Targeted Flora Survey of Sand Patch Meteorological Mast, Albany

Report prepared for

SynergyRED

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FLORA | FAUNA | DIEBACK

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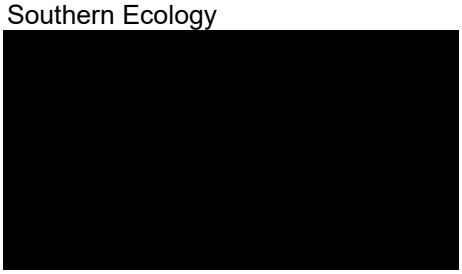

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1 SUMMARY

SynergyRED are proposing to undertake installation of a meteorological mast at Sand Patch, approximately 9 kilometres (km) south west of Albany. A detailed flora and vegetation survey was undertaken by Terratree in 2022 covering 27.8 hectares (ha). At the conclusion of the field survey Terratree (2023) considered that the presence of seven species remained possible or likely to occur. Southern Ecology was then engaged to undertake targeted flora survey in spring 2023 to assess two refined footprint options (Southern Ecology 2023). In 2024, further footprint options (5.86 ha) were assessed by Southern Ecology to improve the confidence that conservation significant flora could be avoided by the project. The targeted flora survey in 2024 determined the following results:

- Two Priority-listed flora were recorded within the survey area:
    - *Adenanthos x cunninghamii* (P4) - one individual seedling was recorded within the survey area.
    - *Thomasia quercifolia* (P4) - 62 individuals were recorded from one limestone outcrop within the survey area.
- After completion of the surveys, all remaining conservation significant taxa identified in the desktop assessments are considered unlikely to occur in the survey area.
- Three additional significant weed species were recorded from the survey area in 2024:
    - **Zantedeschia aethiopica* (Arum Lilly) is listed as a Declared Pest.
    - **Acacia longifolia (Sydney Wattle) and *Cortaderia selloana* (Pampas Grass) are both listed as weeds of concern in the City of Albany.

2 INTRODUCTION

2.1 Project Background

SynergyRED are proposing to install a meteorological mast at Sand Patch, approximately 9 kilometres (km) south west of the Albany town centre. In 2022, Terratree (2023) completed a detailed flora and vegetation survey of the project envelope (approximately 27.38 ha in area – hereafter the "2022 survey area") (Figure 1). They undertook a desktop assessment and a five-day field survey with three personnel from the 11th to 15th of October 2022. The survey effort included sampling from 15 quadrats and walking traverses of the survey area at approximately 50-metre (m) intervals.

The Terratree survey determined that two DBCA listed Priority 4 flora were present, *Adenanthos x cunninghamii* and *Thomasia quercifolia* and that no Priority or Threatened Ecological Communities occur within the 2022 survey area.

Terratree identified several survey limitations and following a review by PVG Environmental (2023) additional field surveys were recommended. Consequently, Southern Ecology was engaged by SynergyRED to undertake a targeted flora survey of a smaller refined clearing footprint representing two options for installation of the mast (5.98 ha – hereafter "the 2023 survey area") to address outstanding survey limitations.

In 2024, further footprint options (5.86 ha, hereafter "the survey area") were assessed by Southern Ecology to improve the confidence that conservation significant flora could be avoided by the project.

2.2 Scope and Objectives

. The scope of works included the following:

- Review the desktop and field assessment undertaken by Terratree (2023) and Southern Ecology (2023).
- Complete targeted searches for the seven taxa that are considered likely or possible to occur within the survey area (5.86 ha):
    - *Calectasia cyanea* (T)
    - *Caladenia evanescens* (P1)
    - *Gyrostemon thesioides* (P2)
    - *Pterostylis heberlei* (P2)
    - *Thelymitra porphyrosticta* (P2)
    - *Corysanthes limpida* (P4)
    - *Drosera fimbriata* (P4)
- Provide a targeted flora assessment report.

The objective of the targeted flora survey is to delineate key flora values within the survey area. The outcome of the survey and information supplied in the survey report will be used to inform the environmental assessment and approvals process.

2.3 Location and Tenure

The survey area is located approximately 9 km south west of Albany (Figure 1) on Crown Reserve (2903), vested in the City of Albany.

Refer to Terratree (2023) for desktop information on the existing environment, including soils, landforms and regional vegetation.

2.4 State and Commonwealth Conservation and Pest Categories

Commonwealth and State regulatory authorities maintain lists of vegetation, flora and fauna that are assigned into categories of conservation significance or pest status. An overview of the codes and categories used for conservation and pest status in Western Australia that are relevant to this biological survey are provided in Appendix A.

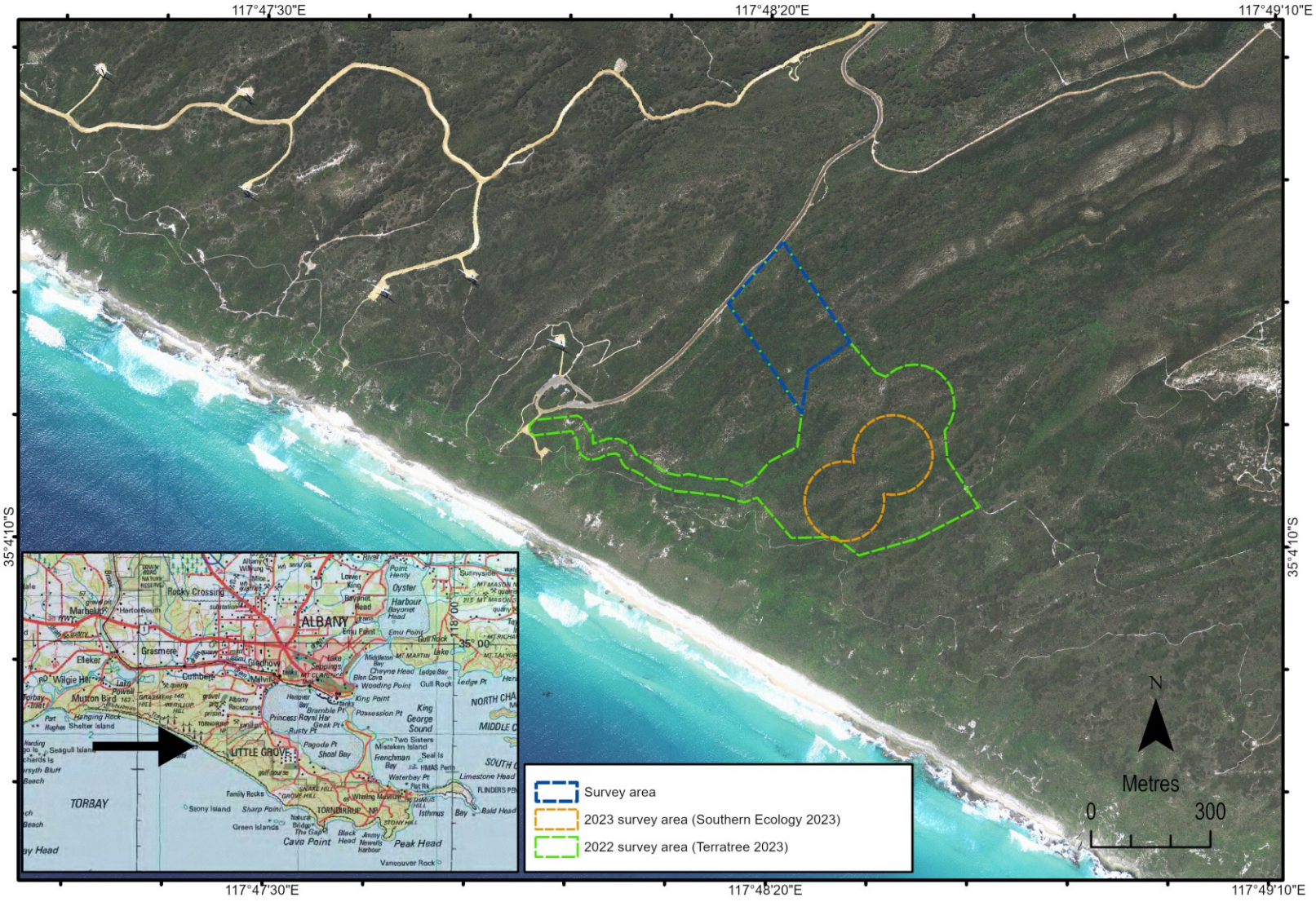

Figure 1. Survey area location.

3 METHODS

3.1 Personnel

The assessment was conducted by Damien Rathbone (senior ecologist, BScHons Plant Science, Scientific License FB2000229). Damien has over 16 years of experience conducting biological surveys in southern Western Australia. Within the South Coast region, he has previously undertaken Department of Biodiversity, Conservation and Attractions (DBCA) regional surveys (Albany Regional Vegetation Survey, Fitzgerald River National Park Flora Survey, Ravensthorpe Range Flora Survey), threatened species survey and recovery implementation, and has 10 scientific publications. Damien is also an accredited interpreter for dieback assessments on DBCA estate (Accreditation PDI-032).

3.2 Desktop Review

Terratree (2023) undertook a detailed desktop review of known or potential significant vegetation and flora within a 20 km radius of the survey area (the study area). Southern Ecology reviewed the following sources for any additional listings or changes:

- Threatened and Priority flora records from DBCA and/or the Western Australian Herbarium (mapped in Appendix B, Map 1).
- Protected Matters Search Tool (Department of Climate Change, Energy, Environment and Water [DCCEEW] (2025).

3.3 Likelihood of Occurrence Assessment

The desktop assessment conducted by Terratree (2023) identified that 75 conservation significant flora have previously been recorded in the vicinity (<20 km) of the survey area. At the conclusion of the 2022 field survey, they determined that:

- Two conservation significant flora occur within the survey area.
- Seven species remained Possible or Likely to occur, as they may have been overlooked due to the dense heathland and lack of visibility across traverses in the 2022 survey:

- *Calectasia cyanea* (T)
- *Caladenia evanescens* (P1)
- *Gyrostemon thesioides* (P2)
- *Pterostylis heberlei* (P2)
- *Thelymitra porphyrosticta* (P2)
- *Corysanthes limpida* (P4)
- *Drosera fimbriata* (P4)

- It was considered Unlikely that the remaining 66 taxa occur within the survey area due to habitat preference or the records in the study area were geospatial errors.

Prior to conducting the 2024 survey, the records for the seven taxa were reviewed to determine key morphological characteristics, flowering times, habitat preferences and the likelihood and location of potentially suitable habitat within the survey area.

Post-survey Likelihood of Occurrence

Following the field survey, all targeted conservation significant flora species that were not detected during the survey were assessed to determine their likelihood of occurrence in the survey area.

Each flora species was assessed according to the general categories summarised in Table 1 to determine if the taxon may not have been adequately addressed during the survey. Habitat suitability was determined from information in herbarium voucher labels, published descriptions, and knowledge from the authors. Survey effectiveness reflected the probability of detecting a particular species where suitable habitat was present, which could be dependent on thoroughness of the survey, flowering period or timing of emergence (i.e., annuals or disturbance responsive species).

Table 1. Indicative matrix of habitat suitability and effectiveness of field surveys to determine the likely presence of conservation significant flora post survey.

		Survey Effectiveness		
		No survey limitations present that would have prevented detection; all habitats were thoroughly surveyed	Moderate survey limitations present (i.e., inconspicuous or cryptic species; dense vegetation)	Major survey limitations present (i.e., species is a post fire ephemeral and habitat are long unburnt; habitat inaccessible)
Habitat and Proximity	Species reliably recorded within close vicinity (<2 km) and suitable habitat present	Unlikely	Possible	Likely
	Species previously recorded within vicinity (2-10 km) and suitable habitat present	Unlikely	Possible	Possible
	No suitable habitat appears to be present	Unlikely	Unlikely	Unlikely

3.4 Field Assessment

3.4.1 Field Survey Schedule and Type

Field surveys were undertaken on the 19th and 30th of September, 2024. The targeted flora surveys were conducted in accordance with the Environmental Protection Authority (EPA) *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016). Survey effort derived from GPS tracklogs is shown in Appendix B, Map 3.

3.4.2 Weather

Daily weather observations recorded from Albany were used to describe local rainfall preceding the survey (Figure 2).

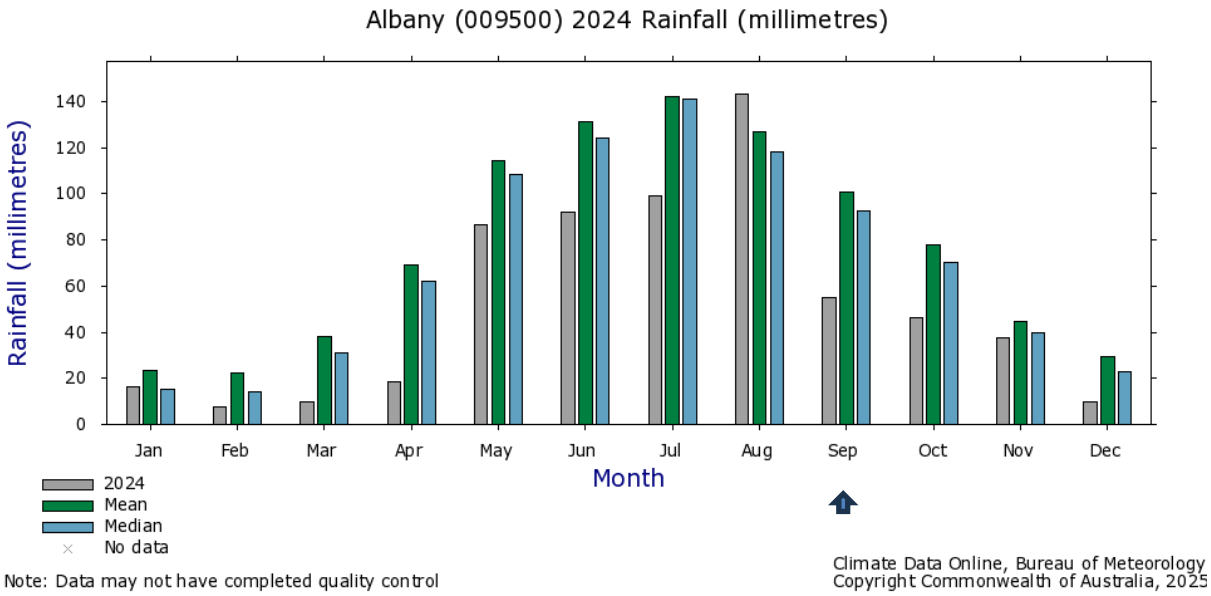

Figure 2. Rainfall statistics for 12 months that encompassed the assessment period (⇧) compared with historical averages (all years available) from the nearest weather station with complete data (Albany 9500) (BOM 2025).

3.4.3 Targeted Flora Search

Targeted searches for potential Threatened and Priority flora identified from the desktop assessment were conducted in the appropriate season to detect most of the Threatened or Priority species considered possible to occur. The survey area was initially assessed to identify vegetation types and condition. Vegetation and habitat types that were identified as potentially suitable for Threatened or Priority flora were surveyed by an intensive pattern of meandering transects. Where encountered, population census and site information of Threatened or Priority flora was recorded using a handheld GPS (Garmin 64) and in accordance with the Threatened and Priority Flora Report Form Field Manual (Department of Environment and Conservation [DEC] 2010).

3.4.4 Weeds

All weeds considered to be significant (Declared pests (DPIRD 2025) or Weeds of National Significance (WoNS) (Weeds Australia 2025) or that were commonly encountered within remnant vegetation were recorded and/or mapped.

3.5 Survey Limitations

In accordance with the EPA documents *Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA 2016) an assessment of potential survey limitations was undertaken (Table 2). No avoidable limitations were identified that can be expected to have affected the reliability of the results of the field survey.

Seasonal conditions preceding the field assessment have the potential to affect the emergence of annual species and the flowering of perennial species. The survey area occurs within a high rainfall zone and the assessment was conducted after an above average August and during a below average September (Figure 2). No indication of drought stress was evident during the field survey, consequently soil moisture conditions were not considered a major limitation for the emergence and flowering of Threatened or Priority flora species.

The information provided within this report is accurate and correct to the best of the author's knowledge. However, no liability is accepted for loss, damage or injury arising from its use. Plant populations can fluctuate over time, particularly after disturbance events such as fire and drought. Consequently, all mapping, vegetation descriptions and population estimates within this report should not be considered accurate indefinitely.

Table 2. Assessment of potential survey limitations for flora.

Potential for limitation	Assessment
Availability of contextual information	Vegetation mapping (Terratree 2023; Sandiford and Barrett 2010) and flora records from the DBCA were available to allow for an appropriate level of contextual information prior to the field survey. Due to the proximity to Albany the environmental values within the survey area are considerably to be well documented.
Personnel experience	The senior ecologist conducting the assessments is competent with sufficient experience (>10 years) in surveying south coast biota.
Adequacy of survey scope	The targeted assessment was sufficient to determine the biological limitations relating to vascular flora within the survey area.
Proportion of flora recorded, identification issues or sampling biases	The survey intensity is considered sufficient to have detected any targeted conservation significant flora if present in the survey area. Southern Ecology undertook 2 days survey in the survey area, Terratree undertook 15 person days in the 2022 survey area (the current survey area occurs within the 2022 survey area).
Extent of survey and site access	The areas of intact native vegetation were adequately surveyed and no major access restrictions were present. Suitable habitat for *Calectasia cyanea* was thoroughly surveyed using meandering traverses spaced less than 10 m apart. The vegetation was extremely dense in some patches, impeding foot traverse. These patches were not considered suitable habitat for *Calectasia cyanea* therefore was not considered a limitation for this taxon.
Timing/weather/season	Sufficient rainfall occurred prior to the survey, such that the seasonal conditions were considered appropriate for recording the flora values present. *Calectasia cyanea* was observed to be in flower in an adjacent population during the survey period. Additionally, the species tends to retain flower bracts for a long period, thus the survey timing was considered ideal to detect the species.
Disturbances (e.g. fire, flood, accidental human intervention etc.) which affected results of survey	Three fire ages were present: 1995, 2018 and 2023. In long unburnt areas, the ability to detect fire ephemeral species may have been reduced.

4 FLORA RESULTS

4.1 Desktop Review

A review of the desktop assessment undertaken by Terratree (2023) and updated database search determined that no additional conservation significant taxa were considered likely or possible to occur. One additional Threatened Ecological Community (*Empodisma* peatlands of southwestern Australia TEC - Endangered) listed in September 2023 was returned from the updated database search. However, this is confined to wetland habitats not represented in the survey area.

4.2 Field Assessment

4.2.1 Conservation Significant Flora

Two Priority flora taxa were recorded during the survey (mapped in Appendix B, Map 2):

- *Adenanthos x cunninghamii* (P4)
- *Thomasia quercifolia* (P4)

***Adenanthos x cunninghamii* (P4)**

Adenanthos x cunninghamii is a 'Priority 4' flora from the Proteaceae family. It is a stable hybrid between two common species, *A. sericeus* and *A. cuneatus*. It is known from 62 records across a range of approximately 64 km between Waychinicup National Park and the Werrilup area. A single outlying record is located approximately 107 km to the north, that is likely a geospatial error.

Within the survey area, one individual seedling was recorded. Six other individuals were recorded by either Terratree (2023) or Southern Ecology (2023) in the 2022/2023 survey areas. Three existing population records of the taxon also occur within 1500 m of the survey area (WAH 1998-).

Plate 1. *Adenanthos x cunninghamii* (P4) displaying intermediate characteristics of parent species and regional distribution (WAH 1998-).

***Thomasia quercifolia* (P4)**

Thomasia quercifolia is a 'Priority 4' flora from the Malvaceae family. It is known from 28 records over a range of approximately 150 km between the Broke Inlet and Two Peoples Bay.

Within the survey area, 62 individuals were recorded from one limestone outcrop. In the 2022/2023 survey areas 305 other individuals were recorded by either Terratree (2023) Southern Ecology (2023). Sixteen population records are also located within 3 km of the survey area (WAH 1998-).

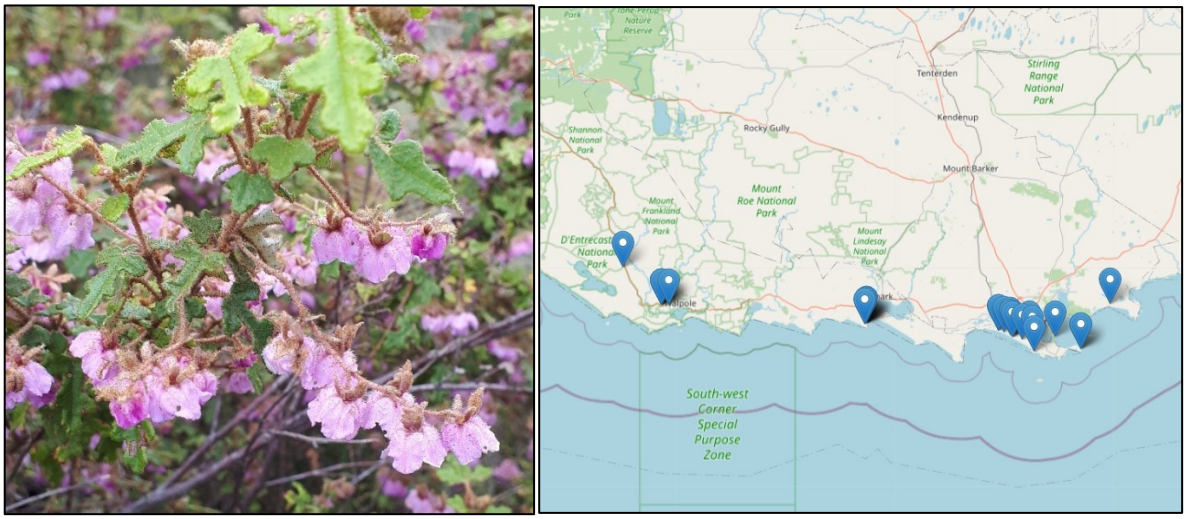

Plate 2. *Thomasia quercifolia* (P4) and regional distribution (WAH 1998 -).

4.2.2 Weeds

The previous survey (Terratree 2023) recorded 25 weed species from the 2022 survey area. Four additional weed species were recorded from the survey area in 2024, including one Declared Pest (Appendix B, Map 2). **Zantedeschia aethiopica* (Arum Lilly) was recorded from an isolated occurrence in a dune swale and is listed as Declared Pest under the BAM act (DPIRD 2025). Three other weeds (**Acacia longifolia, *Trachyandra divaricata, *Cortaderia selloana*) were recorded on the edge of Sand Patch road within the survey area. **Acacia longifolia* (Sydney Wattle) and **Cortaderia selloana* (Pampas Grass) are both listed as weeds of concern in the City of Albany (CoA 2019).

4.2.3 Post survey likelihood of occurrence

A post-survey likelihood of occurrence assessment (Table 3) was undertaken at the conclusion of the surveys to determine the suitability of habitats encountered and the effectiveness of the survey effort and timing. The assessment determined the following conclusions:

- Three Priority-listed flora were recorded in or immediately adjacent to the survey area.
- After completion of the surveys, all remaining conservation significant taxa identified in the desktop assessments are considered unlikely to occur in the survey area.

Table 3. Post survey likelihood of occurrence of the seven taxa identified in Terratree (2023) that were considered likely or possible to occur at conclusion of the 2022 survey.

Taxon	Description, Habitat & Distribution	Post-Survey Likelihood of Occurrence
T *Calectasia cyanea* [Dasypogonaceae]	Rhizomatous, clump forming, woody perennial, herb, 0.1-0.6 m high, to 0.3 m wide. Fl. blue/purple, Jun to Oct. It occurs in heathland on flat to gentle slopes growing in white sand or laterite gravel. The species is known from 15 records distributed across approximately 3 km on the Torndirrup Peninsula and Werrilup area. The nearest known record to the meteorological mast footprint area is approximately 920m.	**Unlikely**. Suitable habitat within the survey area consisted of a small areas of long unburnt (1995) Coastal Heath where occasional emergent *Eucalyptus angulosa* were present indicating the presence of subsurface limestone. This specific habitat occurred only in small patches within the survey area. The survey timing and intensity was considered suitable to detect this species if present. All suitable habitat within the survey area was thoroughly searched and no individuals were recorded.
P1 *Caladenia evanescens* [Orchidaceae]	Tuberous, perennial, herb, 0.15-0.2 m high. Flowers green-cream-yellow, Nov. Sand. Consolidated sand dunes.	**Unlikely**. The survey area potentially contains suitable habitat however, the taxon is seen very infrequently. The two known records of this taxon were collected in October therefore the survey was appropriately timed to detect if present. The survey intensity was also considered suitable to detect this species if present.
P2 *Gyrostemon thesioides* [Gyrostemonaceae]	Straggling, decumbent shrub, to 0.7 m high. Flowers red-orange-yellow/yellow-green, Nov. Sand over limestone. Consolidated coastal dunes.	**Unlikely**. Suitable habitat includes exposed limestone or recently burnt areas. Coastal limestone heath was mapped within the survey area and some areas of coastal heath were recently burnt. All suitable habitat within the survey area was thoroughly searched and no individuals were recorded.
P2 Pterostylis heberlei [Orchidaceae]	Tuberous herb. Flowers green, Sep-Oct. Black sand over granite.	**Unlikely**. Taxon occurs in granitic sand. Only calcareous sands are present in survey area, therefore there is no suitable habitat.
P2 *Thelymitra porphyrosticta* [Orchidaceae]	Tuberous, perennial, herb, 0.1-0.35 m high. Flowers orange & red & purple & pink, Jun to Sep. Sandy.	**Unlikely**. Taxon occurs in granitic sand. Only calcareous sands are present in survey area, therefore there is no suitable habitat.
P4 *Corysanthes limpida* [Orchidaceae]	Tuberous, perennial, dwarf herb, 0.01 m high. Flowers red & green, Aug to Sep. Sand. Coastal dunes.	**Unlikely.** Suitable habitat is present within the survey area and was thoroughly searched, however no individuals were recorded. Taxon was recorded within the 2023 survey area (see Southern Ecology 2023).
P4 *Drosera fimbriata* [Droseraceae]	Erect tuberous, perennial, herb, 0.05-0.15 m high. Flowers white, Sep to Oct. Deep white sand (often in Banksia shrublands), granite.	**Unlikely**. Taxon occurs in granitic sand. Only calcareous sands are present in survey area, therefore there is no suitable habitat.

5 CONCLUSION

In 2022, Terratree (2023) completed a detailed flora and vegetation survey for the establishment of a meteorological mast near Sand Patch, 9 km south west of Albany. The site contains 27.38 ha of intact coastal heath and woodlands that was surveyed over 15 person days in October 2022, entailing 15 quadrats and walking traverses of the survey area at approximately 50-metre (m) intervals.

The Terratree survey determined that two DBCA listed Priority 4 flora were present, *Adenanthos x cunninghamii* and *Thomasia quercifolia* and that no Priority or Threatened Ecological Communities occur. However, Terratree (2023) identified limitations of the survey most notably that closer traverses were not walked due to the density of the thickets in many places, as well as time constraints. At the conclusion of the field survey Terratree (2023) considered that the presence of seven conservation significant species remained possible to likely due to these limitations.

Following review of the Terratree report, PVG Environmental (2023) recommended that additional survey of the site was necessary, specifically undertaking an intensive targeted flora survey of a smaller refined clearing footprints representing multiple options for installation of the mast.

Southern Ecology undertook a targeted flora survey of a refined survey area (5.86 ha) over two person days in September 2024. The outcome of the survey determined that two conservation significant flora taxa are present within the refined survey area.

Of the seven species identified by Terratree (2023) that remained possible or likely to occur, *Calectasia cyanea* (T-CR) was of particular concern due to the presence of suitable habitat, known records in close vicinity and the taxon's listing as Critically Endangered. Within the survey area, suitable habitat was identified and thoroughly searched using meandering traverses spaced less than 10 m apart. The survey timing was considered suitable as individuals of *Calectasia cyanea* were observed to be in flower in an adjacent population during the survey period. All suitable habitat within the survey area was thoroughly searched and no individuals were detected.

Two other taxa *Caladenia evanescens* (P1) and *Gyrostemon thesioides* (P2) identified by Terratree (2023) are know from calcareous soils in coastal areas therefore habitats in the survey area may have been suitable. The survey intensity and timing was appropriate to detect these species, however no individuals were recorded. The remaining taxa *Pterostylis heberlei* (P2), *Thelymitra porphyrosticta* (P2) and *Drosera fimbriata* (P4) occur on sands derived from granite, therefore no suitable habitat occurs within the survey area.

Three additional significant weed species were recorded from the survey area in 2024: **Zantedeschia aethiopica* (Arum Lilly) is listed as a Declared Pest and **Acacia longifolia (Sydney Wattle) and *Cortaderia selloana* (Pampas Grass) are both listed as weeds of concern in the City of Albany.

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APPENDIX A - Conservation Status Definitions

Table A1. Acts relevant to environmental impact assessment.

Environment Protection and Biodiversity Conservation [EPBC] *Act 1999*	https://www.legislation.gov.au/Details/C2016C00777
Environmental Protection [EP] *Act 1986*	https://www.slp.wa.gov.au/legislation/statutes.nsf/law_a252.html
Biodiversity Conservation [BC] *Act 2016*	https://www.slp.wa.gov.au/legislation/statutes.nsf/law_a147120.html

Table A2. The categories for flora and fauna listed as Threatened or specially protected. Taxa can be recognised as Threatened (T) or Conservation Dependent under Commonwealth (EPBC) and / or State (BC) Acts.

Threat category	Definition
Threatened - Critically Endangered (T-CR)	Considered to be facing an extremely high risk of extinction in the wild
Threatened – Endangered (T-EN)	Considered to be facing a very high risk of extinction in the wild
Threatened – Vulnerable (T-VN)	Considered to be facing a high risk of extinction in the wild
Threatened - Presumed extinct (T-EX)	Species which have been adequately searched for and there is no reasonable doubt that the last individual has died.
Conservation dependant (CD)	Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened
Migratory birds protected under international agreement (IA)	Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and the Bonn Convention, relating to the protection of migratory birds
Other specially protected fauna (OS)	Fauna otherwise in need of special protection to ensure their conservation

Table A3. Flora or fauna that are potentially threatened but do not meet the survey criteria or are otherwise data deficient are listed under Priority categories with the Department of Biodiversity, Conservation and Attractions.

Category	Description
Priority One (P1)	Known from few locations (generally <5), small populations and/or occurring on land with insecure tenure
Priority Two (P2)	Known from few locations (generally <5), small populations with some occurring on land with secure tenure
Priority Three (P3)	Known from several locations with habitat not under imminent threat
Priority Four (P4)	(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands. (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for Vulnerable, but are not listed as Conservation Dependent. (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy

Table A4. Categories for ecological communities listed as Threatened (TEC). Communities can be recognised as Threatened under Commonwealth (EPBC) and / or State (BC) Acts.

Category	Description
Presumed totally destroyed (PU)	Adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future.
Critically Endangered (CR)	Adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future.
Endangered (EN)	Adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future.
Vulnerable (VU)	Adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction or significant modification in the medium (within approximately 50 years) to long-term future.

Table A5. The categories for ecological communities listed as Priority (PEC) with the Department of Biodiversity, Conservation and Attractions.

Category	Description
Priority One (P1)	Known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤ 100ha) and are currently under threat
Priority Two (P2)	Known from few occurrences with a restricted distribution (generally ≤10 occurrences or a total area of ≤200ha). At least some occurrences are not believed to be under immediate threat (within approximately 10 years)
Priority Three (P3)	Known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or: (ii) known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years), or; (iii) made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change etc
Priority Four (P4)	Adequately known, rare but not threatened or meet criteria for Near Threatened or that have been recently removed from the threatened list. These communities require regular monitoring
Priority Five (P5)	Conservation dependant ecological communities. Not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years

Table A6. Species that are 'introduced' or 'weeds' can potentially be listed under the state Biosecurity Management Act (DPIRD 2019) or under the commonwealth Weeds of National Significance (WoNS) (DotEE 2019b).

Category	Description
Declared Pest, Prohibited - s12	Prohibited organism and may only be imported and kept subject to permits. Permit conditions applicable to some species may only be appropriate or available to research organisations or similarly secure institutions
Permitted - s11	Permitted organisms must satisfy any applicable import requirements when imported. They may be subject to an import permit if they are potential carriers of high-risk organisms
Declared Pest - s22(2)	Declared pests must satisfy any applicable import requirements when imported, and may be subject to an import permit if they are potential carriers of high-risk organisms. They may also be subject to control and keeping requirements once within Western Australia
Permitted, Requires Permit - r73	Regulation 73 permitted organisms may only be imported subject to an import permit. These organisms may be subject to restriction under legislation other than the Biosecurity and Agriculture Management Act 2007. Permit conditions applicable to some species may only be appropriate or available to research organisations or similarly secure institutions
WoNS	Weeds of National Significance – this is nationally recognised list of weeds agreed by Australian governments based on an assessment process that prioritised weeds based on their invasiveness, potential for spread and environmental, social and economic impacts. Consideration was also given to their ability to be successfully managed.

APPENDIX B - Map Series

Map 1: Survey Area Location and Desktop Flora Data Overview

Map produced by Damien Rathbone on 18/02/2025.
Map Projection: Transverse Mercator Horizontal Datum GDA 2020
Grid: MGA Zone 50 Map Size: A3

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Survey Area (Southern Ecology)

2022 Survey Area (Terratree 2023)

20 km buffer

Conservation Significant Flora (DBCA)

- T - Threatened
- P1 - Priority 1
- P2 - Priority 2
- P3 - Priority 3
- P4 - Priority 4

N

1:135,931

0 1 2 3 4 5 6

Kilometers

Map 2: Vegetation, Conservation Significant Flora and Weeds

Map produced by Damien Rathbone on 18/02/2025.
Map Projection: Transverse Mercator Horizontal Datum GDA 2020
Grid: MGA Zone 50 Map Size: A3

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117°48'0"E
573000
573500
574000
6119500
6119000
35°4'0"S

Td
Cs
Al
Td
Td
Ze

Survey Area (Southern Ecology)
2023 Survey Area (Southern Ecology 2023)
2022 Survey Area (Terratree 2023)

Conservation Significant Flora (Terratree/Southern Ecology)
- *Adenanthos xcunninghamii* (P4)
- *?Corysanthes limpida* (P4)
- *Thomasia quercifolia* (P4)

Weeds
- Ze - **Zantedeschia aethiopica* (Arum lilly) (DP)
- Al - **Acacia longifolia* (Sydney wattle)
- Cs - **Cortaderia selloana* (Papas grass)
- Td - **Trachyandra divaricata* (Dune onion weed)

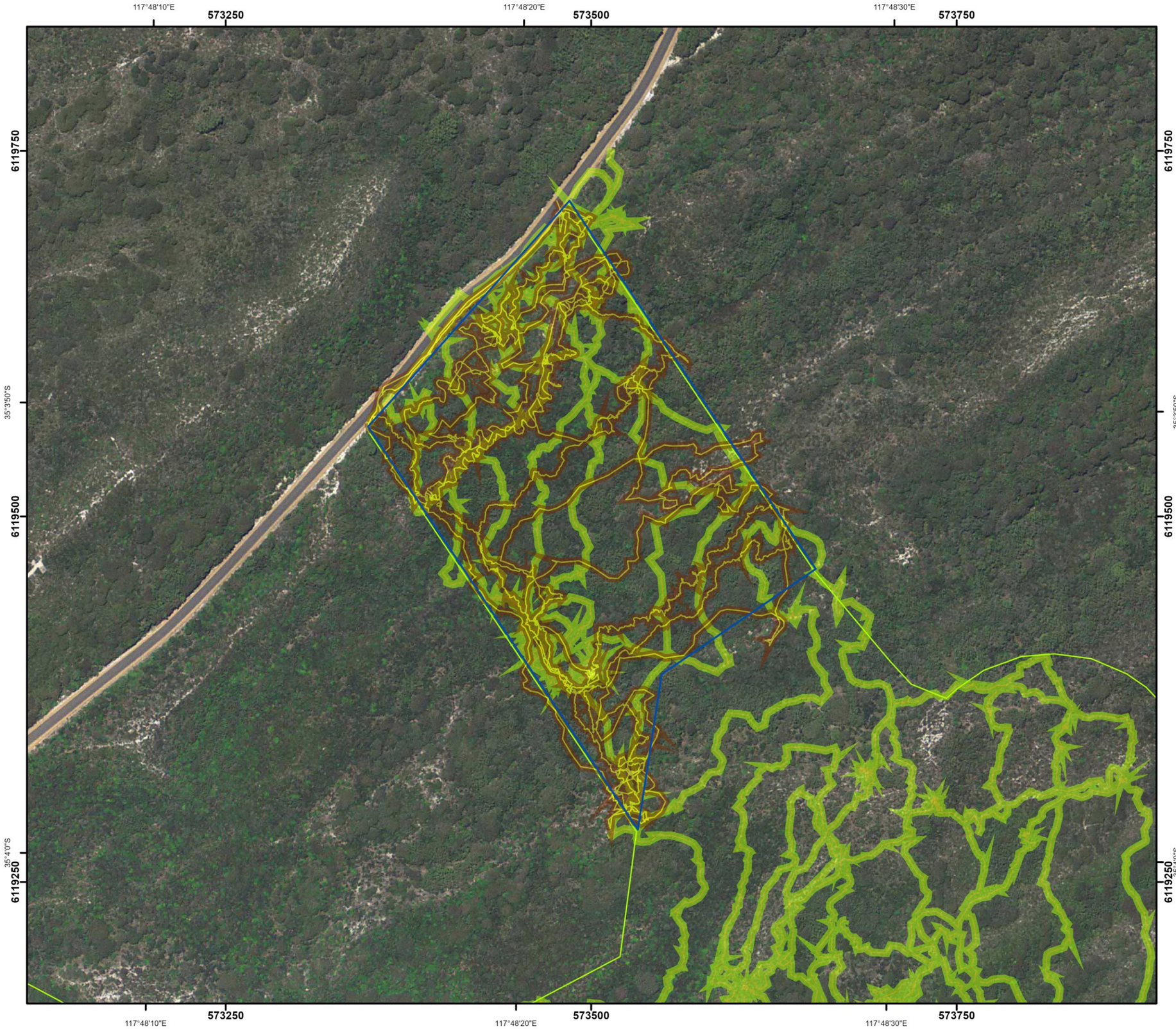
Vegetation Type (Terratree 2023)
- Coastal Heath
- Coastal Limestone Heath
- Limestone Mallee
- Limestone Mallee/Coastal Limestone Heath Mosaic
- Peppermint Low Forest /Coastal Heath Mosaic
- Cleared/Rehabilitation/Track

N

1:4,000

0 100

Metres



Map 3: Survey Effort/ GPS Track Log

Map produced by Damien Rathbone on 18/02/2025.
Map Projection: Transverse Mercator Horizontal Datum GDA 2020
Grid: MGA Zone 50 Map Size: A3

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- Survey Area (Southern Ecology)
- 2024 Survey Effort/ GPS Track Log
- 2022 Survey Area (Terratree 2023)
- 2022 Survey Effort/ GPS Track Log (Terratree 2023)

N

1:2,500

0 50 100

Metres

APPENDIX C - Conservation Significant Flora and Weeds

Table C1. Conservation significant flora and weed locations. Datum/Projection = GDA20202 MGA Zone 50.

TaxonName	Abundance	WAConStat	DateObs	Author	EASTING	NORTHING
Adenanthos x cunninghamii	1	P4	19/09/2024	Southern Ecology	573438	6119620
Thomasia quercifolia	20	P4	13/10/2022	Terratree	573501	6119385
Thomasia quercifolia	20	P4	13/10/2022	Terratree	573491	6119383
Thomasia quercifolia	20	P4	13/10/2022	Terratree	573483	6119384
Thomasia quercifolia	2	P4	19/09/2024	Southern Ecology	573492	6119398
**Trachyandra divaricata*	1		30/09/2024	Southern Ecology	573465	6119687
**Trachyandra divaricata*	1		30/09/2024	Southern Ecology	573438	6119662
**Trachyandra divaricata*	1		30/09/2024	Southern Ecology	573410	6119639
**Zantedeschia aethiopica*	1	DP	30/09/2024	Southern Ecology	573509	6119604
**Acacia longifolia*	1	LS	30/09/2024	Southern Ecology	573431	6119654
**Cortaderia selloana*	1	LS	30/09/2024	Southern Ecology	573448	6119668