date	20.9.23
1. Site Photo(s)	3515, 3516, 3517, 3518			
2. Floristic BioMetric attributes				
Native cover	% cover		Dominant species	
Overstorey: (across plot ~ 5%)	n		Euc. pop; Callitris. (not present on transect)	
Midstorey: (across plot ~ 5%)			Callitris, Greyera. (not present on transect)	
Groundcover (grass, shrubs - other):	Grass: 30% Shrubs: 2% Other: 10%	Austro. scabra; Dichapogon fimbriatum; Myalospasma senii; Eucalyptus torresii;		
Litter: 1	20%			
Bare ground: 1	8%			
Cryptogams: 1	12%			
Proportion of canopy species regenerating	100%		Callitris + euc. pop regen.	
Exotic cover: 1	18%		Vulpia; Echinochloa plant; (closer to 10% exotic cover across plot)	
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Present. Both Callitris + Euc regen	
Threatened species sightings			Nil	
Fire event/fuel/fire breaks			No evidence of fire damage. Road fire break maintained.	
Weeds			Moderate cover - mostly Vulpia closer to 10% cover.	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Small amount of blown rubbish.	
Erosion			Nil	
Fencing			Maintained on southern boundary of site	

BOA2

Declan Maylan

Monitoring Data Sheet			
Monitoring Point Number	BOA2		Date
1. Site Photo(s)	3495; 3496; 3497; 3498		
2. Floristic BioMetric attributes			
Native cover	% cover		Dominant species
Overstorey: II	4%		Callitris; Euc. pop.
Midstorey: IIII	20%		Callitris
Groundcover (grass - shrubs - other): Grass: IIII Shrubs: II	26% 0% 5%		Austro scabra; Stachyria maura; Enchyliaria formosa
Litter: IIII	18% 18%		little cover less than tallies = ~20%
Bare ground: IIII	28% 28%		bare ground less than tallies = ~25%
Cryptogams: IIII	30%		
Proportion of canopy species regenerating	100%		Callitris; Euc. pop.
Exotic cover II	4%		Vulpur; Asphodelus fistul; Echium plant.
3. Opportunistic observations	GPS coordinates	Photo number	Observations
Natural regeneration of disturbed areas			Callitris; Euc. pop. less grass cover than previous year.
Threatened species sightings			—
Fire event/fuel/fire breaks			Nil
Weeds			Asphodelus fistul; Echium.
Pest animals			Nil
Visitor impact/vehicles			Nil
Rubbish dumping			Nil
Erosion			Nil
Fencing			Nil



BOA3

Monitoring Data Sheet					
Monitoring Point Number		BOA3		Date	20.9.23
1. Site Photo(s)		3519 - 3522			
2. Floristic BioMetric attributes					
Native cover		% cover		Dominant species	
Overstorey:		2%		Callitris;	
Midstorey:		8%		Callitris,	
Groundcover (grass - shrubs - other): Grass:       Other:       Shrub:		30%	2%	10%	Austro. scarba; Dichopogon fin;
Litter:		20%			
Bare ground:		5%			
Cryptogams:		18%			
Proportion of canopy species regenerating		100%		Callitris; Euc. pop.	
Exotic cover:		15%		Vulpia; medic; Echium;	
3. Opportunistic observations		GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas				Callitris and euc. pop. regen present in plot.	
Threatened species sightings					
Fire event/fuel/fire breaks				No fire damage evident. Fire break roads maintained.	
Weeds				Vulpia dominant weed. Echium present.	
Pest animals				Nil	
Visitor impact/vehicles				Nil.	
Rubbish dumping				Nil.	
Erosion				Nil.	
Fencing				Nil.	

BOA4

Delelan Maylan

Monitoring Data Sheet				
Monitoring Point Number	BOA 4		Date 19.09.23	
1. Site Photo(s)	3491, 3492, 3493, 3494			
2. Floristic BioMetric attributes				
Native cover	% cover		Dominant species	
Overstorey: (more in plot than tallies)	10%		Euc. pop; Callitris	
Midstorey: 11 (more in plot than tallies)	10%		Callitris;	
Groundcover (grass - shrubs - other):	30%	1%	2%	Austro. scabra; hydrospasma semi;
Litter: 11 11 11 11	10%			
Bare ground: 11 11 11 11 11	50%			
Cryptogams: 11 11 11	20%			
Proportion of canopy species regenerating	2/2			
Exotic cover 11	5%		Vulpia, Arctotheca cal.; Leontodon;	
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			Canopy sp. regen increased. Ground cover increased.	
Threatened species sightings			Nil	
Fire event/fuel/fire breaks			Nil	
Weeds			Opuntia; Arctotheca; Leontodon	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	
Erosion			Nil	
Fencing			Nil	



BOA5

Declan Maylan.

Monitoring Data Sheet			
Monitoring Point Number	BOA5		Date
1. Site Photo(s)	3503; 3504; 3505; 3506		
2. Floristic BioMetric attributes			
Native cover	% cover	Dominant species	
Overstorey: II	4%	Callitris; Euc. pop.	
Midstorey: IHT IHT IHT IHT IHT II	54%	Callitris.	
Groundcover (grass - shrubs - other): Grass: IHT II Shrubs: IHT	14% 0% 8%	Austro scabra, halimolobos, Cheilanthes sub.	
Litter: IHT IHT IHT IHT IHT IHT	60%		
Bare ground: IHT IHT I	22%		
Cryptogams: IHT II	14%		
Proportion of canopy species regenerating	100%	Callitris; Euc. pop.	
Exotic cover	0%	woods within plot however not transect.	
3. Opportunistic observations	GPS coordinates	Photo number	Observations
Natural regeneration of disturbed areas			High # of Callitris regon. limited Euc. regon.
Threatened species sightings			Nil
Fire event/fuel/fire breaks			Nil
Weeds			Orion weed; Vulpia.
Pest animals			Nil
Visitor impact/vehicles			Nil
Rubbish dumping			Small amount of blown rubbish.
Erosion			Nil
Fencing			Nil



Deben Mofen

Monitoring Data Sheet				
Monitoring Point Number	BOAH		Date	19.9.23
1. Site Photo(s)	3499, 3500, 3501, 3502			
2. Floristic BioMetric attributes				
Native cover		% cover		Dominant species
Overstorey: <i>IIIH IIIH IIIH</i>		35%		<i>Callitris</i>
Midstorey: <i>IIIH I</i>		12%		<i>Callitris</i> ; <i>Euc. pop.</i>
Groundcover (grass - shrubs - other): <i>Grass: IIIH IIIH IIIH IIIH IIIH Shrub: IIIH</i>		50% 0% 8%		<i>Austro scabra</i> ; <i>Enchylrena tenen</i> ; <i>Chelantia sieberi</i> ;
Litter: <i>IIIH IIIH IIIH II</i>		34%		less water than fall 19: n 20%
Bare ground: <i>IIII</i>		8%		
Cryptogams: <i>IIIH IIIH IIIH</i>		30%		
Proportion of canopy species regenerating		100%		<i>Callitris</i> ; <i>Euc. pop.</i>
Exotic cover		0.5%		<i>Lactuca</i> ; <i>Gonyza</i> ;
3. Opportunistic observations	GPS coordinates	Photo number	Observations	
Natural regeneration of disturbed areas			canopy species regen present.	
Threatened species sightings			Grey Crowned Babbler.	
Fire event/fuel/fire breaks			Nil	
Weeds			<i>Echum plant.</i> , <i>Oron weed</i> ; <i>Gonyza</i> ; <i>Lactuca</i> ;	
Pest animals			Nil	
Visitor impact/vehicles			Nil	
Rubbish dumping			Nil	
Erosion			Nil	
Fencing			Nil.	

## Appendix E Quadrat data sheets

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Tharbogang flora biometric data														
2	2023														
3	Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column15
4	Scientific Name	Common name		BOA1		BOA2		BOA3		BOA4		BOA5		BOA6	
5				cover	abundance	cover	abundance	cover	abundance	cover	abundance	cover	abundance	cover	abundance
6	Arctotheca calendula	Capeweed	Exotic			✓0.1	20	✓0.1	20	✓0.2	100	✓0.1	100		
7	Brassica tournefortii		Exotic												
8	Bromus rubens	Red Brome	Exotic			✓0.1	50			✓0.1	5				
9	Bromus arenarius	native?	Exotic			✓0.3	500					✓0.2	500	✓0.5	1000
10	Capsella bursa-pastoris	Shepherd's Purse	Exotic												
11	Carthamus lanatus	Saffron Thistle	Exotic							✓0.1	20				
12	Centaurea sp.		Exotic			✓0.2	100	✓0.1	20			✓0.1	20		
13	Chenopodium melanocarpum	Black Crumbweed	Exotic											✓0.1	20
14	Chondrilla juncea	Skeleton Weed	Exotic							✓0.1	1				
15	Cirsium vulgare	Spear Thistle	Exotic							✓0.1	5	✓0.1	10	✓0.1	20
16	Conyza sp.		Exotic			✓0.1	2	✓0.1	1	✓0.1	5	✓0.1	10	✓0.1	20
17	Echium plantagineum	Paterson's Curse	Exotic	✓0.2	100	✓0.3	100	✓0.3	500			✓0.3	500	✓0.3	500
18	Ehrharta longiflora	Annual Veldtgrass	Exotic												
19	Euphorbiaceae indeterminate	Spurges	Exotic									✓0.2	500	✓0.1	20
20	Hordeum leporinum	Barley Grass	Exotic			✓0.1	100					✓0.2	500	✓0.1	20
21	Hypochaeris glabra		Exotic	✓1	1000			✓0.3	500						
22	Hypochaeris radicata	Catsear	Exotic	✓0.2	100	✓0.5	500	✓0.3	100	✓0.5	500	✓0.5	500	✓0.5	500
23	Lactuca serriola	Prickly Lettuce	Exotic	✓0.1	2	✓0.1	20	✓0.2	100					✓0.2	100
24	Lamarckia aurea	Goldentop	Exotic												
25	Leontodon rhagadioloides	Cretan Weed	Exotic	✓0.1	100					✓0.3	500				
26	Leptorhynchus sp.		Exotic												
27	Lolium rigidum	Wimmera Ryegrass	Exotic			✓0.1	100			✓0.1	50				
28	Lycium ferocissimum	African Boxthorn	Exotic	✓0.1	1							✓0.1	1		
29	Medicago laciniata	Cut-leaved Medic	Exotic	✓0.1	10					✓0.1	10	✓0.1	1		
30	Medicago minima	Woolly Burr Medic	Exotic												
31	Medicago sp.		Exotic												
32	Medicago truncatula	Barrel Medic	Exotic			✓0.1	50	✓0.1	10			✓0.1	2	✓0.1	100
33	Opuntia stricta	Prickly Pear	Exotic			✓0.1	1			✓0.1	2	✓0.1	1	✓0.1	1
34	Pentaschistis airoides	False Hairgrass	Exotic			✓0.1	100					✓0.1	20	✓0.1	100
35	Petrorhagia nanteuillii		Exotic							✓0.1	500				
36	Phyllanthus fuernrohii	Common Crowfoot	Exotic												
37	Romulea rosea	Onion Grass	Exotic							✓0.2	20				
38	Salvia verbenaca	Vervain	Exotic												

Moraea sekibola

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
39	Silene tridentata	Catchfly	Exotic			✓0.1	2			✓0.1	1				
40	Sisymbrium erysimoides	Smooth Mustard	Exotic									✓0.1	10		
41	Sisymbrium irio	London Rocket	Exotic												
42	Sonchus oleraceus	Common Sowthistle	Exotic	✓0.3	1000	✓0.1	20	✓0.3	500	✓0.1	20	✓0.2	500	✓0.2	500
43	Taraxacum officinale	Dandelion	Exotic												
44	Trifolium arvense	Haresfoot Clover	Exotic			✓0.1	50	✓0.1	100	✓0.1	5			✓0.1	100
45	Trifolium sp. <i>glom</i>		Exotic			✓0.1	50	✓0.1	10					✓0.1	100
46	Vulpia myuros	Rat's Tail Fescue	Exotic	✓1	1000	✓0.3	1000	✓1	1000	✓0.1	500	✓0.3	500	✓1	1000
47	Actinobole uliginosum	Flannel Cudweed	Native	✓0.1	100	✓0.2	500	✓0.1	500			✓0.1	50	✓0.1	10
48	Aphanes australiana	Parsley-piert	Native												
49	Aristida behriana	Bunch Wiregrass	Native	✓5	500	✓0.5	100	✓3	100	✓0.5	50				
50	Aristida jerichoensis var. subspinulifera			✓0.2	50			✓2	100	✓0.3	100				
51	Aristida sp.		Native												
52	Arthropodium minus	Small Vanilla Lily	Native									✓0.1	10	✓0.1	2
53	Asperula conferta	Common Woodruff	Native												
54	Asteraceae indeterminate	Daisies	Native												
55	Atriplex semibaccata	Creeping Saltbush	Native			✓0.1	2	✓0.1	2						
56	Austrostipa bigeniculata		Native	✓0.2	20	✓0.5	100								
57	Austrostipa scabra	Speargrass	Native	✓25	1000	✓48	800	✓25	1000	✓10	500	✓5	500	✓20	500
58	Austrostipa sp.		Native												
59	Brachychiton populneus	Kurrajong	Native			✓1	1								
60	Bromus sp.		Native	✓0.1	20	✓0.1	50	✓0.1	20	✓0.1	2	✓0.1	50		
61	Bulbine bulbosa	Bulbine Lily	Native	✓0.1	50	✓0.1	50	✓0.1	20	✓0.1	2	✓0.1	50	✓0.2	500
62	Bulbine semibarbata		Native												
63	Calandrinia eremaea		Native			✓0.1	5								
64	Callitris glaucophylla	White Cypress Pine	Native	✓3	5	✓8	23	✓8	25	✓0.2	8	✓30	500	✓15	18
65	Calotis hispidula	Bogan Flea	Native	✓0.1	100	✓0.2	500	✓0.1	500	✓0.1	10	✓0.1	50	✓0.1	100
66	<i>Euphorbia</i> <del>Chamaesyce</del> drummondii	Caustic Weed	Native	✓0.1	1										
67	Cheilanthes sieberi	Mulga Fern	Native	✓0.2	100	✓0.1	10	✓0.2	100			✓1	500	✓1	500
68	Chenopodium desertorum subsp. desertorum		Native	✓0.1	1									✓0.1	1
69	Chloris truncata	Windmill Grass	Native							✓0.2	50	✓0.1	5		
70	Chrysocephalum apiculatum	Common Everlasting	Native	✓0.1	10			✓0.1	2	✓0.2	20	✓0.1	5		
71	Convolvulus erubescens complex		Native	✓0.2	100	✓0.1	1	✓0.3	500	✓0.1	20			✓0.1	2
72	Crassula colorata		Native	✓0.1	1000	✓0.1	100	✓0.2	1000			✓0.1	1000	✓0.1	500
73	Crassula sp.		Native												
74	Daucus glochidiatus	Native Carrot	Native												
75	Dodonaea sp.		Native									✓0.1	1		
76	Dianella sp.		Native	✓0.1	1										
	<i>Ascarosus ascaroides</i>													✓0.1	10

*Asparagus asparagoides*



				BoA 1	BoA 2	BoA 3	BoA 4	BoA 5	BoA 6						
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
77	Dichopogon fimbriatum	Chocolate Lily	Native	✓ 1	1000	✓ 0.1	10	✓ 1	1000					✓ 3	1000
78	Einadia nutans subsp nutans		Native	✓ 0.5	100	✓ 0.5	20	✓ 0.3	20	✓ 0.1	2	✓ 0.5	100	✓ 0.2	20
79	Enteropogon acicularis	Curly Windmill Grass	Native	✓ 0.2	50	✓ 0.2	20	✓ 0.2	50	✓ 0.1	2			✓ 0.2	20
80	Enchylaena tomentosa	Ruby Saltbush	Native	✓ 0.5	20	✓ 3	50	✓ 0.3	20	✓ 0.1	10	✓ 1	100	✓ 1	100
81	Eragrostis spp.	A Lovegrass	Native	✓ 0.1	5	✓ 0.1	5	✓ 0.1	20			✓ 0.1	20	✓ 0.1	1
82	Erodium crinitum	Blue Storksbill	Native					✓ 0.1	1						
83	Eucalyptus populnea	Poplar Box	Native	✓ 0.1	1			✓ 0.1	1	✓ 8	5				
84	Goodenia cycloptera		Native	✓ 0.1	20					✓ 0.5	500	✓ 0.3	100		
85	Goodenia pusilliflora		Native	✓ 0.2	500			✓ 0.2	1000	✓ 0.2	500				
86	Goodenia sp.		Native												
87	Velleia glabrata		Native												
88	Hyalosperma semisterile		Native	✓ 0.1	500	✓ 0.1	100	✓ 0.1	500	✓ 0.1	100	✓ 0.1	100	✓ 0.1	100
89	Hypoxis glabella var. glabella	Star Grass	Native												
90	Isoetopsis graminifolia	Grass Cushion	Native					✓ 0.1	2	✓ 0.1	20				
91	Leptorhynchus squamatus	Scaly Buttons	Native	✓ 0.1	20										
92	Limonium lobatum		Native												
93	Maireana enchylaenoides	Wingless Fissure Weed	Native	✓ 0.1	5	✓ 0.1	1	✓ 0.1	3	✓ 0.1	1	✓ 0.1	10	✓ 0.1	10
94	Maireana excavata	Bottle Bluebush	Native	✓ 0.5	100	✓ 0.1	10	✓ 0.5	500	✓ 0.1	2			✓ 0.1	2
95	Millotia myosotidifolia	Broad-leaved Millotia	Native									✓ 0.1	100		
96	Minuria leptophylla		Native							✓ 0.2	20				
97	Monachather paradoxus	Bandicoot Grass	Native	✓ 0.3	50			✓ 0.3	100			✓ 0.2	100		
98	Ophioglossum lustranicum	Adders Tongue	Native												
99	Ophioglossum sp.		Native												
100	Oxalis perennans		Native	✓ 0.1	1							✓ 0.1	1		
101	Paspalidium distans		Native												
102	Paspalidium spp.		Native									✓ 0.1	10	✓ 0.2	10
103	Phyllanthus fuernrohrrii	Sand Spurge	Native							✓ 0.1	3	✓ 0.1	1		
104	Pimelia sp.		Native												
105	Pittosporum angustifolium	Weeping Pittosporum	Native	✓ 0.1	30										
106	Plantago debilis		Native												
107	Pterostylis bicolor	Black-tip Greenhood	Native												
108	Ptilotus spathulatus	Pussy Tails	Native							✓ 0.1	1				
109	Ranunculus sessiliflorus	Small-flowered Buttercup	Native												
110	Rhodanthe corymbiflora	Small White Sunray	Native												
111	Rhodanthe diffusa	Ascending Sunray	Native			✓ 0.1	50	✓ 0.1	20			✓ 0.1	20		
112	Rhodanthe laevis	Smooth Sunray	Native									✓ 0.1	5		
113	Rhodanthe pygmaea	Pygmy Sunray	Native	✓ 0.1	1			✓ 0.1	1						
114	Rytidosperma auriculata		Native												

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
115	Rytidosperma caespitosum		Native							✓ 10	500				
116	Rytidosperma sp.		Native	✓ 5	500			✓ 5	500	✓ 1	100	✓ 1	100	✓ 2	100
117	Salsola australis (formerly S. k.	Soft Roly Poly	Native	✓ 0.1	1			✓ 0.1	1						
118	Sclerolaena diacantha		Native	✓ 0.1	3										
119	Senna artemisioides subsp. filifolia	Silver Cassia	Native			✓ 0.1	1								
120	Sida corrugata	Corrugated Sida	Native	✓ 0.1	5	✓ 0.1	5	✓ 0.1	5	✓ 0.1	2	✓ 0.1	10	✓ 0.1	10
121	Sida cunninghamii	Ridged Sida	Native	✓ 0.1	20	✓ 0.1	20	✓ 0.1	10	✓ 0.1	50	✓ 0.1	20	✓ 0.1	5
122	Solanum esuriale	Quena													
123	Stackhousia monogyna	Creamy Stackhousia	Native			✓ 0.1	50					✓ 0.2	500		
124	Stuartina muelleri	Spoon Cudweed	Native			✓ 0.1	100	✓ 0.1	20			✓ 0.1	20	✓ 0.1	100
125	Thysanotus patersonii	Twining Fringe Lily	Native									✓ 0.1	1 dead		
126	Tricoryne elatior	Yellow Autumn-lily	Native	✓ 0.1	4	✓ 0.1	1	✓ 0.1	2					✓ 0.1	1
127	Tripogon liliiformis	Fiveminute Grass	Native	✓ 0.2	50	✓ 0.2	100	✓ 0.2	100			✓ 0.1	50	✓ 0.2	100
128	Triptilodiscus pygmaeus	Common sunray	Native			✓ 0.2	500	✓ 0.3	500			✓ 0.1	500	✓ 0.2	500
129	Vicia sp.		Native												
130	Vittadinia cuneata	Fuzzweed	Native	✓ 0.1	10	✓ 0.1	5	✓ 0.2	50	✓ 1	100	✓ 0.1	10	✓ 0.2	50
131	Vittadinia sp. <i>granulata</i>	Fuzzweed	Native	✓ 0.1	5	✓ 0.5	50	✓ 0.1	5						
132	Wahlenbergia (broad leaf) sp.		Native												
133	Wahlenbergia communis	Tufted Bluebell	Native									✓ 0.2	500		
134	Wahlenbergia sp.		Native	✓ 0.1	20	✓ 0.2	1000	✓ 0.1	500			✓ 0.1	10	✓ 0.1	100
135	Wahlenbergia stricta	Tall Bluebell	Native												
136	Wurmbea dioica	Early Nancy	Native												
137	Xerochrysum bracteatum	Golden Everlasting	Native	✓ 0.1	5	✓ 0.1	50	✓ 0.2	100	✓ 0.1	20	✓ 0.1	10	✓ 0.1	100
138	Thyridolepis mitchellii					✓ 0.1	1			✓ 0.2	20	✓ 0.1	5		
139	Senecio quadridentatus													✓ 0.1	1
140	Vitt bisecta													✓ 0.1	1
141	Costraria cristata							✓ 0.1	10					✓ 0.1	100
142	Pseudograpta luteo-alba														
143															
144															

Total Native Species0

Total Exotic Species2

"Dead not counted"

"Dead not counted"