Flora and vegetation survey

Murchison Hydrogen Renewables Project

Copenhagen Infrastructure Partners

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→ The Power of Commitment



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Executive Summary

This report is subject to, and must be read in conjunction with, the limitations set out in Section 1.2 and the assumptions and qualifications contained throughout the report.

Project Background

The Murchison Green Hydrogen Project team (the Murchison Project Team) is proposing to construct a combined onshore wind and solar energy farm for the production of green ammonia. The Project will comprise of a 5241 megawatt (MW) power-to-ammonia plant located in the vicinity of Kalbarri, Western Australia. GHD understands that environmental approvals are a critical path for achieving the Murchison Project team's objective of commencing construction of the project in Kalbarri in the near future.

The scope of works was to undertake an assessment of the flora and vegetation values of the survey area and a regional assessment of selected flora and vegetation values.

Survey area

The survey area is located within the Murchison House Station in the Shire of Northampton, Western Australia (WA), approximately 20 kilometre north of Kalbarri. The survey area is approximately 85,977 hectares in size, and extends from North West Coastal Highway in the east, to the Indian Ocean in the west.

Survey methods

GHD botanists completed a reconnaissance flora and vegetation survey in November 2021. A targeted Orchid survey was also completed in August 2022. The detailed and targeted assessment of the survey area was completed over three phases to capture the spring flowering period with surveys in September, October and November 2022. A total of 161 field survey days was completed across all surveys.

The regional survey involved undertaking a desktop analysis for significant flora to determine if any species are highly restricted to the local region.

Key findings

Thirty-one vegetation types were described and mapped within the survey area, excluding previously cleared areas for tracks, sand dunes, beach and ocean.

The vegetation present comprised a mosaic of vegetation types across the survey area that were grouped under the following broader structure classification:

– Coastal heath and shrublands
– Rocky limestone outcropping low hills and ridges
– Shrublands and *Banksia* woodlands
– *Melaleuca* / *Acacia* tall shrublands clay soils
– Sandplain shrublands and heathlands / *Banksia* woodlands / Dunes
– *Eucalyptus* / mallee woodlands
– Clay pan

The vegetation types that occurred over the greatest area of the survey area were VT22 – (BsArAbAc) *Banksia sceptrum* open woodland to isolated trees over *Acacia rostellifera, Acacia blakelyi* and *Allocasuarina campestris* open shrubland on yellow sandplains and low rises which covered 22.83 % of the survey area.

No Threatened Ecological Communities listed under the *Environment Protection and Biodiversity Conservation Act 1999* or *Biodiversity Conservation Act 2016* or Priority Ecological Communities listed by the Department of Biodiversity, Conservation and Attractions were identified within the survey area during the field survey.

Vegetation of interest included vegetation types that were highlighted for having restricted distributions within the survey area, specific landforms and a concentration of significant flora species that formed, in most cases, the dominant species within the structural layers that defined the vegetation types.

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These vegetation types were the linear dunes of VT18 (BsAcCaGe) *Banksia sceptrum* open woodland to isolated trees and VT23 – (McChSo) *Melaleuca concreta, Calytrix harvestiana* (P2) *Scholtzia oleosa* (P3) low shrubland on pink/orange sand on low depressions / water gaining areas within the sandplains. The regional vegetation type comparison focusing on the linear dunes of the survey area has determined, from the limited sampling sites recorded within Kalbarri National Park and Zuytdorp Nature Reserve, that VT18 (BsAcCaGe) is potentially unique to the survey area, including the linear dunes.

VT23 – (McChSo) low shrubland on pink/orange sand on low depressions / water gaining areas within the sandplains was also recorded as vegetation of interest. This vegetation type was only restricted to the low depression landforms within the yellow sandplain vegetation types and contained several significant flora species including *Caladenia barbarella* (T), *Chamelaucium* sp. Coolcalalaya (A.H. Burbidge 4233) (P1), *Desmocladus ferruginipes* (P1), *Calytrix harvestiana* (P2), *Thryptomene johnsonii* (P2) and *Scholtzia oleosa* (P3). It is unknown whether this vegetation type occurs outside the survey area.

Five hundred and ninety-six flora taxa representing 75 families and 257 genera were recorded from the survey area during the field survey. This total comprised 548 native taxa and 48 introduced flora taxa. A total of 37 species recorded within the survey area, represent range extensions from the species current known range.

A total of 49 significant flora were recorded within the survey area, of these; two species were Threatened, eight species were P1, 14 species were P2, 20 species were P3 and five species were P4. Of these significant flora taxa, 15 are considered to also represent range extensions.

The regional survey recorded locations of all target species; *Caladenia barbarella* (Threatened), *Pileanthus aurantiacus* (P1), *Scaevola* sp. Golden hairs (D. & B. Bellairs 1450) (P1) and *Verticordia lepidophylla* var. *quantula* (P1).

The survey recorded two flora of interest *Alyogyne* sp. 1 and *Alyogyne* sp. 2, which are considered to be potentially new taxa that require further study. In addition, two specimens determined as *Corynotheca* aff. *dichotoma* and *Drosera* aff. *eremaea* may represent a variation or different species with further taxonomic review and study required. The presence of these flora of interest within the survey area also highlight how poorly known the survey area is prior to this survey.

A likelihood of occurrence (LOO) assessment was undertaken post-survey. The post-survey assessment took into account records from DBCA, previous studies, reported habitat requirements and results of the current survey. The post-survey LOO concluded that:

– Forty-nine significant taxa are known from current survey, which includes five taxa that were not previously known from the desktop study area
– Two species were known from previous records but were not recorded in this current survey: *Macarthuria georgeana* (P1), *Mirbelia* sp. Zuytdorp (G.J. Keighery & N. Gibson 1688) (P1) and *Melaleuca boeophylla* (P2)
– Three taxa were considered likely to occur: *Acacia leptospermoides* subsp. *obovata* (P2), *Eremophila microtheca* (P4) and *Lepidium puberulum* (P4)
– The remaining taxa identified in the desktop assessment 39 were considered possibly to occur and 54 taxa were considered unlikely to occur with the survey area due to lack of suitable habitat.

The survey area, being comparable in diversity to Kalbarri National Park, is considered to be significant for flora diversity including for the diversity of significant flora present when comparison to outside the survey area.

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Appendix B Relevant legislation, background information and conservation codes
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1. Introduction

1.1 Background

The Murchison Green Hydrogen Project team (the Murchison Project Team) is proposing to construct a combined onshore wind and solar energy farm for the production of green ammonia (the Project). The Project will comprise of a 5241 megawatt (MW) power-to-ammonia plant located in the vicinity of Kalbarri, Western Australia.

The Project contains a development envelope (herein referred to as the survey area) which includes the wind and solar farm, a facility to produce green energy to ammonia, and an ammonia export facility including a pipeline, export vessel mooring and product transfer infrastructure.

1.2 Purpose of this report

The purpose of this report is to identify the key vegetation and flora present within the survey area and potential sensitivity to impact for the proposed Project. The results from this assessment will be used to assist and inform the environmental assessment and approvals process.

1.3 Location

1.3.1 Survey area

The survey area is located within the Murchison House Station in the Shire of Northampton, Western Australia (WA), approximately 20 kilometre (km) north of Kalbarri. The survey area is approximately 85,977 hectares (ha) in size, and extends from North West Coastal Highway in the east, to the Indian Ocean in the west. The survey area is presented in Figure 1, Appendix A.

1.3.2 Study area

A desktop study area (referred to as study area herein) was defined for the desktop-based searches undertaken within a 40 km buffer of the survey area.

1.3.3 Regional survey area

The regional survey area included the conservation estate areas of Kalbarri National Park and Zuytdorp Nature Reserve, as well as Unallocated Crown Land (UCL) adjoining the north boundary as presented in Figure 1, Appendix A.

1.4 Scope of works

The scope of works was to undertake an assessment of the flora and vegetation values of the survey area and a regional assessment of selected flora and vegetation values. The following actions were completed to fulfil the scope:

– A desktop review of publicly available information and relevant reports to determine the flora and vegetation values of the survey area
– A multiple phase detailed and targeted surveys to assess flora and vegetation values including:
    - Identify, map and describe vegetation types
    - Assess and map condition of vegetation, including the location of any Weeds of National Significance (WONS) or Declared Weeds
    - Identify and map the location of Threatened and Priority Ecological Communities (TECs or PECs) or other significant or vegetation of interest

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- Map the location of significant flora taxa (Threatened or Priority flora), including for significant Orchid species and flora of interest
- Regional assessment of restricted species and communities in near-by conservation estate

– Prepare a concise report (this document) on the findings of the flora and vegetation surveys
– Provide spatial/mapping data collected during the survey in Index of Biodiversity Surveys for Assessment (IBSA) format.

1.5 Relevant legislation, conservation codes and background information

In WA some ecological communities and flora are protected under both Federal and State Government legislation. In addition, regulatory authorities also provide a range of guidance and information on expected standards and protocols for environmental surveys.

An overview of key legislation and guidelines, conservation codes and background information relevant to this flora and vegetation survey are provided in Appendix B.

1.6 Limitations and assumptions

This report: has been prepared by GHD for Copenhagen Infrastructure Partners and may only be used and relied on by Copenhagen Infrastructure Partners for the purpose agreed between GHD and Copenhagen Infrastructure Partners as set out in section 1.2 of this report.

GHD otherwise disclaims responsibility to any person other than Copenhagen Infrastructure Partners arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section(s) 1.6 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

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The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of access tracks and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

Site conditions may change after the date of this Report. GHD does not accept responsibility arising from, or in connection with, any change to the site conditions. GHD is also not responsible for updating this report if the site conditions change.

This report has assessed the fauna values within the survey area, as shown in Figure 1, Appendix A. Should the survey area change or be refined, further assessment may be required.

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1.7 Terminology

Some common terminologies are described below in Table 1.1.

Table 1.1 Terminology and definitions

Term (Abbreviation)	Definition/Use
Copenhagen Infrastructure Partners (CIP)	Proponent of the Proposal and client of GHD for this Survey.
D.E	Development envelope
GHD Pty Ltd (GHD)	Consultant engaged by CIP to prepare the environmental approvals documentation and supporting technical studies.
Survey Area	The area in which CIP propose for future renewables development activities that will be assessed by regulators.
Study Area	The survey area with a 40 km buffer used to define the limits of the desktop investigations.
Detailed flora and vegetation survey	As per EPA 2016 describing the type of survey required
Targeted flora survey	As per EPA 2016 describing the type of survey required

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2. Methodology

2.1 Desktop assessment

Prior to the commencement of the field survey, a desktop assessment of the study area was undertaken to identify environmental values and constraints. This was achieved by viewing geographic information system (GIS) spatial files largely sourced from Government of Western Australia (GoWA) (2022) and by reviewing publicly available government managed databases. The information sources utilised in this assessment are presented in Table 2.1.

Table 2.1 Desktop information Sources

Aspect	Information source
Climate	Bureau of Meteorology (BoM) Climate Data Online (2022)
Geology, landforms and soil	1:500 000 State linear structures layer (DMIRS-015) Soil Landscape Mapping – Systems (DPIRD-064)
Environmentally Sensitive Areas (ESAs)	Clearing Regulations - Environmentally Sensitive Areas (DWER-046)
Conservation reserves and areas	Department of Biodiversity, Conservation and Attractions (DBCA) – Legislated Lands and Waters (DBCA – 011)
Hydrology	Public Drinking Water Source Areas (DWER-033) *Rights in Water and Irrigation Act 1914* (RIWI Act), Surface Water Areas and Irrigation Districts (DWER-037) RIWI Act, Groundwater Areas (DWER-034) RIWI Act, Rivers (DWER-036) Waterways Conservation Act Management Areas (DWER-072) Ramsar Sites (DBCA-010) Directory of Important Wetlands in Australia - Western Australia (DBCA-045)
Land systems	Soil Landscape Mapping - Best Available Exmouth soil-landscapes (DPIRD-027):
Vegetation	Pre-European Vegetation (DPIRD-006) Native Vegetation Extent (DPIRD-005) State-wide Vegetation Statistics (GoWA 2019) Threatened Ecological Communities (DBCA 2022a)
Significant flora	DCCEEW PMST database to identify flora species listed under the EPBC Act potentially occurring within the study area (Appendix C) DBCA *NatureMap* database (DBCA 2007–) (Appendix C) DBCA Threatened and Priority Flora and WA Herbarium databases (DBCA 2022b)

2.1.1 Flora and vegetation

The flora and vegetation desktop assessment included a review of:

– The Department of Climate Change, Energy, the Environment and Water (DCCEEW) Protected Matters Search Tool (PMST) to identify communities and species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) potentially occurring within the desktop study area (DCCEEW 2022a) (Appendix C)

– The DBCA Threatened and Priority Ecological Community (TEC and PEC) database (DBCA 2022a) to determine the potential for significant ecological communities to be present within the desktop study area

– The DBCA Threatened and Priority Flora and WA Herbarium databases for Threatened flora listed under the *Biodiversity Conservation Act 2016* (BC Act) and listed Priority by the DBCA previously recorded in the desktop study area (DBCA 2022b)

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– The DBCA *NatureMap* database for flora species previously recorded within the study area (DBCA 2007). (Appendix C)
– Relevant biological reports, including Burbridge *et. al* (2000) fauna papers of the Carnarvon Basin Region
– Orchid internal database records of common and significant orchid taxa supplied by the Western Australian Native Orchid Study and Conservation Group (WANOSCG 2022)
– Aerial photography, geology/soils and hydrology information to provide background information on the variability of the environment and likely vegetation types present.

2.2 Field survey

2.2.1 Field survey timing and personnel

GHD botanists completed a reconnaissance flora and vegetation survey in November 2021. A targeted Orchid survey was also completed in August 2022. The detailed and targeted assessment of the survey area was completed over three phases to capture the spring flowering period with surveys in September, October and November 2022 (Table 2.2). A total of 161 field survey days was completed across all surveys. The field surveys were led by Joel Collins (Technical Director Botany/Team Leader) who has over 19 years experience undertaking flora and vegetation surveys across the Geraldton Sandplains and Yalgoo bioregions. Joel has previously undertaken numerous targeted orchid surveys for significant species, including for *Caladenia bryceana* subsp. *cracens* near Port Gregory. There were three senior botanists, one botanist and two environmental scientists that made up the survey team. The three senior botanists (12-17 years' experience) and one botanist (five years' experience) have undertaken numerous flora and vegetation surveys across the Geraldton Sandplains and Yalgoo bioregions.

Table 2.2 Flora and vegetation survey timing and effort

Date	Survey effort	Field team	Total number of field survey days
15 – 19 November 2021	Late spring reconnaissance flora and vegetation survey, site investigation	Joel Collins (Technical Director Botany/Team Leader)	5
18 – 29 August 2022	Targeted Orchid survey	Joel Collins (Technical Director Botany/Team Leader) Pali Jayasekara (Senior Botanist) Alex Sleep (Senior Botanist) Lauren Taaffe (Botanist)	32
5 – 12 September 2022	Spring detailed and targeted flora and vegetation survey	Joel Collins (Technical Director Botany/Team Leader) Angela Benkovic (Senior Botanist) Pali Jayasekara (Senior Botanist) Alex Sleep (Senior Botanist) Lauren Taaffe (Botanist)	40
9 – 18 October 2022	Spring detailed and targeted flora and vegetation survey	Joel Collins (Technical Director Botany/Team Leader) Angela Benkovic (Senior Botanist) Pali Jayasekara (Senior Botanist) Alex Sleep (Senior Botanist) Lauren Taaffe (Botanist) Connor Johnstone (Environmental Scientist)	42

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Date	Survey effort	Field team	Total number of field survey days
21 – 27 November 2022	Spring detailed and targeted flora and vegetation survey	Joel Collins (Technical Director Botany/Team Leader) Angela Benkovic (Senior Botanist) Pali Jayasekara (Senior Botanist) Alex Sleep (Senior Botanist) Lauren Taaffe (Botanist) Tore Raschilla (Environmental Scientist)	42
Total			161

2.2.2 Guiding documents and data collection

The survey methodology and data collection GHD employed was consistent with relevant aspects of:

– EPA Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment (EPA 2016)
– Commonwealth of Australia Draft Orchid Survey Guidelines (2013)

Field data collection for the biological survey was undertaken using Global Positioning System (GPS) enabled Samsung tablets using electronic forms in Collector and tailored to IBSA spatial data requirements. GPS devices were used to capture survey effort (track logs). Field photographs were stored and where applicable have been provided as part of the deliverables.

2.2.3 Flora and vegetation and targeted flora survey

The multiple phase flora and vegetation surveys were undertaken to identify and describe the broad dominant vegetation types, assess vegetation condition, and complete high intensity sampling of vascular flora taxa present at the time of survey. Searches for significant ecological communities and flora species were also undertaken during the field survey.

Reconnaissance flora and vegetation survey

Field survey methods involved survey area familiarisation by driving tracks and determining access considerations to guide future surveys. Field notes were taken on the potential different vegetation types at a high level to inform the detailed flora and vegetation surveys. Opportunistic sampling of potential significant flora were undertaken.

Detailed flora and vegetation survey

Field survey methods involved a combination of quadrat sampling, relevés and traversing the survey area by vehicle and foot. Quadrats measuring 10 m x 10 m and relevés using a 10 m radius from a central point were conducted within the survey area to describe the broad-scale vegetation and physical features. A minimum of three quadrats were located within each identified vegetation type, where possible. In some instances, less than three quadrats were described per vegetation type, such as for VT04 – (McArSoMv) (two quadrats), VT09 – (AoHrHs) (two relevés), VT10 – (AcAaTd) (two quadrats), VT11 – (GeAcHs) (one quadrat), VT16 – (AaMeDi) (two quadrats), VT32 (Ec) (one quadrat and two relevés), VT30 – (CoMtRdTiTd) (one quadrat) and VT31 – (AvEdPa) (one quadrat). For VT31 – (AvEdPa) and VT32 (Ec) this was because of the degraded condition of the vegetation and for VT30 – (CoMtRdTiTd) this was due to the limited area and geographic range of the vegetation type. For the remaining VT's the reduced quadrat sampling was due to the complex and mosaic vegetation patterning and through statistical analysis post-survey these vegetation types have been determined as different from the other more widespread vegetation types. One hundred and eighty-seven quadrats and 12 relevés were conducted throughout the survey area, the locations of each quadrat and relevé are presented in Figure 2, Appendix A.

Field data at each quadrat site was recorded on a pro-forma data sheet and included the parameters detailed in Table 2.3. Survey and quadrat/ relevé data are provided in Appendix D.

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Table 2.3 Data collected during the field survey

Aspect	Measurement
Collection attributes	Site code, personnel/recorder, date, photograph of the site.
Physical features	Landform, slope, aspect, soil attributes, ground surface cover
Location	Coordinates recorded in Geocentric Datum of Australia (GDA) 20 datum using a GPS enabled tablet with approximately 2-5 m accuracy.
Vegetation condition	Broad-scale vegetation condition using the condition rating scale adapted by EPA (2016) for the South West Province.
Disturbance	Level and nature of disturbances (e.g. weed presence, fire and time since last fire, impacts from grazing, tracks and pastoral activites).
Flora	List of dominant flora from each structural layer, list of all species at each quadrat including stratum, average height and cover using National Vegetation Information System (NVIS Technical Working Group 2017).

Vegetation types

Vegetation types were identified, and boundaries delineated using a combination of aerial photography, topographical features and field data/observations.

Vegetation types were described based on structure, dominant taxa and cover characteristics as defined by quadrat data, relevés and field observations. Vegetation type descriptions follow the NVIS and are consistent with NVIS Level V (Association) and are grouped within NVIS Level III (Broad Floristic Formation). At Level V up to three taxa per stratum are used to describe the association (NVIS 2017). Due to the large survey area and limited track access in particular areas the vegetation types have been extrapolated in these areas using aerial photography and where sampling sites were not recorded.

Vegetation condition

The vegetation condition was assessed and mapped in accordance with the vegetation condition rating scale for the South West and Interzone Botanical Provinces devised by Keighery (1994) and adapted by EPA (2016). The scale recognises the intactness of vegetation and consists of six rating levels. The vegetation condition rating scale is outlined in Appendix B. Areas devoid of vegetation were mapped as cleared (e.g. tracks) and other features such as coastal sand dunes, beach and ocean.

Targeted orchid survey

A targeted survey was completed for significant orchid species, including for the Threatened species *Caladenia bryceana* subsp. *cracens, Caladenia barbarella, Caladenia elegans, Caladenia hoffmanii, Caladenia wanosa* and *Drakaea concolor.* Orchid species that are listed by the DBCA as Priority flora were also targeted, including *Pterostylis macrocalymma* (P1), *Caladenia longicauda* subsp. *minima* (P2), *Paracaleana alcockii* (P2) and *Caladenia integra* (P4). Internal data received from WANOSCG was also incorporated to the desktop assessment and to inform the targeted orchid survey. During the targeted orchid survey all common species were also collected and identified to establish a comprehensive orchid list and to identify all taxa, including significant taxa. The field survey was undertaken in reference to the Commonwealth of Australia Draft Orchid Survey Guidelines (2013). The methodology employed involved:

– Identification of potential habitat – this was based on aerial imagery, habitat at previous records and field observations during the target surveys. Sites selected were limestone rocky ridges/outcrops, low depressions / water gaining areas within the sandplains, chenopod open shrubland on seasonal claypan, *Acacia acuminata* shrubland on brown loamy clay flats and minor drainage lines (including Weerinoogudda creek) and mixed shrublands on red/orange loamy clay on flats and depressions.
– Surveys were undertaken in August and September to coincide with the flowering period for the species to ensure detectability in the field
– Known populations and potential habitats were traversed on foot with transects at 10 m intervals in higher quality habitat and/or when populations are recorded

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– In total 32 field survey days were spent surveying for significant orchid species in August and opportunistically during the September survey.

Targeted flora survey

The Targeted surveys were undertaken concurrently with the Detailed flora and vegetation survey. A significant flora field guide was compiled prior to the survey to assist with the targeted survey. This field guide included scanned images of specimens from the WA Herbarium, photos and taxonomic descriptions and characters to assist in identification as well as habitat details. Based on the significant flora identified in the desktop searches and pre-survey likelihood assessment, GHD employed a sampling method involving identifying known significant flora records/populations and walking traverses through known populations and habitat. Further targeted surveys were undertaken for significant flora across the survey area. Due to the large size of the survey area driving cleared tracks enabled greater coverage and allowed for the identification of significant flora populations and once identified these sites were targeted on foot. Where significant flora taxa were identified the locations and number of plants present were recorded using Samsung Tablets on a mapping application (accuracy 2-5 m). Where larger populations of significant flora were encountered with a large number of individuals the area of the population was ground-truthed to determine the boundary with representative 10 x 10 m quadrats sampled to count individuals within each quadrat across the population. The average number of individuals was determined for a 10 x 10 m area, which was multiplied for the total size of the flora population polygon (m²) to determine the total estimated number of individuals within that mapped population polygon.

Additional data was collected to support the lodgement of a Threatened and Priority Flora Report Form. Survey effort for the Targeted flora survey is shown in Figure 2, Appendix A.

Flora inventory, identification and nomenclature

A flora inventory was compiled from taxa listed in described quadrats, relevés and from opportunistic floristic records throughout the survey area.

Species well known to the survey botanists were identified in the field; however the majority of species were collected and assigned a unique collection number to facilitate tracking, including re-collecting across the different field surveys. All specimens collected during the field assessment were dried and processed in accordance with the requirements of the WA Herbarium. Species were identified by the use of taxonomic literature, electronic keys and online electronic databases with reference to specimens at the WA Herbarium by Senior Botanist, Pali Jayasekara and taxonomist Frank Obbens.

Relevant taxonomic experts were also consulted where required. This included consultation with Barbara Rye and Mike Hislop from the WA Herbarium, who confirmed specimens from the *Baeckea*, *Calytrix, Acacia, Melaleuca* and *Alyogyne* genera where the taxonomic literature and/or reference collections did not necessarily match or conform to these descriptions and/or specimens at the WA Herbarium. Peter Wilson was also consulted regarding a *Indigofera* specimen.

The conservation status of all recorded flora was compared against the current lists available on *FloraBase* (WA Herbarium 1998–) and the EPBC Act Threatened species database provided by DCCEEW (2022b).

Nomenclature used in this report follows that used by the WA Herbarium as reported on *FloraBase* (WA Herbarium 1998–).

Statistical analysis

PRIMER v6 (Clarke and Gorley 2006) was used to examine the similarity between sites using collected data. A presence/absence matrix was created of all species (including perennials and annuals) present in sampled quadrats. The dissimilarity between quadrats was determined using the Bray-Curtis measure and the Resemblance function in PRIMER. A Cluster analysis (using Agglomerative Hierarchical Clustering technique) based on group average was undertaken using the Bray-Curtis similarity matrix and results presented as a dendrogram. In addition, a nonmetric multi-dimensional scaling analysis (MDS) was undertaken using the Bray-Curtis similarity matrix and results presented as a two dimensional scatter plot. Analysis was run using two scenarios:

– All species (base site data), including annuals, weeds and species that occur only once (singles)

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– Native species only (weed species removed from each quadrat) and annuals and species that occur only once (singles) removed.

The outputs of the PRIMER analysis were used to inform decisions on vegetation types. It is noted that PRIMER can be limited in use for this purpose as analysis is based on all species recorded in quadrats and does not take into account dominance of species.

2.2.4 Regional survey

The regional survey involved undertaking a desktop analysis for significant flora to determine if any species are highly restricted to the local region. The analysis utilised the outputs from the significant flora likelihood of occurrence assessment to determine the nearest record for each species, the number of records contained in the DBCA databases (DBCA 2022b), the number of records within conservation estate and comments on the species distribution patterns. Significant flora species that had restricted distribution, known from a small number of records and are poorly known were targeted for regional surveys in conservation estate. The regional surveys focussed on suitable accessible habitat within Kalbarri National Park and Zuytdorp Nature Reserve, as well as UCL adjoining the northern boundary of the survey area. The species that were determined to have restricted distributions through the desktop analysis and confirmed as occurring in the survey area through the current surveys were included as target species for the regional surveys and included the following taxa:

– *Caladenia barbarella* (Threatened)
– *Pileanthus aurantiacus* (P1)
– *Scaevola* sp. Golden hairs (D. & B. Bellairs 1450) (P1)
– *Verticordia lepidophylla* var. *quantula* (P1)

In order to determine whether the linear dunes of VT18 (BsAcCaGe) were unique to the survey area two quadrats were sampled within Kalbarri National Park (MUR124 and MUR152) and four quadrats were sampled within Zuytdorp Nature Reserve (MUR30, MUR122, MUR123, MUR151).

2.3 Limitations

2.3.1 Desktop limitations

The EPBC Act PMST is based on bioclimatic modelling for the potential presence of species. As such, this does not represent actual records of the species within the Survey area. The records from the DBCA searches of Threatened and Priority flora provide more accurate information for the general area and local occurrence. However, some collection records cannot be dated and often misrepresent the current range of Threatened and Priority species.

2.3.2 Field survey limitations

The EPA (2016) Technical Guides state flora survey reports for environmental impact assessment in WA should contain a section describing the limitations of the survey methods used. The limitations and constraints associated with this field survey are discussed in Table 2.4.

Table 2.4 Field survey limitations

Aspect	Constraint	Comment
Sources of information and availability of contextual information.	Nil	Adequate information is available for the survey area, this includes: – Broadscale (1:1,000,000) mapping by Beard (1976) and digitised by Shepherd et al. (2002) – Database searches (DBCA and *NatureMap*).
Scope (what life forms were sampled etc.)	Nil	Vascular flora and terrestrial vertebrate fauna were sampled during the survey. Non-vascular flora were not surveyed.

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Aspect	Constraint	Comment
Proportion of flora collected and identified (based on sampling, timing and intensity)	Nil	The multiple phase Detailed and Targeted flora and vegetation surveys were undertaken over several separate trips during late Winter to late Spring. The recommended timing for flora surveys in the South West Botanical Province region is between September-November (EPA 2016). The survey timing was considered appropriate for the purpose of the assessment and flowering period for the region. The flora recorded is detailed in section 4.2.1 and a full flora species list is provided in Appendix D. The portion of flora collected and identified was considered representative for the survey area based on the species accumulation curve (section 4.1.2). The total species recorded from the survey area was 596 flora species, which is well above the predicted species diversity estimate. The survey area is considered representative of the floristic diversity in the area.
Flora determination	Minor	Flora determination was undertaken by the survey botanists and ecologist in the field. Species that could not be identified in the field were collected and identified at the WA Herbarium by the experienced taxonomic botanist Pali Jayasekara and Frank Obbens. Relevant taxonomic experts were also consulted where required. This included consultation with Barbara Rye and Mike Hislop from the WA Herbarium, who confirmed specimens from the *Baeckea, Calytrix, Acacia, Melaleuca* and *Alyogyne* genera where the taxonomic literature and/or reference collections did not necessarily match or conform to these descriptions and/or specimens at the WA Herbarium. Peter Wilson was also consulted regarding a *Indigofera* specimen. Twenty-eight taxa were only able to be identified to genus level due to lack of flowering/fruiting material. These collections are not similar to known significant flora (as identified in the desktop searches and recorded significant taxa recorded within the survey area). The taxonomy and conservation status of the WA flora is dynamic. This report was prepared with reliance on taxonomy and conservation status current at the time report development, but it should be noted this may change in response to ongoing research and review of International Union for Conservation Nature criteria.
Completeness and further work which might be needed (e.g. was the relevant area fully surveyed)	Moderate	The survey area was accessed by vehicle where tracks were present and on foot. Due to large scale of the survey area extent not all areas within the survey area could be investigated and ground-truthed, due to lack of tracks, distance from tracks and in some areas the thickness of the vegetation reduced the distances that could be covered. One hundred and eighty-seven quadrats. A minimum of three quadrats were located within each identified vegetation type, where possible. In some instances, less than three quadrats were described per vegetation type. Additional opportunistic sampling was undertaken to develop a comprehensive species inventory. Habitats considered suitable for significant flora were traversed by foot, such as for Threatened Orchid species. Further targeted surveys were undertaken for significant flora across the survey area. Due to the large size of the survey area driving cleared tracks enabled greater coverage and allowed for the identification of significant flora populations and once identified these sites were targeted on foot were time allowed. Due to the large survey area and limited track access in particular areas the vegetation types have been extrapolated in these areas using aerial photography and where sampling sites were not recorded.
Mapping reliability	Moderate	The vegetation types were mapped using high-resolution aerial imagery obtained from Landgate, topographical features, previous broad scale mapping (Beard 1976) and field data. Data was recorded in the field using hand-held GPS tools. Certain atmospheric factors and other sources of error can affect the accuracy of GPS receivers. The Garmin GPS units and GPS enabled tablets used for this survey are accurate to within 2-5 metres on average. Due to the large survey area and limited track access in particular areas the vegetation types have been extrapolated using aerial photography and where sampling sites were not recorded.
Timing/weather/ season/cycle	Minor	The multiple phase Detailed and Targeted flora and vegetation surveys were undertaken over several separate trips during late Winter to late Spring. The area received lower than average rainfall in the 3 months preceding the August survey (May – July), with 75.8 mm less than the average for this period recorded. Higher than average rainfall was received over August to

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Aspect	Constraint	Comment
		October 2022 (155.7 mm), with 70.9 mm more rainfall than the long term average for this period recorded (BoM 2022). The weather conditions recorded during the survey periods are considered unlikely to have impacted upon the flora survey.
Disturbances (e.g. fire, flood, accidental human intervention)	Minor	The Survey Areas have been subjected to historical disturbance (e.g. pastoral clearing, goats, pigs, cattle and fire) in particular with the high amount of goat disturbance. These disturbances are not considered to affect the survey results.
Intensity (in retrospect, was the intensity adequate)	Moderate	The vascular flora of the survey area was sampled in accordance with EPA (2016). The survey area was covered by the senior botanists and botanists during the survey were access was suitable. Due to the large survey area and limited track access in particular areas the vegetation types have been extrapolated using aerial photography and where sampling sites were not recorded. Due to the large size of the survey area driving cleared tracks enabled greater coverage and allowed for the identification of significant flora populations and once identified these sites were targeted on foot were time allowed.
Resources	Nil	Adequate resources were employed during the field survey. A total of 161 field survey days was completed across all surveys. There were three senior botanists, one botanist and two environmental scientists that made up the survey team. Adequate resources were employed during the field survey.
Access restrictions	Moderate	The survey area was accessible by vehicle and on foot were possible. Due to the large survey area and limited track access in particular areas was restricted, in particular the northern section.
Experience levels	Nil	The senior botanists/botanist who executed the survey are practitioners suitably qualified and experienced in their respective fields: – The field surveys were led by Joel Collins (Technical Director Botany/Team Leader) who has over 19 years experience undertaking flora and vegetation surveys across the Geraldton Sandplains and Yalgoo bioregions. Joel has previously undertaken numerous targeted orchid surveys for significant species, including for *Caladenia bryceana* subsp. *cracens* near Port Gregory. – Senior Botanist, Angela Benkovic (flora licence no. FB62000080-2), was the field team lead with more than 17 years' experience leading and conducting vegetation and flora surveys, including the Geraldton Sandplains and Yalgoo bioregions. – Senior Botanist, Pali Jayasekara (FB62000208-2), has more than 28 years' experience leading and conducting vegetation and flora surveys, including in the Geraldton Sandplains and Yalgoo bioregions. – Senior Botanist, Alex Sleep (FB FB62000557), has 13 years' experience working in the environmental consultancy industry in Western Australia. Alex's experience spans across the northern, Eremaean and Southwest provinces of WA. – Botanist, Lauren Taaffe, has 5 years undertaking surveys across the southwest, northern and Eremaean bioregions

3. Desktop assessment

3.1 Climate

The Kalbarri region has a warm Mediterranean climate with hot dry summers and mild winters. The closest BoM weather station to the survey area is Kalbarri (site number 008251), located approximately 14 km south of the survey area.

The available climate data from Kalbarri indicates that the mean maximum temperature ranges from 34°C in February to 21.9 °C in July. The mean minimum temperature ranges from 9.8 °C in July and August to 20.7 °C in

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February. The mean maximum temperatures over the survey period (from August to November 2022) were slightly higher than long term average maximum temperature (0.5°C higher) over August, the same as the long term average over September and slightly cooler maximum temperatures occurred over October and November (0.6°C to 1.5°C lower) compared to the long term average. The minimum 2022 temperatures were warmer than the long term average in August and September (0.3°C to 0.8°C higher), during the October and November the minimum temperatures were cooler than the long term average (0.6°C to 0.7°C lower) (Plate 1).

The area received lower than average rainfall in the 3 months preceding the August survey (May – July), with 75.8 mm less than the average for this period recorded. Higher than average rainfall was received over August to October 2022 (155.7 mm), with 70.9 mm more rainfall than the long term average for this period recorded (BoM 2022).

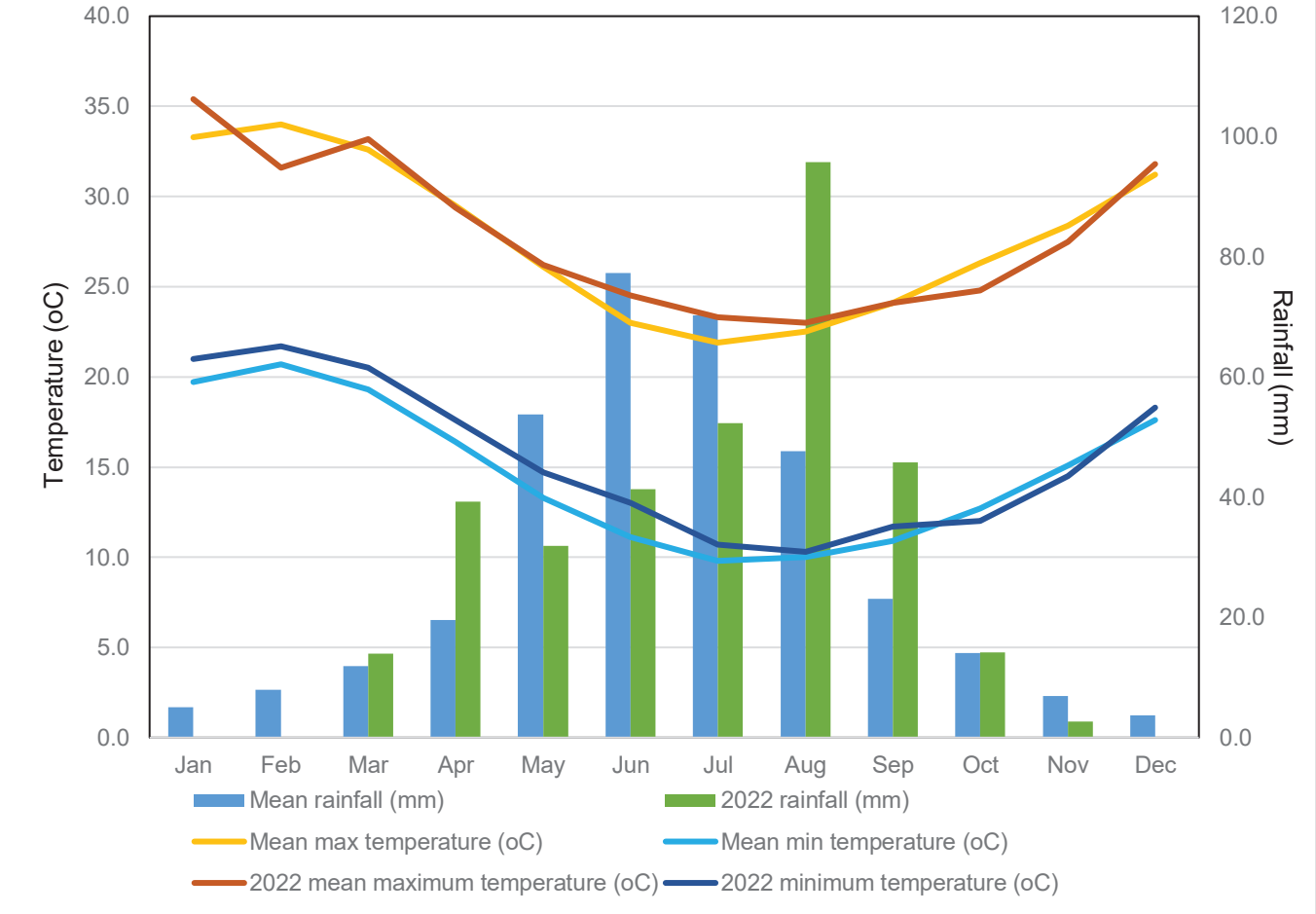


Plate 1 *Climate data for Kalbarri (site number 008251) BoM 2022*

3.2 Hydrology

The Government of WA (GoWA 2022) data layers identified the water resource aspects present in the Study Area. These are detailed below in Table 3.1

Table 3.1 *Water resources present within the study area (GoWA 2022)*

Aspect	Details	Result
Groundwater area	Groundwater areas proclaimed under the *Rights in Water and Irrigation Act 1914* (RIWI Act).	The survey area is located within the Gascoyne Groundwater area. No other groundwater areas are located within the Study Area.

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Aspect	Details	Result
Surface water areas	Surface water areas proclaimed under the RIWI Act.	None present within the survey area or Study Area.
Irrigation district	Irrigation Districts proclaimed under the RIWI Act.	None present within the survey area or Study Area.
Rivers	Rivers proclaimed under the RIWI Act.	None present. Data layer covers from Margaret River to Perth only.
Public Drinking Water Source Areas (PDWSA)	PDWSAs is a collective term used for the description of Water Reserves, Catchment Areas and Underground Pollution Control Areas declared (gazetted) under the provisions of the *Country Area Water Supply Act 1947*.	None present within the survey area. Kalbarri Water reserve is located approximately 8.5 km south of the survey area.

3.2.1 Wetlands

The Government of WA (GoWA 2022) data layers identified the following important wetland present within the Study Area:

– Murchison River (lower reaches), located approximately 8 km southeast of the survey area.

No other important wetlands were present within the desktop study area.

3.3 Geology, landforms and soils

The survey area is in the Gascoyne Sub-basin of the Carnarvon Basin, which comprises a substantial thickness of sedimentary rocks, potentially about 4 km thick, overlying Precambrian basement rocks. The sedimentary rocks comprise Silurian Tumblagooda Sandstone over which there is a westwards-thickening Cretaceous veneer of marine sediments, including Birdrong Sandstone, Windalia Radiolarite (siltstone), Alinga Formation (clayey siltstone to greensand) and Toolonga Calcilutite (chalky calcilutite to calcisiltite). These are in turn overlain by Tertiary sediments (Pindilya Formation – sandstone and conglomerate) and Quaternary sediments (calcrete, Tamala Limestone, colluvium and eolian and residual sands). There is considerable calcareous coastal-dune build-up along the coastal strip that is indurated, forming the Tamala Limestone (GoWA 2022)

The soil landscape changes from calcrete plateaux, mesas, hills and footslopes supporting annual grasslands, herbfields and degraded chenopod shrublands in the east through to elevated undulating limestone plains within thin sand cover, sea cliffs and low hills supporting low heath, mallee shrublands and paper bark thickets in the western coastal section. Throughout the mid-section, undulating sand plains and occasional dunes supporting shrub heath and tree heath vegetation is common (GoWA 2019).

3.4 Land use

The dominant land use within the Geraldton Sandplains is dry-land agriculture (69.34%) with lesser area of conservation (17.6%) and UCL and Crown reserves (12.5%) (Desmond and Chant 2001). Much of the northern Geraldton Sandplain Region is used for pastoral purposes, with the remainder mostly being in conservation reserves.

Many Geraldton Sandplain reserves are becoming saline or encountering rising water tables. Wildfire management facilities are limited by resources, except for fire breaks and fire-access tracks which are installed and maintained except on Zuytdorp Nature Reserve, areas of Beekeepers Nature Reserve and Nature Reserves smaller than 200 ha. Feral herbivore grazing activities now (goats are common in north and east of the bioregion, pigs are undergoing drastic increases in numbers and spread). Feral predator control systems are in place on Kalbarri, Badgingarra, and Nambung National Parks only (Desmond and Chant 2001).

3.5 Conservation estates and reserves

A search of the DBCA Legislated Lands and Waters database did not identify any reserves within the survey area, however three reserves occur within five km of the study area, as presented in Table 3.2. Zuytdorp Nature Reserve exists approximately 3.5 km northeast and 5 km north west of the survey area. Several pastoral leases

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exist within the survey area including Tamala (near the coast) and Nanga situated east of Tamala (Burbridge, Harvey and McKenzie 2000). The Kalbarri National Park is situated between 6 km (south of the corridor) and approximately 10 km (south and southeast) of the survey area.

Table 3.2 DBCA conservation estate and reserves

Name of Reserve	Parcel Identifier	Class	Proximity to Study Area
Kalbarri National Park	R 27004	A	Located approximately 10 km southeast of the survey area.
Zuytdorp Nature Reserve	R 34771	IUCN Category 1a	Located approximately 3.5 km north of the survey area.
Toolonga Nature Reserve	R 40628	IUCN Category 1a	Located approximately 20 km northeast of the survey area.

3.6 Environmentally sensitive areas

There are two very small Environmentally Sensitive Areas (ESAs) at the far northern mid portion of the Survey Area (Ref no. 6451 and 6452). Additionally, there are two very small ESAs situated in the mid-western portion of the corridor (Ref no. 6443, 6444 and 6448). Outside of the survey area, approximately 6 km north of the mid-section of the corridor are 3 very small ESAs (Ref no.6450, 6449).

Approximately 3 km north of the survey area is Zuytdorp Nature Reserve (ESA Ref no. 6914) and approximately 6 km south and 10 km southeast of the survey area is Kalbarri National Park (ESA Ref no.6433). Approximately 7 km southeast of the survey area is ESA Ref No.6413 and 5 km southeast of the survey area is ESA Ref No.6380.

3.7 Vegetation

3.7.1 Regional biogeography

The survey area predominantly lies within the Geraldton Sandplains IBRA bioregion and within the Geraldton Hills IBRA subregion. The Geraldton Sandplains bioregion comprises the central and northern Perth Basin, the Pinjarra Orogen, and the south end of the Carnarvon Basin. Outcrops of Jurassic siltstones and sandstones can be heavily lateralized. Extensive proteaceous heaths and scrub-heaths often with emergent mallees, *Banksia* and *Callitris*, occur on an undulating, lateritic sandplain mantling Permian to Cretaceous strata. These heaths are rich in endemics. Sandplains are most extensive in the north and southeast where the region overlaps the edges of the Carnarvon Basin and Yilgarn Craton respectively. Extensive York gum and *Acacia* woodlands occur on alluvial outwash plains associated with drainage and with valleys in the hill country. Areas of coastal aeolian sands and limestone support proteaceous heath and *Acacia* scrubs (Desmond and Chant 2002).

A small portion of the survey area, to the northeast lies within the Yalgoo IBRA bioregion and within the Edel IBRA subregion. Yalgoo bioregion extends westwards to the boundary of the southwest Botanical Province and includes the Toolonga Plateau of the southern Carnarvon Basin. It is characterised by low to open woodlands of *Acacia, Eucalyptus* and *Callitris* on red sandy plains. Mulga shrublands dominate in the east. Western parts include sand plains, heathlands and some eucalypt shrublands. The subregion is particularly rich in ephemerals (Desmond and Chant 2001).

3.7.2 Broad vegetation mapping and extent

Broad scale (1:250,000) pre-European vegetation mapping of the area was completed by (Beard 1976) at an association level. Mapping indicates eight vegetation associations are present within the survey area:

– Shrublands tree-heath between sandhills; *Banksia ashbyi*, *Grevillea gordoniana*, *Acacia* spp., *Melaleuca* and mallee (association 368)
– Shrublands; heath on coastal limestone (association 402)

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– Shrublands; scrub-heath on sandplain (association 380)
– Shrublands; *Acacia rostellifera* thicket (association 17)
– Shrublands; *Melaleuca cardiophylla* thicket (association 387)
– Shrublands; scrub-heath on coastal association, yellow sandplain (association 408)
– Mosaic: Shrublands; scrub-heath on coastal association on yellow sandplain / Shrublands; *Acacia* patchy
– scrub (association 401)
– Shrublands; *Acacia ligulata* scrub-heath (association 403)

The pre-European mapping has been adapted and digitised by (Shepherd, Beeston and Hopkins 2001). The extent of vegetation associations have been determined by the state-wide vegetation remaining extent calculations maintained by DBCA (GoWA 2019). As shown in Table 3.3, the proposed geotechnical investigation sites represent less than 0.001% of each vegetation association's calculated current extents at all scales (e.g. State, IBRA bioregion, IBRA subregion and LGA).

Table 3.3 Extent of pre-European vegetation associations within the survey area (Beard 1976, (GoWA 2019))

Pre-European Vegetation Association	Scale	Pre-European extent (ha)	Current extent (ha)	Remaining (%)	% current extent in all DBCA managed land (proportion of current extent)	Area within the Survey Area (ha)
368	State: Western Australia	330,110.25	330,110.25	100.00	73.46	1687
	IBRA bioregion: Geraldton Sandplains	416.19	416.19	100.00	94.18	1687
	IBRA subregion: Geraldton Hills	416.19	416.19	100.00	94.18	1687
	LGA: Shire of Northampton	10,731.21	10,731.21	100.00	64.15	1687
402	State: Western Australia	51,592.94	51,155.81	99.15	63.13	17273
	IBRA bioregion: Geraldton Sandplains	50,723.54	50,406.65	99.38	62.78	17273
	IBRA subregion: Geraldton Hills	50,723.54	50,406.65	99.38	62.78	17273
	LGA: Shire of Northampton	21,286.52	20,913.05	98.25	14.65	17273
380	State: Western Australia	580,374.88	351,916.09	60.64	40.01	20024
	IBRA bioregion: Geraldton Sandplains	507,696.88	319,288.64	62.89	39.60	20024
	IBRA subregion: Geraldton Hills	507,696.88	319,288.64	62.89	39.60	20024
	LGA: Shire of Northampton	323,476.98	249,037.61	76.99	31.88	20024
17	State: Western Australia	76,633.84	67,605.49	88.22	13.06	10311
	IBRA bioregion: Geraldton Sandplains	54,078.08	45,159.85	83.51	13.44	10311
	IBRA subregion: Geraldton Hills	49,605.04	42,016.28	84.70	13.26	10311

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Pre-European Vegetation Association	Scale	Pre-European extent (ha)	Current extent (ha)	Remaining (%)	% current extent in all DBCA managed land (proportion of current extent)	Area within the Survey Area (ha)
	LGA: Shire of Northampton	49,549.89	41,939.33	84.64	13.29	10311
387	State: Western Australia	14,898.42	13,571.67	91.09	4.35	16
	IBRA bioregion: Geraldton Sandplains	8,203.59	6,948.11	84.70	7.07	16
	IBRA subregion: Geraldton Hills	8,203.59	6,948.11	84.70	7.07	16
	LGA: Shire of Northampton	6,686.94	6,431.65	96.18	7.57	16
408	State: Western Australia	328,527.29	149,051.65	45.37	66.83	1023
	IBRA bioregion: Geraldton Sandplains	328,527.29	149,051.65	45.37	66.83	1023
	IBRA subregion: Geraldton Hills	328,527.29	149,051.65	45.37	66.83	1023
	LGA: Shire of Northampton	251,429.27	141,161.39	56.14	70.07	1023
401	State: Western Australia	32,726.65	32,726.65	100.00	24.91	24589
	IBRA bioregion: Geraldton Sandplains	32,603.86	32,603.86	100.00	24.63	24589
	IBRA subregion: Geraldton Hills	32,603.86	32,603.86	100.00	24.63	24589
	LGA: Shire of Northampton	32,401.50	32,401.50	100.00	24.16	24589
403	State: Western Australia	11,635.38	11,113.55	95.52	56.89	4472
	IBRA bioregion: Geraldton Sandplains	11,536.78	11,105.99	96.27	56.93	4472
	IBRA subregion: Geraldton Hills	11,536.78	11,105.99	96.27	56.93	4472
	LGA: Shire of Northampton	5,740.51	5,440.62	94.78	12.15	4472

3.7.3 Significant ecological communities

Desktop searches of the EPBC Act PMST (DAWE 2022) and a search of DBCA's Threatened and Priority ecological community database was undertaken within 40 km buffer of the survey area. No TEC/PECs were identified as occurring within the survey area; however, four PECs were recorded outside the Survey Area (DBCA 2022a). These occurrences are described below and shown in Figure 5, Appendix A:

– Kalbarri Ironstone Community (Priority 1): three known locations, closest is approximately 15 km east of the southern region of the survey area, other two known locations of this PEC are 25 km and 35 km southeast of the survey area

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– Highway Land System (Priority 3): three known locations, closest is approximately 15 km east of the northern region of the survey area, other two known locations of this PEC are 22 km and 53 km east of the survey area.
– Cullawarra Land System (Priority 3): known location is 45 km north west of the survey area
– Tamala Land System (Priority 3): known location is 46 km north west of the survey area.

The survey area is outside the known range of the Woodland of the Western Australian Wheatbelt TEC/PEC.

3.8 Flora

3.8.1 Flora diversity

The NatureMap (DBCA 2007-) database identified 10,043 taxa previously recorded within a 40 km radius from the centre of the survey area (114º 10' 40" E, 27º 22' 43" S), forming a study area.

The NatureMap database search are provided in Appendix C.

3.8.2 Significant flora

The EPBC Act PMST (DCCEEW 2022a), NatureMap (DBCA 2007-), DBCA TPFL and WAHERB databases (DBCA 2022b) and WANOSCG (2022) database was also incorporated to the desktop assessment and to inform the targeted orchid survey. identified the presence/potential of 148 significant flora species within the desktop study area. The desktop searches recorded:

– Fifteen Threatened taxa
– Sixteen Priority 1 (P1) taxa
– Fifty-five Priority 2 (P2) taxa
– Forty-six 3 (P3) taxa
– Sixteen Priority 4 (P4) taxa.

The species list is provided in Appendix D in the likelihood of occurrence table. The locations of significant flora registered on the DBCA database searches are illustrated in Figure 5, Appendix A.

A likelihood of occurrence (LOO) assessment was undertaken pre-survey as part of the desktop assessment. The pre-survey assessment took into account records from DBCA, previous studies and reported habitat requirements. The pre-survey LOO concluded 23 taxa are known from previous record and nine taxa were considered likely to occur. The remaining taxa identified in the desktop assessment 74 were considered possibly to occur and 42 taxa were considered unlikely to occur with the survey area. The 32 flora taxa that were considered previously known and likely to occur within the survey area pre-survey are shown in Table 3.4.

Table 3.4 Pre-survey likelihood of occurrence assessment

Taxon	Status	Likelihood of occurrence (pre-survey)
Caladenia barbarella	T	Known from previous record
Caladenia bryceana subsp. *cracens*	T	Known from previous record
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	Known from previous record
Macarthuria georgeana	P1	Known from previous record. Last collected in 1976
Mirbelia sp. Zuytdorp (G.J. Keighery & N. Gibson 1688)	P1	Known from previous record
Pileanthus aurantiacus	P1	Known from previous record
Thryptomene sp. Carrarang (M.E. Trudgen 7420)	P1	Likely, suitable habitat occurs
Verticordia lepidophylla var. *quantula*	P1	Known from previous record

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Taxon	Status	Likelihood of occurrence (pre-survey)
Acacia leptospermoides subsp. *obovata*	P2	Likely, suitable habitat occurs
Calytrix harvestiana	P2	Known from previous record
Grevillea stenomera	P2	Known from previous record
Malleostemon microphyllus	P2	Known from previous record
Melaleuca boeophylla	P2	Known from previous record
Scholtzia corrugata	P2	Known from previous record
Scholtzia sp. Folly Hill (M.E. Trudgen 12097)	P2	Known from previous record
Thryptomene calcicola	P2	Likely, suitable habitat occurs
Thysanotus fragrans	P2	Known from previous record
Anthotroche myoporoides	P3	Likely, suitable habitat occurs
Carpobrotus sp. Thevenard Island (M. White 050)	P3	Likely, suitable habitat occurs
Dasymalla glutinosa	P3	Known from previous record
Hemigenia saligna	P3	Known from previous record
Lepidium biplicatum	P3	Known from previous record
Scholtzia oleosa	P3	Known from previous record
Thryptomene caduca	P3	Likely, suitable habitat occurs
Verticordia cooloomia	P3	Known from previous record
Verticordia dichroma var. *dichroma*	P3	Known from previous record
Verticordia dichroma var. *syntoma*	P3	Likely, suitable habitat occurs and close record
Eremophila microtheca	P4	Likely, suitable habitat occurs
Eucalyptus zopherophloia	P4	Known from previous record
Jacksonia velutina	P4	Known from previous record
Lepidium puberulum	P4	Likely, suitable habitat occurs
Triodia bromoides	P4	Known from previous record

3.9 Previous studies

The survey area remains largely unsurveyed and as such literature review of recent information is unavailable. Several flora and vegetation surveys papers contained within Burbridge *et. al* (2000) where flora surveys were undertaken within the Carnarvon basin region were reviewed, including Keighery *et al.* (2000). A summary of these papers is provided below in Table 3.5.

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Table 3.5 Literature review

Survey Name and Area/extent	Survey Type. Timing/ Conditions	Species Richness	Significant Flora/ Other Flora of Interest	TEC/PECs	Significant Weeds
Flora and Vegetation of the Southern Carnarvon Basin (G.J. Keighery, 2000). A 75,000 km^2 area from Cape Range in the Exmouth area, south to the Murchison River and inland to the Kennedy Range. 63 primary sites were surveyed and 75 additional sites were incorporated from separate studies in the southern extent. 5 of these survey sites were located directly south of Zuytdorp Nature Reserve.	Level 2 Flora survey August 1994 and August 1995. Variable precipitation across years. At least one good rainfall year was experienced by sites.	2133 taxa of vascular plants from 122 families were recorded from the study area. The largest proportion of taxa recorded were from the following families: Myrtaceae (231 taxa), Asteraceae (181 taxa), Poaceae (168 taxa), Chenopodiaceae (106 taxa)	11 Threatened Flora 144 Priority Flora (33 are P1, 62 are P2, 39 are P3 and 10 are P4). Seven Threatened Flora are confined to riverine cliffs or heavy soils in the Kalbarri area: - *Beyeria lepidopetala* (T) - *Caladenia bryceana* subsp. *cracens,* (T) - *Caladenia wanosa* (T) - *Drakaea concolor* (T) - *Hypocalymma longifolium* (T) - *Lechenaultia chlorantha* (T) and - *Styphelia marginata* (T). 223 taxa were noted at their northern limit within Kalbarri National Park (20% of the parks known flora)	None described	88 vascular weeds were recorded. **Arctotheca calendula* was noted as dominating the Murchison River Foreshore in Kalbarri
The temperate to arid transition of the Irwin – Carnarvon phytogeographic boundary, Western Australia (Neil Gibson, 2000) The Survey Area covers southeast from Shark Bay and bisects the lower third of the Carnarvon Basin study area.	Level 2 Flora survey. Various Spring surveys from 1988 to 1992. All sites had one good rainfall year.	690 taxa were recorded from 100 quadrats.	N/A	N/A	N/A
The flora and vegetation of the seasonal and perennial wetlands of he southern Carnarvon Basin, Western Australia (N. Gibson, 2000)	1 x 1 m quadrats along transects. 58 wetlands sites (transects) were sampled in August and September 1995.	263 taxa were recorded form 58 transects.	Four Priority Flora were recorded: *Bergia auriculata* (P2) *Goodenia neogoodenia* (P4)	None described	31 introduced taxa were recorded

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Survey Name and Area/extent	Survey Type. Timing/ Conditions	Species Richness	Significant Flora/ Other Flora of Interest	TEC/PECs	Significant Weeds
The survey covers wetlands within the Carnarvon Basin from Lake McLeod to the North of Carnarvon to the Murchison River in the South, near Kalbarri.	No saline wetlands or mangroves were included.		*Rumex crystallinus* (P2) *Wurmbea murchisoniana* (P4) 15 Range extensions were recorded at the time of the survey		
An inventory and condition survey of the lower Murchison River area, Western Australia (Hennig, 2009). 13 000 km^2 of rangeland country around the lower reaches of the Murchison. The western boundary of this rangeland survey coincides with the rugged, almost continuous, Zuytdorp Cliffs. The eastern boundary fronts onto the lower part of the Murchison River rangeland.	Survey of vegetation and soils. 28 Traverse Routes, 40km in length. Monitoring the condition of land/soil/vegetation types. 112 Inventory Sites – photographed sites and vegetation descriptions. Not a detailed Flora survey. November 2002 and March/April 2003	27 vegetation types described. The number of Flora recorded is not listed.	Three Priority flora were recorded: *Chamelaucium* sp. Coolcalalaya (A.H. Burbidge 4233) (P1) *Melaleuca oldfieldii* (P2) *Grevillea costata* (P3)	None described	10 weeds recorded.

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4. Survey results

4.1 Vegetation

4.1.1 Vegetation types

Thirty-one vegetation types were described and mapped within the survey area, excluding previously cleared areas for tracks, sand dunes, beach and ocean. One vegetation type was described that occurred outside the survey area within Zuytdorp Nature Reserve (VT24), which was sampled as part of the regional vegetation assessment.

The vegetation present comprised a mosaic of vegetation types across the survey area that were grouped under the following broader structure classification:

– Coastal heath and shrublands
– Rocky limestone outcropping low hills and ridges
– Shrublands and *Banksia* woodlands
– *Melaleuca* / *Acacia* tall shrublands clay soils
– Sandplain shrublands and heathlands / *Banksia* woodlands / Dunes
– *Eucalyptus* / mallee woodlands
– Clay pan

The vegetation types identified within the survey area are described in further detail in Table 4.1 and mapped on Figure 5, Appendix A.

The vegetation types that occurred over the greatest area of the survey area were VT22 – (BsArAbAc) *Banksia sceptrum* open woodland to isolated trees over *Acacia rostellifera, Acacia blakelyi* and *Allocasuarina campestris* open shrubland on yellow sandplains and low rises which covered 22.83 % of the survey area. Other more widespread vegetation types included VT14 (ArMc) *Acacia rostellifera* and *Melaleuca cardiophylla* open woodland to shrubland on brown sand on limestone rocky slopes and ridges and brown sandy flats (14.48 %) and VT18 – (BsAcCaGe) *Banksia sceptrum* open woodland to isolated trees over *Allocasuarina campestris, Callitris arenaria* and *Grevillea eriostachya* open shrubland on yellow sandplains, sandy rises and low sandy hills and linear dunes (12.22 %). The remaining vegetation types formed a mosaic across the survey area dependent upon distance from coastline, soil type, underlying geology and landform, with percent coverage of the survey area ranging from 0.02 – 6.75 %.

4.1.2 Floristic analysis

The similarity between quadrats was examined using PRIMER. Analysis was run using two scenarios:

– All species (base quadrat data), including annuals, weeds and species that occur only once (singles)
– Native species only (weed species removed from each quadrat) and annuals and singles removed

Of these two scenarios the native species only (annuals and singles removed) had the lowest stress value (0.17), indicating a reasonable representation and fit. Using this scenario, the cluster analysis and resulting dendrogram and two dimensional MDS scatter plot showed general groupings of quadrats that broadly aligned with vegetation types (Appendix D).

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4.1.3 Significant ecological communities

No TEC's listed under the EPBC Act or BC Act or PECs listed by the DBCA were identified within the survey area during the field survey. The survey area did not contain any ironstone vegetation types and the Highway, Cullawarra and Tamala Land Systems associated with PECs have not been mapped in the survey area and do not occur.

Vegetation of interest

Vegetation of interest included the following vegetation types that were highlighted for having restricted distributions within the survey area, specific landforms and a concentration of significant flora species that formed, in most cases, the dominant species within the structural layers that defined the vegetation types. These vegetation types were:

– The linear dunes of VT18 (BsAcCaGe) *Banksia sceptrum* open woodland to isolated trees. The statistical analysis did not separate out the quadrats sampled from the linear dunes from the broader VT18 vegetation type on yellow sandplains quadrats, however, the linear dunes assemblage appeared unique and restricted. The linear dunes contain abundance of *Verticordia cooloomia* (P3) and *Pileanthus aurantiacus* (P1) within the shrub layer.
– VT23 – (McChSo) *Melaleuca concreta, Calytrix harvestiana* (P2) *Scholtzia oleosa* (P3) low shrubland on pink/orange sand on low depressions / water gaining areas within the sandplains. This vegetation type was only restricted to the low depression landforms within the yellow sandplain vegetation types and contained several significant flora species including *Caladenia barbarella* (T), *Chamelaucium* sp. Coolcalalaya (A.H. Burbidge 4233) (P1), *Desmocladus ferruginipes* (P1), *Calytrix harvestiana* (P2), *Thryptomene johnsonii* (P2) and *Scholtzia oleosa* (P3).

While VT18 and VT23 do not represent known TECs/PECs that have been highlighted as vegetation of interest for the justifications above with the linear dune landform targeted and sampled with quadrats outside the survey area within Kalbarri National Park and Zuytdorp Nature Reserve to determine similarity and presented below.

Regional vegetation type comparison

In order to determine whether the linear dunes of VT18 (BsAcCaGe) were unique to the survey area two quadrats were sampled within Kalbarri National Park (MUR124 and MUR152) and four quadrats were sampled within Zuytdorp Nature Reserve (MUR30, MUR122, MUR123, MUR151). The locations of the regional quadrats are presented on Figure 2, Appendix A.

Quadrats MUR124 and MUR152 were sampled near the northern boundary of Kalbarri National Park on a low yellow sandy rise vegetation type. These two quadrats grouped with MUR159R, which is located within the survey area. This vegetation type was described as VT19 – (BsEg) *Banksia sceptrum* and *Eucalyptus gittinsii* subsp. *gittinsii* open woodland to isolated trees on yellow sand plains, rises and low dunes. This vegetation type, based on this analysis and sampling, occurs both within Kalbarri National Park and the survey area. Further quadrat sampling near MUR159R within the survey area may further confirm this. Quadrats MUR124 and MUR152 grouped separately from quadrats within VT18 (BsAcCaGe), indicating that they are not statistically similar to the quadrats recorded within the survey area, including those sampled from the linear dunes.

Quadrats MUR30, MUR122, MUR123, MUR151 sampled within Zuytdorp Nature Reserve on high sand dunes grouped separately from all quadrats sampled within the survey area and in particular those sampled as part of VT18 (BsAcCaGe). This indicated that through this analysis and sampling, the quadrats sampled on linear dunes outside the survey area within Zuytdorp Nature Reserve are not statistically similar to the quadrats recorded within the survey area, including those sampled from the linear dunes within VT18 (BsAcCaGe).

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Table 4.1 Vegetation types recorded and extent

Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
Coastal heath and shrublands				
VT01 (McOaRdSo) – Coastal low shrubland	*Melaleuca cardiophylla* sparse low shrubland over *Olearia axillaris, Rhagodia drummondii* and *Scholtzia oligandra* low open shrubland over *Acanthocarpus robustus* and *Desmocladus asper* sparse sedgeland over *Lomandra maritima, Ptilotus exiliflorus* and *Pimelea gilgiana* open forbland on light brown sand over limestone rocks and outcropping on coastal cliffs and drainage coastal gullies. Other associated species include *Eremophea spinosa, Solanum oldfieldii, Austrostipa crinita, Diplopeltis intermedia* var. *intermedia* and *Frankenia pauciflora.*	1898.90 (2.21 %)	MUR01, MUR02, MUR03	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT02 – (ArMcMlOk) Coastal shrublands on secondary dunes and slopes.	*Acacia rostellifera* isolated shrubs over *Melaleuca cardiophylla, Melaleuca leiopyxis* and *Olearia* sp. Kennedy Range (G. Byrne 66) open shrubland over *Lepidosperma* sp. Zuytdorp (G.J. Keighery & N. Gibson 1710), *Acanthocarpus* sp. Ajana (C.A. Gardner 8596) and *Desmocladus asper* open sedgeland over *Lomandra maritima, Roepera apiculata* and *Conostylis aculeata* subsp. *septentrionora* open forbland over *Rytidosperma setaceum* and *Austrostipa crinita* open tussock grassland on pale brown sand over limestone on coastal low secondary dunes and slopes. Other associated species include *Calothamnus oldfieldii, Scholtzia oligandra, Diplolaena mollis, Rhagodia latifolia* subsp. *latifolia, Melaleuca campanae, Quoya atriplicina* and *Lysiandra calycina*.	4689.07 (5.45 %)	MUR40, MUR80, MUR120, MUR191	 

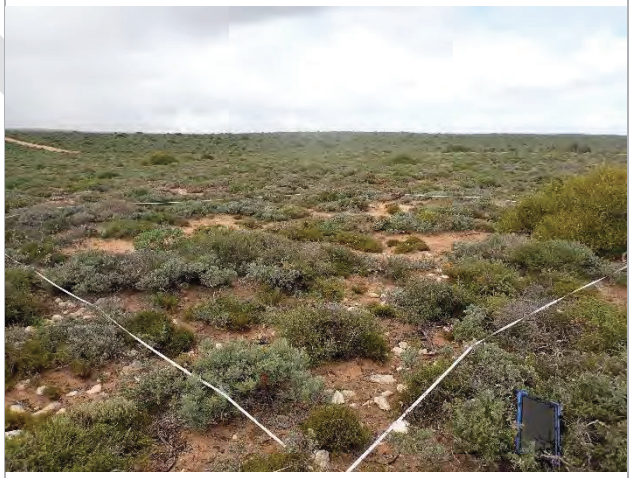
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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT03 – (ArEaMc) Coastal *Exocarpos aphyllus* shrublands on low secondary dunes	*Acacia rostellifera, Exocarpos aphyllus* and *Melaleuca cardiophylla* open shrubland over *Acanthocarpus* sp. Ajana (C.A. Gardner 8596) and *Desmocladus asper* open sedgeland over *Ptilotus exiliflorus, Solanum oldfieldii* and *Lomandra maritima* open forbland over *Austrostipa crinita, Eragrostis barrelieri* and *Rytidosperma setaceum* open tussock grassland on pale brown sand over limestone on low secondary dunes. Other associated species include *Diplopeltis intermedia* var. *intermedia, Hibbertia racemosa, Threlkeldia diffusa, Pimelea gilgiana, Comesperma scoparium, Scholtzia oligandra* and *Pimelea microcephala* subsp. *microcephala*.	126.48 (0.15 %)	MUR61, MUR62, MUR63	

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT04 – (McArSoMv) Coastal shrublands on flat coastal sand dunes.	*Melaleuca cardiophylla, Acacia rostellifera*, *Scholtzia oligandra* and *Melaleuca venusta* open shrubland over *Desmocladus asper* open sedgeland over *Trachymene pilosa, Calandrinia* sp. Shark Bay (A. Markey 1405) and *Podotheca angustifolia* open forbland over *Austrostipa crinita* and **Rostraria pumila* open tussock grassland on pale brown sand over limestone on flat coastal sand dunes. Other associated species include *Diplopeltis intermedia* var. *intermedia, Lysiandra calycina, Solanum oldfieldii* and *Pimelea gilgiana*.	46.20 (0.05 %)	MUR91, MUR92	

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT05 – (AbMcEa) Coastal *Alyxia buxifolia* shrublands on pale brown/pink sand on low dunes.	*Alyxia buxifolia, Melaleuca cardiophylla* and *Exocarpos aphyllus* open shrubland over *Olearia* sp. Kennedy Range (G. Byrne 66), *Scholtzia oligandra* and *Rhagodia drummondii* low open shrubland over *Desmocladus asper* and *Acanthocarpus* sp. Ajana (C.A. Gardner 8596) open sedgeland over *Lomandra maritima, Ptilotus eremita* and *Ptilotus divaricatus* open forbland over *Austrostipa elegantissima* and *Rytidosperma setaceum* open tussock grassland on pale brown/pink sand over limestone on low dunes. Other associated species include *Anthocercis intricata* (P3), *Lysiandra calycina, Lysiandra scabra, Threlkeldia diffusa, Pimelea gilgiana* and *Solanum oldfieldii*.	961.30 (1.12 %)	MUR98, MUR99, MUR108, MUR109, MUR110, MUR118, MUR139, MUR160, MUR161, MUR192, MUR193	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT06 – (AbOaOkTc) Coastal mixed shrublands on pale brown/pink sand on pale brown/pink sand over limestone on low dunes, gullies and limestone rocky ridges/outcrops.	*Alyxia buxifolia, Olearia axillaris, Olearia* sp. Kennedy Range (G. Byrne 66) and *Thryptomene* sp. Carrarang (M.E Trudgen 7420) open shrubland over *Acanthocarpus verticillatus, Acanthocarpus* sp. Ajana (C.A. Gardner 8596) and *Desmocladus asper* open sedgeland over *Ptilotus eremita, Calandrinia* sp. Shark Bay (A. Markey 1405) and **Lysimachia arvensis* open forbland over *Austrostipa crinita, *Rostraria pumila* and **Ehrharta longiflora* open tussock grassland on pale brown/pink sand over limestone on low dunes, gullies and limestone rocky ridges/outcrops. Other associated species include *Melaleuca cardiophylla, Diplolaena grandiflora, Goodenia berardiana, Rhagodia drummondii, Rhagodia eremaea, Threlkeldia diffusa, Dioscorea hastifolia, Pimelea microcephala* subsp. *microcephala* and *Tetragonia implexicoma*.	907.87 (1.06 %)	MUR08, MUR09, MUR68, MUR69, MUR70, MUR81, MUR97	 

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VT07 – (ArReSc) Coastal foredunes	*Acacia rostellifera, Rhagodia eremaea* and *Scaevola crassifolia* isolated shrubs over *Spinifex longifolius* open tussock grassland over *Ptilotus exiliflorus* and *Carpobrotus* sp. Thevenard Island (M. White 050) (P3) open forbland on pale white/brown sand beach foredunes. Other associated species include *Threlkeldia diffusa, Roepera fruticulosa, Stylobasium spathulatum* and *Westringia dampieri.*	36.86 (0.04 %)	MUR195, MUR196, MUR214, MUR215	

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
Rocky limestone outcropping low hills and ridges				
VT08 – (McOkEoPgDg) *Melaleuca cardiophylla* open shrubland on limestone low hills, outcrops and ridges.	*Melaleuca cardiophylla* open shrubland over *Olearia* sp. Kennedy Range (G. Byrne 66), *Eremophila oldfieldii* subsp. *oldfieldii, Pimelea gilgiana* and *Diplolaena grandiflora* open shrubland over *Ptilotus eriotrichus, Ptilotus divaricatus* and **Lysimachia arvensis* open forbland over *Austrostipa crinita, *Ehrharta brevifolia* var. *cuspidata* and **Rostraria pumila* tussock grassland on brown sand on limestone low hills, outcrops and ridges. Other associated species include *Dioscorea hastifolia, *Arctotheca calendula, *Brassica tournefortii, *Centaurea melitensis, Pimelea microcephala* subsp. *microcephala* and **Sonchus oleraceus.*	968.79 (1.13 %)	MUR64, MUR65, MUR66, MUR67	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT14 – (ArMc) *Acacia rostellifera* and *Melaleuca cardiophylla* open woodland to shrubland on brown sand on limestone rocky slopes and ridges and brown sandy flats.	*Acacia rostellifera* and *Melaleuca cardiophylla* open woodland to shrubland over *Pimelea microcephala* subsp. *microcephala, Olearia* sp. Kennedy Range (G. Byrne 66) and *Rhagodia latifolia* subsp. *latifolia* open shrubland over *Desmocladus asper* open sedgeland over **Lysimachia arvensis, *Hypochaeris glabra* and *Roepera apiculata* open forbland on brown sand on limestone rocky slopes and ridges and brown sandy flats. Other associated species include *Austrostipa elegantissima, Calandrinia polyandra, *Centaurea melitensis, Dendrophyllanthus erwinii* and *Trachymene pilosa.*	12445.63 (14.48 %)	MUR129, MUR131, MUR137, MUR141, MUR175, MUR194, MUR201, MUR205, MUR213, MUR216, MUR60, MUR86, MUR88, MUR90, MUR95	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT09 – (AoHrHs) Isolated shrubs on high limestone ridgeline, slopes and valley floor.	*Alectryon oleifolius* subsp. *oleifolius, Hakea recurva* subsp. *recurva* and *Hakea stenophylla* subsp. *notialis* isolated shrubs over *Enchylaena tomentosa* var. *tomentosa, Maireana tomentosa* and *Sclerolaena diacantha* open chenopod shrubland over *Ptilotus obovatus* and **Centaurea melitensis* open forbland over **Avena barbata, Amphipogon caricinus* var. *caricinus* and **Phalaris minor* open tussock grassland on brown sand and loam on high limestone ridgeline, slopes and valley floor with previous clearing evident.	253.50 (0.29 %)	MUR154R, MUR155R	

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
Shrublands and *Banksia* woodlands				
VT10 – (AcAaTd) *Allocasuarina campestris, Callitris arenaria* and *Thryptomene denticulata* shrubland on yellow sand and sandy loam low slope and hill.	*Allocasuarina campestris, Callitris arenaria* and *Thryptomene denticulata* shrubland over *Calytrix brevifolia* and *Calothamnus phellosus* open shrubland over *Drosera humilis, Trachymene pilosa* and *Waitzia corymbosa* open forbland on yellow sand and sandy loam low slope and hill. Other associated species include *Acacia neurophylla* subsp. *erugata, Conospermum microflorum, Eremaea dendroidea, Melaleuca leiocarpa* and *Scholtzia umbellifera.*	342.27 (0.40 %)	MUR19, MUR75	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT11 – (GeAcHs) *Grevillea eriostachya, Acacia chartacea* and *Hakea stenophylla* subsp. *notialis* open shrubland on red sandy plain and low rises.	*Grevillea eriostachya, Acacia chartacea* and *Hakea stenophylla* subsp. *notialis* open shrubland over *Thryptomene denticulata, Melaleuca leiopyxis* and *Calytrix brevifolia* open shrubland over *Acanthocarpus* sp. Ajana (C.A. Gardner 8596) open sedgeland over *Goodenia berardiana* and *Waitzia corymbosa* open forbland on red sandy plain and low rises.	806.34 (0.94 %)	MUR76	

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT12 – (AcArAb) *Allocasuarina campestris, Acacia rostellifera* and *Acacia blakelyi* shrubland to closed shrubland on light brown sand flats and low rises.	*Allocasuarina campestris, Acacia rostellifera and Acacia blakelyi* shrubland to closed shrubland with occasional *Eucalyptus gittinsii* subsp. *gittinsii* and *Eucalyptus eudesmioides* isolated mallee trees over *Melaleuca leiopyxis, Melaleuca venusta* and *Malleostemon hursthousei* open shrubland over *Ecdeiocolea monostachya* and *Desmocladus asper* open sedgeland over *Gnephosis tenuissima, Hyalosperma demissum* and *Thysanotus exfimbriatus* open forbland on light brown sand flats and low rises. Other associated species include *Acanthocarpus humilis, Grevillea stenomera* (P3), *Thryptomene denticulata* and *Dioscorea hastifolia*.	5800.72 (6.75 %)	MUR04, MUR05, MUR06, MUR54R, MUR55R, MUR72, MUR85, MUR106, MUR130, MUR168, MUR182, MUR183, MUR184, MUR207	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT13 – (MaAr) *Melaleuca atroviridis* and *Acacia ramulosa* open shrubland on yellow sand plain.	*Melaleuca atroviridis* and *Acacia ramulosa* open shrubland over *Comesperma integerrimum, Jacksonia arenicola* and *Calothamnus blepharospermus* open shrubland over *Ecdeiocolea monostachya* and *Lepidobolus preissianus* subsp. *preissianus* open sedgeland over *Triodia aff dielsii* open hummock grassland over *Waitzia acuminata* var. *acuminata, Rhodanthe citrina* and *Gnephosis tenuissima* open forbland on yellow sand plain. Other associated species include *Macarthuria intricata* (P3), *Monachather paradoxus, Brunonia australis* and *Baeckea* sp. Eurardy Station (Wildflower Society of W.A. EURA 15).	820.13 (0.95 %)	MUR156, MUR157, MUR158	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
Melaleuca / *Acacia* tall shrublands clay soils				
VT15 – (McMcAlAc) *Melaleuca concreta, Melaleuca campanae, Acacia lineolata* subsp. *lineolata* and *Allocasuarina campestris* shrublands on red/orange loamy clay on flats and depressions.	*Melaleuca concreta, Melaleuca campanae, Acacia lineolata* subsp. *lineolata* and *Allocasuarina campestris* shrublands with *Eucalyptus gittinsii* subsp. *gittinsii* isolated mallee trees over *Ecdeiocolea monostachya* isolated sedges over *Cassytha aurea* var. *hirta, Gnephosis tenuissima* and *Tricoryne elatior* open forbland over *Austrostipa elegantissima* and *Amphipogon caricinus* var. *caricinus* isolated tussock grasses on red/orange loamy clay on flats and depressions. Other associated species include *Melaleuca cardiophylla, Lamarchea hakeifolia* var. *brevifolia, Mesomelaena pseudostygia* and *Melaleuca eleuterostachya*.	3031.23 (3.53 %)	MUR24, MUR114, MUR164, MUR165, MUR167, MUR188, MUR204, MUR203	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT16 – (AaMeDi) *Acacia acuminata, Melaleuca eleuterostachya* and *Dodonaea inaequifolia* shrubland on brown loamy clay flats and minor drainage lines (Weerinoogudda creek).	*Acacia acuminata, Melaleuca eleuterostachya* and *Dodonaea inaequifolia* shrubland over *Cephalipterum drummondii, Waitzia corymbosa* and *Erodium cygnorum* forbland over *Austrostipa crinita* and **Pentameris airoides* subsp. *airoides* open tussock grassland on brown loamy clay flats and minor drainage lines (Weerinoogudda creek).	229.74 (0.27 %)	MUR13, MUR22	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
Sandplain shurblands and heathlands / Banksia woodlands / Dunes				
VT17 – (BsCbAcHc) *Banksia sceptrum* isolated trees over open shrubland over *Calothamnus blepharospermus, Allocasuarina campestris* and *Hibbertia conspicua* open shrubland on yellow/cream sand plains and low rises.	*Banksia sceptrum* isolated trees over open shrubland over *Calothamnus blepharospermus, Allocasuarina campestris* and *Hibbertia conspicua* open shrubland over *Ecdeiocolea monostachya, Mesomelaena pseudostygia* and *Lepidobolus preissianus* subsp. *preissianus* open sedgeland over *Neurachne alopecuroidea* and *Austrostipa nodosa* open tussock grassland over *Calandrinia laniflora, Opercularia spermacocea* and *Stylidium kalbarriense* open forbland on yellow/cream sand plains and low rises. Other associated species include *Comesperma scoparium, Pimelea microcephala* subsp. *microcephala, Melaleuca ?bisulcate, Acanthocarpus robustus, Desmocladus asper, Cassytha aurea* var. *aurea, Patersonia occidentalis* var. *occidentalis, Malleostemon microphyllus, Phymatocarpus porphyrocephalus, Triodia bromoides* (P4) and *Stenanthemum notiale* subsp. *notiale*.	5128.28 (5.96 %)	MUR27, MUR28, MUR29, MUR82, MUR111	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT18 – (BsAcCaGe) *Banksia sceptrum* open woodland to isolated trees over *Allocasuarina campestris, Callitris arenaria* and *Grevillea eriostachya* open shrubland on yellow sandplains, sandy rises and low sandy hills and linear dunes.	*Banksia sceptrum* open woodland to isolated trees over *Allocasuarina campestris, Callitris arenaria* and *Grevillea eriostachya* open shrubland over *Melaleuca psammophila, Thryptomene denticulata* and *Calytrix brevifolia* open shrubland over *Lepidobolus preissianus* subsp. *preissianus, Ecdeiocolea monostachya* and *Mesomelaena preissii* open sedgeland over *Triodia bromoides* (P4) open hummock grassland over *Conostylis aculeata* subsp. *echinissima, Stylidium kalbarriense* and *Monotaxis bracteata* open forbland on yellow sandplains, sandy rises and low sandy hills and linear dunes. Linear dunes contain abundance of *Verticordia cooloomia* (P3) and *Pileanthus aurantiacus* (P1). Other associated species include *Conospermum microflorum, Phymatocarpus porphyrocephalus, Petrophile semifurcata, Hibbertia conspicua, Schoenus clandestinus, Acanthocarpus humilis, Melaleuca filifolia* and *Acacia ?andrewsii*.	10505.15 (12.22 %)	MUR41, MUR45, MUR46, MUR47, MUR48, MUR52, MUR136, MUR187, MUR189, MUR208, MUR209, MUR210	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT19 – (BsEg) *Banksia sceptrum* and *Eucalyptus gittinsii* subsp. *gittinsii* open woodland to isolated trees on yellow sand plains, rises and low dunes. Two quadrats sampled within Kalbarri National Park, one relevé sampled within survey area. Sampled for comparison with survey area sandplain and dune vegetation types.	*Banksia sceptrum* and *Eucalyptus gittinsii* subsp. *gittinsii* open woodland to isolated trees over *Baeckea* sp. Murchison River (M.E Trudgen 12009), *Melaleuca psammophila* and *Calothamnus blepharospermus* open shrubland over *Lepidobolus preissianus* subsp. *preissianus* and *Ecdeiocolea monostachya* open sedgeland over *Triodia danthonioides* isolated hummock grasses over *Stylidium elongatum* and *Dampiera oligophylla* open forbland on yellow sand plains, rises and low dunes. Other associated species include *Calytrix brevifolia, Petrophile pilostyla* subsp. *pilostyla, Acacia plautella* (P3)*, Calytrix strigosa, Labichea teretifolia* subsp. *teretifolia, Melaleuca ?leuropoma* and *Pileanthus peduncularis* ?subsp. *peduncularis*.	66.89 (0.08 %)	MUR124 (Kalbarri NP) MUR152 (Kalbarri NP) MUR159R	

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT20 – (BsCoSuHc) *Banksia sceptrum* open woodland to isolated trees over *Calothamnus oldfieldii, Scholtzia umbellifera* and *Hibbertia conspicua* low open shrubland on pale yellow/white sand plains, low rises and hills.	*Banksia sceptrum* open woodland to isolated trees over *Calothamnus oldfieldii, Scholtzia umbellifera* and *Hibbertia conspicua* low open shrubland over *Ecdeiocolea monostachya, Lepidosperma* sp. Zuytdorp (G.J. Keighery & N. Gibson 1710) and *Mesomelaena preissii* open sedgeland over *Triodia bromoides* (P4) open hummock grassland over *Cassytha aurea* var. *aurea, Patersonia graminea* and *Drosera thysanosepala* open forbland on pale yellow/white sand plains, low rises and hills. Other associated species include *Styphelia cordifolia, Desmocladus asper, Melaleuca leiopyxis, Schoenus clandestinus, Acanthocarpus humilis, Grevillea stenomera* (P3), *Pimelea leucantha, Persoonia acicularis, Diplolaena mollis* and *Eucalyptus erythrocorys*.	535.10 (0.62 %)	MUR10, MUR31, MUR32, MUR33, MUR36, MUR38, MUR89, MUR138, MUR140	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT21 – (AsMlBa) *Acacia spathulifolia, Melaleuca leiopyxis* and *Banksia attenuata* low open shrubland on pale yellow/white sand plains.	*Acacia spathulifolia, Melaleuca leiopyxis* and *Banksia attenuata* low open shrubland over *Ecdeiocolea monostachya, Lepidobolus preissianus* subsp. *preissianus* and *Desmocladus asper* open sedgeland over *Austrostipa elegantissima* and *Neurachne alopecuroidea* open tussock grassland over *Monotaxis bracteata, Isotropis* sp. Shark Bay (M. E. Trudgen 7170) and *Stylidium repens* open forbland on pale yellow/white sand plains. Other associated species include *Banksia fraseri* var. *ashbyi, Banksia prionotes, Persoonia acicularis, Calothamnus blepharospermus, Mesomelaena preissii, Phymatocarpus porphyrocephalus, Baeckea* sp. East Nabawa (M.E. Trudgen MET 21623), *Cassytha aurea* var. *aurea, Comesperma scoparium, Hibbertia conspicua, Acanthocarpus* sp. Ajana (C.A. Gardner 8596), *Calothamnus oldfieldii, Styphelia cordifolia, Malleostemon microphyllus* and *Jacksonia hakeoides*.	2228.91 (2.59 %)	MUR34, MUR35, MUR39, MUR121, MUR163, MUR172, MUR173, MUR202, MUR211, MUR212	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT22 – (BsArAbAc) *Banksia sceptrum* open woodland to isolated trees over *Acacia rostellifera, Acacia blakelyi* and *Allocasuarina campestris* open shrubland on yellow sandplains and low rises.	*Banksia sceptrum* open woodland to isolated trees over *Acacia rostellifera, Acacia blakelyi* and *Allocasuarina campestris* open shrubland over *Calytrix brevifolia*, *Olearia* sp. Kennedy Range (G. Byrne 66) and *Malleostemon microphyllus* (P2) open low shrubland over *Ecdeiocolea monostachya, Lepidobolus preissianus* subsp. *preissianus* and *Mesomelaena preissii* open sedgeland over *Triodia bromoides* (P4) open hummock grassland over *Trachymene pilosa, Conostylis stylidioides* and *Poranthera drummondii* open forbland on yellow sandplains and low rises. Other associated species include *Conospermum microflorum, Grevillea eriostachya, Hibbertia conspicua, Melaleuca leiopyxis, Persoonia acicularis, Seringia hermanniifolia* and *Baeckea* sp. East Nabawa (M.E. Trudgen MET 21623).	19632.76 (22.83 %)	MUR23, MUR25, MUR26, MUR43R, MUR44, MUR53R, MUR56R, MUR59, MUR73, MUR74, MUR84, MUR87, MUR93, MUR94, MUR96, MUR115, MUR117, MUR119, MUR127, MUR125, MUR126, MUR128, MUR162, MUR181	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT23 – (McChSo) *Melaleuca concreta*, *Calytrix harvestiana* (P2) *Scholtzia oleosa* (P3) low shrubland on pink/orange sand on low depressions / water gaining areas within the sandplains.	*Melaleuca concreta*, *Calytrix harvestiana* (P2) *Scholtzia oleosa*(P3) low shrubland over *Desmocladus ferruginipes* (P1), *Ecdeiocolea monostachya* and *Mesomelaena pseudostygia* isolated sedges over *Eragrostis barrelieri* open tussock grassland over *Ptilotus exiliflorus, Calandrinia granulifera* and *Gnephosis tenuissima* open forbland on pink/orange sand on low depressions / water gaining areas within the sandplains. Other associated species include *Thryptomene johnsonii* (P2), *Leptosema aphyllum, Melaleuca leiopyxis, Styphelia cordifolia, Wurmbea dilatata, Chamelaucium* sp. Coolcalalaya (A.H. Burbidge 4233) (P1).	563.63 (0.66 %)	MUR11, MUR17, MUR18, MUR100, MUR101, MUR102, MUR116, MUR112, MUR113	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
Sand dunes shrublands – Zuytdorp Nature Reserve				
VT24 – (EjEr) *Eucalyptus jucunda* and *Eucalyptus roycei* isolated mallee trees over *Callitris arenaria, Beaufortia sprengelioides, Verticordia cooloomia* (P3) and *Allocasuarina campestris* shrubland. VT24 does not occur in the survey area (Zuytdorp Nature Reserve)	*Eucalyptus jucunda* and *Eucalyptus roycei* isolated mallee trees over *Callitris arenaria, Beaufortia sprengelioides, Verticordia cooloomia* (P3) and *Allocasuarina campestris* shrubland over *Anthotroche myoporoides* (P3), *Melaleuca lara* and *Baeckea* sp. Murchison River (M.E Trudgen 12009) open shrubland on yellow sand dunes and rises within Zuytdorp Nature Reserve. Other associated species include *Calytrix brevifolia, Melaleuca psammophila* and *Xylomelum angustifolium*.	N/A	MUR30, MUR122, MUR123, MUR151	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
Eucalyptus / mallee woodlands				
VT25 – (EeEp) *Eucalyptus eudesmioides* and *Eucalyptus pallida* open mallee over *Melaleuca atroviridis, Acacia blakelyi* and *Melaleuca leiopyxis* shrubland on orange/brown sandy loam in areas near claypans and plains.	*Eucalyptus eudesmioides* and *Eucalyptus pallida* open mallee over *Melaleuca atroviridis, Acacia blakelyi* and *Melaleuca leiopyxis* shrubland over *Acanthocarpus* sp. Ajana (C.A. Gardner 8596) open sedgeland over *Austrostipa elegantissima, Austrostipa macalpinei* and **Pentameris airoides* subsp. *airoides* open tussock grassland over *Triodia bromoides* (P4) open hummock grassland over *Trachymene pilosa, Crassula colorata* var. *colorata* and *Cephalipterum drummondii* open forbland on orange/brown sandy loam in areas near claypans and plains. Other associated species include *Seringia hermanniifolia, Olearia axillaris, Mirbelia ramulosa, Lamarchea hakeifolia* var. *brevifolia, Acacia acuminata, Hakea stenophylla* subsp. *notialis* and *Rhagodia preissii* subsp. *obovata*.	2838.25 (3.30 %)	MUR07, MUR12, MUR15, MUR16, MUR133, MUR153, MUR166, MUR169, MUR170, MUR171	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT26 – (EpErEg) *Eucalyptus pallida, Eucalyptus rigidula* and *Eucalyptus gittinsii* subsp. *gittinsii* open mallee woodland on orange/brown sandy loam on plains and near claypans/flats.	*Eucalyptus pallida, Eucalyptus rigidula* and *Eucalyptus gittinsii* subsp. *gittinsii* open mallee woodland over *Hakea stenophylla* subsp. *notialis, Acacia acuminata* and *Lamarchea hakeifolia* var. *brevifolia* shrubland over *Rhagodia latifolia* subsp. *latifolia* and *Enchylaena tomentosa* var. *tomentosa* open chenopod shrubland over *Triodia bromoides* (P4) open hummock grassland over *Austrostipa elegantissima* and **Pentameris airoides* subsp. *airoides* open tussock grassland over *Trachymene pilosa, Erodium cygnorum* and *Waitzia corymbosa* open forbland on orange/brown sandy loam on plains and near claypans/flats. Other associated species include *Acanthocarpus humilis, Eremophila clarkei, *Hypochaeris glabra, Melaleuca eleuterostachya, Melaleuca venusta, Olearia* sp. Kennedy Range (G. Byrne 66), *Ptilotus obovatus*, *Stylobasium spathulatum, Dodonaea inaequifolia* and *Ptilotus polystachyus.*	3402.74 (3.96 %)	MUR14R, MUR20, MUR104, MUR105, MUR107, MUR134	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT27 – (EpBsXa) *Eucalyptus pallida* isolated mallee trees over *Banksia sceptrum* and *Xylomelum angustifolium* open woodland on pale yellow/cream sand plains and rises.	*Eucalyptus pallida* isolated mallee trees over *Banksia sceptrum* and *Xylomelum angustifolium* open woodland over *Calytrix brevifolia, Malleostemon hursthousei* and *Melaleuca leiopyxis* open shrubland over *Acanthocarpus* sp. Ajana (C.A. Gardner 8596) and *Ecdeiocolea monostachya* open sedgeland over *Triodia bromoides* (P4) open hummock grassland over *Lawrencella davenportii, Poranthera drummondii* and *Waitzia corymbosa* open forbland on pale yellow/cream sand plains and rises. Other associated species include *Cassytha aurea* var. *aurea, Allocasuarina campestris, Calothamnus blepharospermus, Acacia ?andrewsii* and *Acacia blakelyi.*	2398.82 (3.35 %)	MUR42, MUR49, MUR50, MUR51, MUR103	

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT28 – (ElAcAt) *Eucalyptus loxophleba* subsp. *supralaevis* open woodland on brown loam with limestone rocks on plains.	*Eucalyptus loxophleba* subsp. *supralaevis* open woodland over *Acacia acuminata* and *Acacia tetragonophylla* open shrubland over *Olearia* sp. Kennedy Range (G. Byrne 66), *Dodonaea inaequifolia* and *Exocarpos aphyllus* open shrubland over *Austrostipa elegantissima, Paractaenum novae-hollandiae* subsp. *novae-hollandiae* and **Aira cupaniana* open tussock grassland over *Ptilotus obovatus, Ptilotus divaricatus* and *Tetragonia diptera* open forbland on brown loam with limestone rocks on plains. Other associated species include *Brachyscome ciliaris, *Centaurea melitensis, Cephalipterum drummondii, Enchylaena tomentosa* var. *tomentosa, Melaleuca cardiophylla, Rhagodia latifolia* subsp. *latifolia, Sclerolaena diacantha* and *Vittadinia humerata*.	160.95 (0.19 %)	MUR83, MUR135, MUR190, MUR206, MUR21, MUR77, MUR78	

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT29 – (ElMeAl) *Eucalyptus loxophleba* subsp. *supralaevis* open woodland to isolated trees over *Melaleuca eleuterostachya* and *Acacia lineolata* subsp. *lineolata* open shrubland on brown loamy clay flats between limestone low hills.	*Eucalyptus loxophleba* subsp. *supralaevis* open woodland to isolated trees over *Melaleuca eleuterostachya* and *Acacia lineolata* subsp. *lineolata* open shrubland over *Sclerolaena diacantha* open chenopod shrubland over *Ptilotus obovatus, Waitzia acuminata* var. *acuminata* and *Ptilotus exaltatus* open forbland on brown loamy clay flats between limestone low hills.	487.98 (0.57 %)	MUR132, MUR185, MUR186	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
VT32 – (Ec) *Eucalyptus camaldulensis* open woodland on white/cream sand near drainage clay pans.	*Eucalyptus camaldulensis* open woodland over *Acacia rostellifera*, open shrubland over *Olearia* sp. Kennedy Range (G. Byrne 66), *Pimelea microcephala* subsp. *microcephala* and *Rhagodia latifolia* subsp. *latifolia* open shrubland over *Austrostipa elegantissima, *Ehrharta longiflora, *Schismus barbatus* and **Hordeum leporinum* open tussock grassland over *Angianthus milnei, *Arctotheca calendula* and *Calandrinia polypetala* open forbland on white/cream sand near drainage clay pans.	58.32 (0.07 %)	MUR37, MUR57R, MUR58R	 

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
Clay pan				
VT30 – (CoMtRdTiTd) *Casuarina obesa* isolated trees over *Maireana tomentosa, Rhagodia drummondii, Tecticornia indica* and *Threlkeldia diffusa* chenopod open shrubland on seasonal claypan.	*Casuarina obesa* isolated trees over *Maireana tomentosa, Rhagodia drummondii, Tecticornia indica* and *Threlkeldia diffusa* chenopod open shrubland over **Ehrharta longiflora, *Pentameris airoides* subsp. *airoides* and **Vulpia myuros* open tussock grassland over *Brachyscome perpusilla, *Arctotheca calendula* and *Calandrinia granulifera* open forbland on brown loamy clay on seasonal claypan.	13.26 (0.02 %)	MUR71	
VT31 – (AvEdPa) *Austrostipa variabilis, Eragrostis dielsii* and **Pentameris airoides* subsp. *airoides* tussock grassland on brown heavy clay on large claypan/lake system (Lake Culcurdoo).	*Austrostipa variabilis, Eragrostis dielsii* and **Pentameris airoides* subsp. *airoides* tussock grassland over *Angianthus milnei, *Trifolium arvense* and *Crassula colorata* var. *colorata* open forbland on brown heavy clay on large claypan/lake system (Lake Culcurdoo).	325.43 (0.38 %)	MUR197	
Cleared/ tracks/farmland	Cleared tracks/farmland/dams	189.41 (0.22 %)	N/A	
Ocean, beach, sand dune	No vegetation present	942.33 (1.09 %)	-	

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Vegetation type	Vegetation description	Extent (ha) and proportion of survey area (%)	Sample sites	Representative photograph
Unsurveyed area – no access approval	-	2656.26 (3.09 %)	N/A	N/A

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4.1.4 Vegetation condition

The vegetation condition within the survey area was rated from Degraded to Excellent. The majority of the survey areas are in Excellent or Very Good condition (87.45 %). The extents of the vegetation condition within the survey areas are detailed in Table 4.2 and mapped in Figure 6, Appendix A. The vegetation structure was intact across the majority of the survey area with high diversity and generally limited introduced species that generally did not impact on the survival of native species. While the structural complex of some vegetation types shows stress signs of grazing and reduced water availability, most of the survey area is uncleared and represents intact habitat. The greatest disturbance factor is from impacts of goats, pigs and rabbit grazing. Goat impacts (grazing and soil disturbance) were the highest in the Lake Culcurdoo area with high goat numbers observed. Lake Culcurdoo appeared to have some water present for most of the year and used as a drinking source for pastoral and native animals. As such in these areas bovine grazing (showing signs of heavy grazing, soil compaction and trampling). Generally across the whole survey area evidence of goats were observed but was highest closer to the coast when surface water is unavailable compared with vegetation on the yellow sand plains. While goats are widespread the impacts on the vegetation and diversity across the survey area was not significant, except for areas near old farming fencing and yards, however these compromise small areas of the environment. Evidence of pig grazing and diggings was the highest within the rocky limestone ridges and hills.

There are a number of tracks across the survey area with some of these being widened during the survey. Most tracks leading to the coast had evidence of human use such as camping, fishing, old shacks and associated rubbish. There were limited signs of recent fire across the survey area.

Table 4.2 Vegetation condition extents in the survey area

Vegetation Condition	Extent in survey area (ha)	% within the survey area
Excellent	49,377.84	57.43
Very Good	25,809.46	30.02
Good	6,442.95	7.49
Degraded	559.44	0.65
Cleared	189.41	0.22
Not rated (sand dunes, beach, ocean)	942.33	1.10
Unsurveyed area (no access)	2,656.26	3.09
Total	8,5977.70	100.00

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4.2 Flora

4.2.1 Flora diversity

Five hundred and ninety-six flora taxa representing 75 families and 257 genera were recorded from the survey area during the field survey. This total comprised 548 native taxa and 48 introduced flora taxa. Dominant families recorded from the survey area included Myrtaceae (80 taxa), Fabaceae (59 taxa), Asteraceae (55 taxa) and Poaceae (40 taxa). There were 28 records within the 596 total taxa that were identified to genus level only due to insufficient sterile material that could not be identified confidently to species level. These specimens are likely to represent species already recorded.

A flora species list for the survey area is provided in Appendix D.

A species accumulation curve was generated using PRIMER to assess adequacy of sampling effort within the survey area (Plate 2). The species accumulation curve for the survey area, based on flora recorded within quadrats, is approaching an asymptote, which suggests that the current survey effort is sufficient. Furthermore, the bootstrap estimate of species richness generated from this data indicates that 238.64 species could be expected from the survey area based on the diversity recorded within quadrats. The total species recorded from the survey area was 599 flora species, which is well above the predicted species diversity estimate. The survey area is considered representative of the floristic diversity in the area.

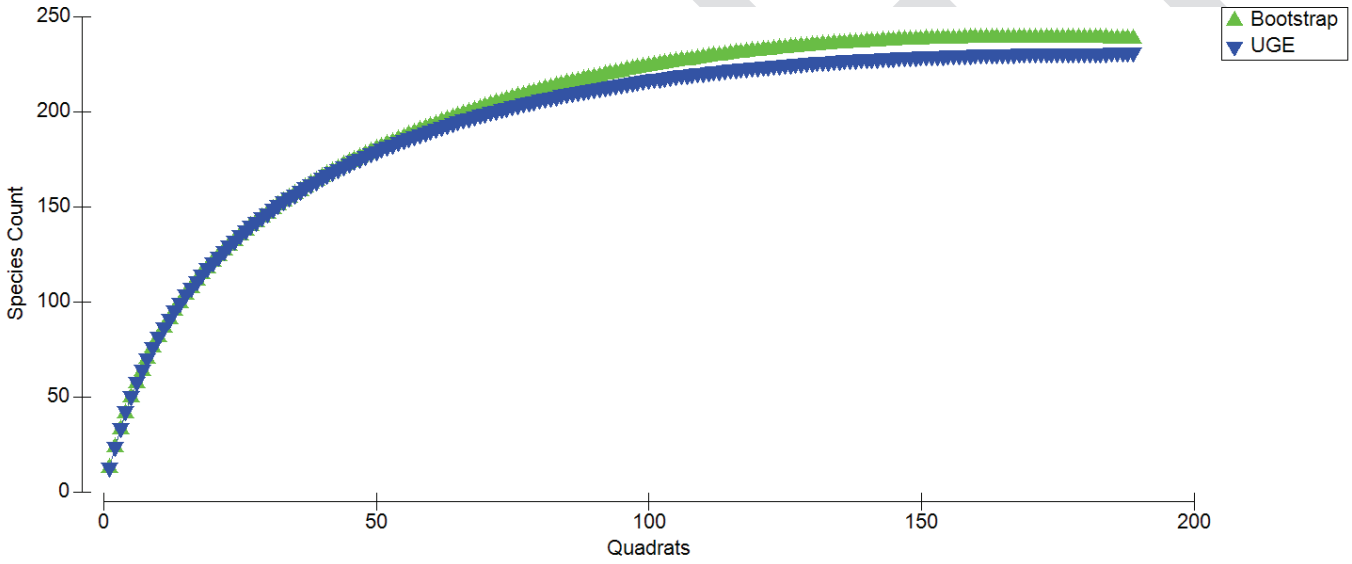


Plate 2 *Species accumulation curve*

4.2.2 Introduced flora

Forty-eight introduced flora taxa were recorded in the survey area. One of these species, **Echium plantagineum* (Paterson's curse) is listed as a Declared Pest under the *Biosecurity and Management Act 2007* and a Weed of National Significance (WoNS). Five records of introduced flora have not previously been recorded in the area before according to FloraBase known records. These records are * *Aira cupaniana*, **Galium murale*, **Pentameris pallida*, **Spergula pentandra* and **Vulpia ?muralis*. Locations of **Echium plantagineum* recorded during the survey are shown in Figure 6, Appendix A.

The introduced flora species list for the survey area is provided in Appendix D.

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4.2.3 Significant flora

A total of 49 significant flora were recorded within the survey area, of these; two species were Threatened, eight species were P1, 14 species were P2, 20 species were P3 and five species were P4. Of these significant flora taxa, 15 are considered to also represent range extensions and are further discussed in Section 4.2.6. The number of records, locations and percentage cover within quadrats for these species are summarised in Table 4.3 below. The locations of each significant taxa are presented on Figure 7, Appendix A.

Table 4.3 Significant flora within the survey area

Species	Status	Count	Locations	Quadrat (% cover)
Caladenia bryceana subsp. *cracens*	T	278	13	-
Caladenia ?bryceana subsp. *cracens*	T	18	1	-
Caladenia barbarella	T	196	67	MUR11
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	18,739	56	MUR112 (30%), MUR113 (10%), MUR122 (1%), MUR19 (1%), MUR30 (1%), MUR72 (15%), MUR85 (15%)
Desmocladus ferruginipes	P1	2	2	MUR17 (1%), MUR18 (1%)
Lepidobolus ?eurardyensis	P1, R.E.	1	1	MUR18 (1%)
Pileanthus aurantiacus	P1	134,444	145	MUR48 (1%)
Pterostylis macrocalymma	P1, R.E.	1	1	MUR20 (1%)
Scaevola sp. ?Golden hairs (D. & B. Bellairs 1450 A*)*	P1	3	3	MUR120 (1%), MUR211 (1%), MUR89 (1%)
Thryptomene sp. Carrarang (M.E Trudgen 7420)	P1, R.E.	5	5	MUR08 (2%), MUR09 (10%), MUR43R (2%), MUR68 (40%), MUR69 (50%)
Thryptomene ?sp. Carrarang (M.E Trudgen 7420)	P1, R.E.	1	1	MUR66 (1%)
Verticordia lepidophylla var. *quantula*	P1	710	84	MUR123 (10%), MUR134 (2%), MUR19 (2%), MUR25 (1%), MUR30 (1%), MUR41 (4%), MUR52 (1%), MUR159 (1%)
Acacia stereophylla var. *cylindrata*	P2, R.E.	1	1	MUR208 (1%)
Calytrix harvestiana	P2	232	18	MUR101 (2%), MUR112 (5%), MUR113 (35%), MUR115 (2%), MUR116 (40%), MUR121 (2%), MUR123 (2%)
Chthonocephalus tomentellus	P2	2	2	MUR113 (2%), MUR37 (1%)
Geleznowia ?amabilis	P2, R.E.	2	2	MUR40 (1%)
Grevillea stenomera	P2	361	110	MUR120 (1%), MUR121 (1%), MUR130 (1%), MUR160 (1%), MUR184 (3%), MUR207 (5%), MUR31 (2%), MUR32 (1%), MUR33 (1%), MUR36 (1%), MUR38 (1%), MUR39 (1%), MUR91 (1%)
Hemiandra sp. Kalbarri (D. Bellairs 1505)	P2	3	2	-
Malleostemon microphyllus	P2, R.E.	27	26	MUR05 (1%), MUR10 (1%), MUR114 (10%), MUR117 (2%), MUR127 (1%), MUR128 (5%),

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Species	Status	Count	Locations	Quadrat (% cover)
				MUR141(1%), MUR163 (1%), MUR181 (1%), MUR202 (1%), MUR23 (1%), MUR25 (1%), MUR26 (1%) MUR27 (1%), MUR29 (1%), MUR35 (4%), MUR39 (3%), MUR44 (15%), MUR59 (30%), MUR74 (20%), MUR82 (1%), MUR87 (1%), MUR93 (1%), MUR94 (2%)
Malleostemon ?microphyllus	P2	11	2	-
Ptilotus alexandri	P2, R.E.	8	4	MUR110 (1%), MUR125 (1%)
Scaevola chrysopogon	P2	460	17	-
Schoenus badius	P2, R.E.	2	2	MUR101 (1%), MUR112 (1%)
Scholtzia sp. Folly Hill (M.E. Trudgen 12.9097)	P2	1	1	-
Thryptomene calcicola	P2	1	1	MUR03 (1%)
Thryptomene johnsonii	P2, R.E.	78	7	MUR100 (1%), MUR101 (60%), MUR102 (55%)
Thryptomene sp. Eagle Gorge (A.G. Gunness 2360)	P2	2	2	MUR40 (5%), MUR41 (2%)
Thysanotus fragrans	P2	1	1	MUR94 (1%)
Acacia plautella	P3, R.E.	1	1	MUR152 (2%), MUR159 (1%)
Acanthocarpus parviflorus	P3	16	4	MUR182 (1%), MUR188 (1%), MUR204 (5%)
Acanthocarpus ?parviflorus	P3	5	4	MUR20 (1%)
Anthocercis intricata	P3	1,053	100	MUR109 (15%), MUR110 (2%), MUR139 (1%), MUR90 (1%), MUR99 (5%)
Anthotroche myoporoides	P3	138	19	MUR122 (1%), MUR123 (4%), MUR151 (2%), MUR30 (1%)
Bossiaea calcicola	P3	3	2	MUR66 (1%)
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	337	54	-
Carpobrotus sp. Thevenard Island (M. White 050)	P3	90	14	MUR02 (1%), MUR195 (2%), MUR196 (1%), MUR214 (1%), MUR215 (1%)
Dasymalla glutinosa	P3	17	11	-
Dicrastylis micrantha	P3, R.E.	1,587	94	MUR115 (5%)
Grevillea rogersoniana	P3	6	2	-
Hemigenia saligna	P3	1	1	MUR212 (1%)
Lasiopetalum oppositifolium	P3	3	3	MUR01 (1%), MUR66 (5%), MUR98 (1%)
Lepidium biplicatum	P3	2	2	MUR110 (1%)
Macarthuria ?intricata	P3	2	2	MUR158 (1%), MUR170 (1%)
Macarthuria intricata	P3	10	7	MUR156 (1%), MUR157 (1%), MUR160 (1%), MUR181 (1%), MUR211 (1%)
Mirbelia corallina	P3	1	1	MUR41 (1%)

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Species	Status	Count	Locations	Quadrat (% cover)
Scholtzia oleosa	P3	7	7	MUR100 (60%), MUR11 (20%), MUR112 (40%), MUR113 (20%), MUR17 (30%), MUR18 (1%), MUR43R (2%)
Stenanthemum divaricatum	P3	4	4	MUR106 (1%), MUR119 (20%), MUR138 (1%), MUR202 (1%)
Thryptomene caduca	P3, R.E.	1	1	-
Verticordia cooloomia	P3	56,048	27	MUR122 (10%), MUR123 (25%), MUR151 (15%), MUR30 (15%), MUR47 (40%), MUR48 (30%)
Verticordia dichroma var. *dichroma*	P3	4	3	-
Verticordia dichroma var. *syntoma*	P3	2	1	-
Eucalyptus zopherophloia	P4	3	3	MUR40 (5%), MUR68 (10%), MUR98 (10%)
Jacksonia dendrospinosa	P4, R.E.	1	1	MUR163 (2%)
Jacksonia velutina	P4, R.E.	11	10	MUR52 (1%)
Triodia bromoides	P4	67	45	MUR04 (1%), MUR103 (2%), MUR105 (2%), MUR106 (30%), MUR107 (15%), MUR113 (1%), MUR118 (5%), MUR119 (1%), MUR120 (15%), MUR134 (1%), MUR136 (2%), MUR138 (1%), MUR14 (1%), MUR140 (3%), MUR160 (1%), MUR161 (2%), MUR162 (3%), MUR169 (1%), MUR170(1%), MUR172 (1%), MUR181 (5%), MUR31 (2%), MUR32 (1%), MUR35 (1%), MUR37 (1%), MUR41 (1%), MUR42 (1%), MUR44(1%), MUR45 (1%), MUR46 (1%), MUR47 (1%), MUR48 (1%), MUR49 (1%), MUR53R (20%), MUR82 (1%), MUR87 (10%), MUR89 (20%), MUR96 (1%), MUR10 (1%), MUR125 (15%), MUR126 (10%)
Verticordia capillaris	P4	137	17	MUR100 (1%), MUR124 (3%)

Descriptions and photos of the significant flora recorded during the field survey are listed below.

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Threatened

Caladenia barbarella (T)

Caladenia barbarella (T) is listed as Endangered under the EPBC Act and the BC Act. This species is a tuberous, perennial, herb, growing 0.08-0.25 m high. It flowers green, August to September and occurs in shallow, grey, dark brown, sandy clayey loam. Rocky ledges, alongside seasonal creeklines, in winter-wet depressions (WA Herbarium 1998-). *C. barbarella* was recorded within the survey area during August and September and a total of 196 plants were recorded from 67 locations (Plate 3 and Plate 4). *C. barbarella* occurred largely within VT23 – (McChSo) - *Melaleuca concreta, Calytrix harvestiana* (P2) and *Scholtzia oleosa* (P3) low shrubland on pink/orange sand on low depressions / water gaining areas within the sandplains and VT10 – (AcAaTd) *Allocasuarina campestris, Callitris arenaria* and *Thryptomene denticulata* shrubland on yellow sand and sandy loam low slope and hill. There are two locations associated with Weerinoogudda creek in the eastern corridor. One location within VT13 – (MaAr) *Melaleuca atroviridis* and *Acacia ramulosa* open shrubland on yellow sand plain and one location recorded within VT16 – (AaMeDi) *Acacia acuminata, Melaleuca eleuterostachya* and *Dodonaea inaequifolia* shrubland on brown loamy clay flats and minor drainage lines. *C. barbarella* was also recorded outside the survey area with the location and plant numbers presented in Section 4.2.4.

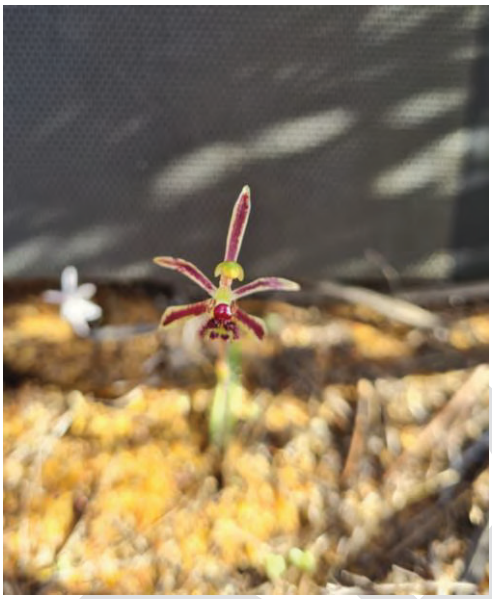


Plate 3 *C. barbarella (T) (20/08/22)*

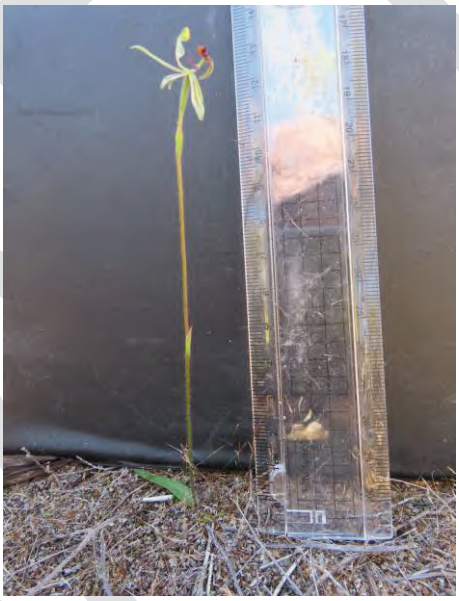


Plate 4 *C. barbarella (T) (20/08/22)*

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Caladenia bryceana subsp. *cracens* (T)

Caladenia bryceana subsp. *cracens* is listed as Vulnerable under the EPBC Act and Endangered under the BC Act. This species is a tuberous, perennial, herb, 0.03-0.08 m high. Flowering green-yellow during August to September. *C. bryceana* subsp. *cracens* grows in sand over limestone in areas south of Kalbarri in low heath on limestone hills and north of Kalbarri in winter-moist flats (WA Herbarium 1998-). *C. bryceana* subsp. *cracens* was recorded within the survey area during August and September. A total of 296 plants were recorded from 14 locations, of these 18 plants were tentatively identified due to lack of flowering material (leaf only) (Plate 5 and Plate 6). *C. bryceana* subsp. *cracens* occurred largely within VT13 – (MaAr) *Melaleuca atroviridis* and *Acacia ramulosa* open shrubland on yellow sand plain and VT16 – (AaMeDi) *Acacia acuminata, Melaleuca eleuterostachya* and *Dodonaea inaequifolia* shrubland on brown loamy clay flats and minor drainage lines associated with Weerinoogudda creek in the eastern corridor. *C. bryceana* subsp. *cracens* was also recorded within VT25 – (EeEp) *Eucalyptus eudesmioides* and *Eucalyptus pallida* open mallee over *Melaleuca atroviridis, Acacia blakelyi* and *Melaleuca leiopyxis* shrubland on orange/brown sandy loam in areas near claypans and plains.



Plate 5 ***Caladenia bryceana subsp. cracens***



Plate 6 ***Caladenia bryceana subsp. cracens***

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Priority 1

Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233) (P1)

Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233) (P1) is an undescribed phrase-named taxon. Previous records indicate that it is an erect, woody shrub to 1.5 m in height with white, red and purple flowers. The taxon occurs within white sandplains and yellow sandy loam flats (WA Herbarium 1998-). *Chamelaucium* sp. Coolcalalaya (A.H. Burbidge 4233) was recorded within the survey area during August, October and November. A total of over 18,739 plants were recorded from 56 locations, which includes one polygon that mapped out a larger population (Plate 7).



Plate 7 ***Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233) (P1) (18/11/21)***

Desmocladus ferruginipes (P1)

Desmocladus ferruginipes (P1) is a rhizomatous herb (sedge-like). It forms compact tussocks 30cm across at the base. It flowers April or May and occurs on dark grey sand over grey sand. Also on yellow, grey sand near granite (WA Herbarium 1998-). This species was recorded during September A total of two plants were recorded from two locations within quadrats MUR17 and MUR18 (Plate 8 and Plate 9).



Plate 8 ***Desmocladus ferruginipes (P1)***



Plate 9 ***Desmocladus ferruginipes flowers (P1)***

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Lepidobolus? *eurardyensis* (P1)

Lepidobolus eurardyensis (P1) is a rhizomatous herb (sedge-like), it occurs in small tufts to denser tussocks. 0.25 - 0.5 m tall. It grows in yellow sand to yellow sandy loam, in shrublands with *Ecdeiocolea* (Briggs 2012). This species was recorded once from one location in quadrat MUR18 and has been tentatively identified until further material can be collected and studied to confirm taxon. This record is a range extension, occurring approximately 45 km north of the nearest record and representing the most northern extent of this species range, as currently known.

Pileanthus aurantiacus (P1)

Pileanthus aurantiacus (P1) is an upright, woody shrub, to 2 m high. It flowers orange in October and occurs on yellow sand over yellow sandy clay, red sand over limestone, flats, undulating sandplains and low dune slopes (WA Herbarium 1998-). A total of over 134,444 plants were recorded from 145 locations within the survey area, including one large polygon that was estimated using the average from 10 x 10 m quadrats (Plate 10 and Plate 11). *P. aurantiacus* was recorded predominately within VT18 – (BsAcCaGe), with large populations occurring on the linear sand dunes. This species was also recorded within VT22 – (BsArAbAc) and VT27 – (EpBsXa). *P. aurantiacus* was also recorded outside the survey area with the location and plant numbers presented in Section 4.2.4.



Plate 10 ***Pileanthus aurantiacus (P1) flowers and buds***



Plate 11 ***Pileanthus aurantiacus (P1) shrub***

Pterostylis macrocalymma (P1)

Pterostylis macrocalymma (P1) is a tuberous, perennial, herb, to 0.25 m high. The flowers are green-brown and occur from September to October and is found on rocky red clay-loam flats (WA Herbarium 1998-). A total of one individual was recorded within the survey area from one location in quadrat MUR 20 within VT26 – (EpErEg) (Plate 12 and Plate 13). This record is a range extension, occurring approximately 30 km north west of the nearest record and representing the most northern extent of this species range, as currently known (WA Herbarium 1998-).

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Plate 12 *Pterostylis macrocalymma (P1)*



Plate 13 *Pterostylis macrocalymma (P1) flowers*

Scaevola sp. ?Golden hairs (D. & B. Bellairs 1450 A) (P1)

Scaevola sp. ?Golden hairs (D. & B. Bellairs 1450 A) (P1) was tentatively described as occurring within the survey area. *Scaevola* sp. Golden hairs (D. & B. Bellairs 1450 A) is an undescribed phrased-names taxon and is an open shrub growing 0.4 m tall on dry white sand plains. It is known to occur with *Melaleuca systena, Melaleuca leuropoma, Melaleuca concreta, Allocasuarina campestris, Scholtzia* sp., *Ecdeiocolea monostachya* and Goodeniaceae spp. (WA Herbarium 1998-). A total of three plants were recorded from three locations within the survey area in quadrat MUR89, MUR120 and MUR211, this species has been tentatively identified until further material can be collected and studied to confirm taxon. Additionally, this record is a range extension, occurring approximately 15 km north of the nearest record and representing the most northern extent of this species range, as currently known (Plate 14). This taxon was also recorded outside the survey area with the location and plant numbers presented in Section 4.2.4.

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Plate 14 *Scaevola sp. ?Golden hairs (D. & B. Bellairs 1450 A) (P1)*

Thryptomene sp. Carrarang (M.E. Trudgen 7420) (P1)

Thryptomene sp. Carrarang (M.E. Trudgen 7420) (P1) is an undescribed phrase-named taxon and is a shrub, growing 0.5 to 3 m in height, occurring on calcareous sand and sand dunes (WA Herbarium 1998-). A total of six plants were recorded from six locations within the survey area, one of these records was tentatively identified until further material can be collected and studied to confirm taxon (Plate 15 and Plate 16).



Plate 15 *Thryptomene sp. Carrarang (M.E. Trudgen 7420) (P1)*



Plate 16 *Thryptomene sp. Carrarang (M.E. Trudgen 7420) (P1) flowers*

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Verticordia lepidophylla var. *quantula* (P1)

Verticordia lepidophylla var. *quantula* (P1) is an erect or spreading, straggly shrub 1 – 2.3 m in height. It flowers cream-yellow-green from October to November. It has been recorded occurring on red sand over limestone and yellow sand (WA Herbarium 1998-). A total of 710 plants were recorded from 84 locations within the survey area (Plate 17 and Plate 18). This species was also recorded outside the survey area with the location and plant numbers presented in Section 4.2.4.



Plate 17 ***Verticordia lepidophylla var. quantula (P1) flowers***



Plate 18 ***Verticordia lepidophylla var. quantula (P1) shrub***

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Priority 2

Acacia stereophylla var. *cylindrata* (P2)

Acacia stereophylla var. *cylindrata* (P2) is a shrub or tree 1 to 4 m in height, flowers yellow from August to September and is known to occur on sand and sandstone cliffs (WA Herbarium 1998-). A total of one plant was recorded from one location within the survey area, within quadrat MUR208 (Plate 19 and Plate 20). This record is a range extension, occurring approximately 25 km north west of the nearest record and representing the most northern extent of this species range, as currently known.



Plate 19 *Acacia stereophylla var. cylindrata (P2)*



Plate 20 *Acacia stereophylla var. cylindrata (P2) pods*

Calytrix harvestiana (P2)

Calytrix harvestiana (P2) is a shrub 0.3 to 0.7 m high, flowering pink, purple from September to December. Occurring on white or yellow sand and flats (WA Herbarium 1998-). A total of 232 plants were recorded from 18 locations within the survey area (Plate 21 and Plate 22).



Plate 21 *Calytrix harvestiana (P1)*



Plate 22 *Calytrix harvestiana (P1) flowers*

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Chthonocephalus tomentellus (P2)

Chthonocephalus tomentellus (P2) is a prostrate to ascending annual, herb, with yellow flowers from August to November. Occurring on red sand, undulating plains, sand dunes and near saline depressions. A total of two plants were recorded from two locations within the survey area (Plate 23 and Plate 24). This record is a range extension, occurring approximately 30 km south west of the nearest record.



Plate 23 ***Chthonocephalus tomentellus (P2)***



Plate 24 ***Chthonocephalus tomentellus (P2) flowers***

Geleznowia ?*amabilis* (P2)

Geleznowia amabilis (P2) is a shrub to 1 m in height. It has large, yellow, terminal flowers from July to October. This species is known to occur on yellow or brown sand over sandstone, or red-brown sandy loam with laterite, in dense heath, low mallee woodland or *Acacia* shrubland (Shepherd 2020). This species was tentatively identified within the survey area until further material can be collected and studied to confirm taxon. A total of two plants were recorded from two locations within the survey area (Plate 25 and Plate 26). This record is a range extension, occurring approximately 48 km north of the nearest record and representing the most northern extent of this species' range, as currently known.

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Plate 25 *Geleznowia amabilis (P2)*



Plate 26 *Geleznowia amabilis (P2) flowers*

Grevillea stenomera (P2)

Grevillea stenomera (P2) is a grey, lignotuberous shrub, 0.9-2.2 m high. Flowering orange, red and pink from May to June or August to October or December. Occurring on red or yellow sand on limestone in coastal areas (WA Herbarium 1998-). A total of 361 plants were recorded from 110 locations within the survey area (Plate 27 and Plate 28).



Plate 27 *Grevillea stenomera (P2) flower*



Plate 28 *Grevillea stenomera (P2) shrub*

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Hemiandra sp. Kalbarri (D. Bellairs 1505) (P2)

Hemiandra sp. Kalbarri (D. Bellairs 1505) (P2) is an undescribed phrase named taxon and is an erect shrub to 1.5 m high, flowers pink to mauve (WA Herbarium 1998-). A total of three plants were recorded from two locations within the survey area (Plate 29 and Plate 30).



Plate 29 ***Hemiandra sp. Kalbarri (D. Bellairs 1505) (P2) shrub***



Plate 30 ***Hemiandra sp. Kalbarri (D. Bellairs 1505) (P2) flower***

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Malleostemon microphyllus (P2)

Malleostemon microphyllus (P2) is a shrub commonly 0.7 to 1.7 m tall and at least 1.5 m wide. Flowers white to pink from August to September (Rhye 2016). Known to occur on yellow – brown loamy sand over limestone (WA Herbarium 1998-). A total of 38 plants were recorded from 28 locations within the survey area (Plate 31 and Plate 32), of these records, 11 were tentatively identified until further material can be collected and studied to confirm taxon. This record is a range extension, occurring approximately 30 km south of the nearest record and representing the most southerly extent of this species range, as currently known.



Plate 31 ***Malleostemon microphyllus (P2) flowers***



Plate 32 ***Malleostemon microphyllus (P2) shrub***

Ptilotus alexandri (P2)

Ptilotus alexandri (P2) is an erect annual, herb, 0.1-0.3 m high, flowers are pink from August to October. Occurring on red-white sand and on dunes (WA Herbarium 1998-). A total of eight plants were recorded from four locations within the survey area (Plate 33 and Plate 34). This record is a range extension, occurring approximately 155 km south east of the nearest record and representing the most southerly extent of this species' range, as currently known.



Plate 33 ***Ptilotus alexandri (P2)***



Plate 34 ***Ptilotus alexandri (P2) flowers***

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Scaevola chrysopogon (P2)

Scaevola chrysopogon (P2) is a perennial herb or shrub, 0.3 to 0.6 m high, flowering white-cream from August to October. This species occurs in red-brown sand and sandplains (WA Herbarium 1998-). A total of 460 plants were recorded from 17 locations within the survey area (Plate 35 and Plate 36). This record is a range extension, occurring approximately 15 km north west of the nearest record.



Plate 35 ***Scaevola chrysopogon (P2) flowers***



Plate 36 ***Scaevola chrysopogon (P2) shrub***

Schoenus badius (P2)

Schoenus badius (P2) is a slender annual, grass-like herb (sedge), 0.05 to 0.12 m tall. Flowering brown-green from September to October in grey sand and moist areas (WA Herbarium 1998-). A total of two plants were recorded (Plate 37) from two locations (quadrat MUR101 and MUR112) within the survey area and represents a range extension, occurring approximately 140 km north of the nearest known record, and representing the northern most record.



Plate 37 ***Schoenus badius* (P2)**

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Scholtzia sp. Folly Hill (M.E. Trudgen 12097) (P2)

Scholtzia sp. Folly Hill (M.E. Trudgen 12097) (P2) is an open to diffuse shrub, 0.6 to 1 m tall. Flowering pink-white from August to October. This species has been recorded occurring on yellow or red sand and sand dunes (WA Herbarium 1998-). A total of one plant was recorded from one location within the survey area.

Thryptomene calcicola (P2)

Thryptomene calcicola (P2) is an erect shrub, or sometimes low and widely spreading 0.3 to 1.8 m high. Flowers pink-mauve in colour, flowering from June to late August. Known to occur within a very small area within Kalbarri National Park, associated with limestone in *Acacia* shrublands (Rye 2014). A total of one plant was recorded from one location within the survey area (Plate 38).



Plate 38 ***Thryptomene calcicola (P2)***

Thryptomene johnsonii (P2)

Thryptomene johnsonii (P2) is a bushy shrub with rigid branches 2 m in height. This species flowers pink from September to October. Recorded occurring in grey sand, sandstone and sandplain slopes (WA Herbarium 1998-). A total of 78 plants were recorded from seven locations within the survey area (Plate 39 and Plate 40). This record is a range extension, occurring approximately 40 km north of the nearest record and representing the most northern extent of this species' range, as currently known. This species occurred with a *Caladenia barbarella* (T) population.

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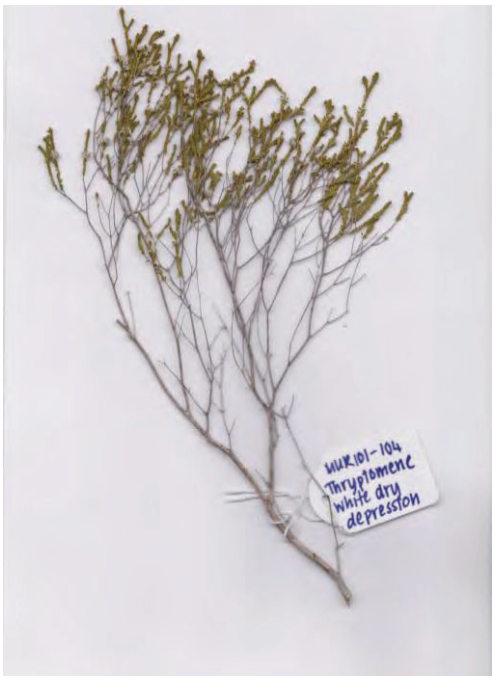


Plate 39 *Thryptomene johnsonii (P2)*



Plate 40 *Thryptomene johnsonii (P2) flowers*

Thryptomene sp Eagle Gorge (A.G. Gunness 2360) (P2)

Thryptomene sp Eagle Gorge (A.G. Gunness 2360) (P2) is a rounded shrub, 0.3 to 0.9 m in height and growing to 1 m wide. Flowering pink-white in August and known to occur on shallow sand soils, coastal limestone cliffs and stream beds (WA Herbarium 1998-). A total of two plants were recorded from two locations within the survey area (Plate 41).

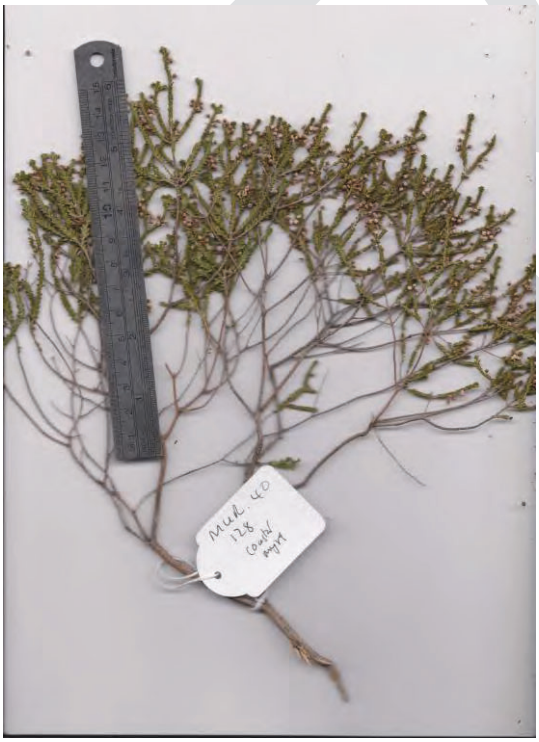


Plate 41 *Thryptomene sp Eagle Gorge (A.G. Gunness 2360) (P2)*

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Thysanotus fragrans (P2)

Little information is available on this species, the following information is based on FloraBase records. *Thysanotus fragrans* (P2) is a tufted herb with white-purple flowers. It has previously been recorded on yellow sand with laterite pebbles and on flat to undulating sand plains (WA Herbarium 1998-). A total of one plant was recorded from one location within the survey area (quadrat MUR94) (Plate 42 and Plate 43). This species was associated with *Melaleuca leiopyxis* shrubland over *Malleostemon microphyllus* (P2) isolated shrubs over *Ecdeiocolea monostachya* sedgeland.



Plate 42 ***Thysanotus fragrans (P2)***



Plate 43 ***Thysanotus fragrans (P2) flower***

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Priority 3

Acacia plautella (P3)

Acacia plautella (P3) is a spreading pungent shrub, 0.6 to 1 m high, flowering yellow. Known to occur on yellow sand and sandplains (WA Herbarium 1998-). A total of one plant was recorded from one location within the survey area (Plate 44).



Plate 44 ***Acacia plautella (P3)***

Acanthocarpus parviflorus (P3)

Acanthocarpus parviflorus (P3) is a rhizomatous, tufted perennial, herb 0.15-0.4 m high. Flowering white from May to June. This species has been recorded occurring in sand over limestone or sandstone (WA Herbarium 1998-). A total of 21 plants were recorded from eight locations within the survey area (Plate 45 and Plate 46), of these records, 16 plants were tentatively identified as this species due lack of fruiting material.



Plate 45 ***Acanthocarpus parviflorus (P3)***



Plate 46 ***Acanthocarpus parviflorus (P3) fruit***

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Anthocercis intricata (P3)

Anthocercis intricata (P3) is a dense, spinescent shrub, 0.9-3 m high. Flowers white-cream June to September. Known to occur in sand or loam over limestone. Consolidated sand dunes (WA Herbarium 1998-). A total of over 1053 plants were recorded from 100 locations within the survey area, of these records, 220 plants were tentatively identified as this species due to lack of flowering or fruiting material (Plate 47).



Plate 47 ***Anthocercis intricata (P3)***

Anthotroche myoporoides (P3)

Anthotroche myoporoides (P3) is an erect, rounded, often intricately branched shrub, 0.6-3 m high. Flowering white-cream-green from August to November or January. Known to occur on yellow or red sand and sandplains (WA Herbarium 1998-). A total of 138 plants were recorded from 19 locations within the survey area (Plate 48 and Plate 49).



Plate 48 ***Anthotroche myoporoides (P3) flowers***



Plate 49 ***Anthotroche myoporoides (P3) shrub***

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Bossiaea calcicola (P3)

Bossiaea calcicola (P3) is a compact, spinescent shrub, to 0.7 m high. Flowering yellow-red, July to September. Known to occur on compacted sand over limestone and exposed sites on coastal cliffs and slopes (WA Herbarium 1998-). A total of three plants were recorded from two locations within the survey area (Plate 50).



Plate 50 ***Bossiaea calcicola (P3)***

Carpobrotus sp. Thevenard Island (M. White 050) (P3)

Carpobrotus sp. Thevenard Island (M. White 050) (P3) is a prostrate, succulent perennial, herb with leaves sessile, triangular in cross-section. Flowers cream in August. Known to occur on coarse white sand, dune tops and disturbed areas (WA Herbarium 1998-). A total of 467 plants were recorded from 68 locations within the survey area (Plate 51), noting that 377 of these records were tentatively identified due to lack of flowering material.



Plate 51 **Carpobrotus *sp. Thevenard Island (M. White 050) (P3) fruiting***

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Dasymalla glutinosa (P3)

Dasymalla glutinosa (P3) is a shrub slightly sprawling 1 m high to 2 m wide. Flowers white, known to occur in sandplains and flat yellow dry sands (WA Herbarium 1998-). A total of 17 plants were recorded from 11 locations within the survey area (Plate 52 and Plate 53).



Plate 52 ***Dasymalla glutinosa (P3) flowers***



Plate 53 ***Dasymalla glutinosa (P3) shrub***

Dicrastylis micrantha (P3)

Dicrastylis micrantha (P3) is a spreading shrub, 0.4 to 1 m high. Flowers white from September to December. Known to occur on red sand and sandplains (WA Herbarium 1998-). A total of 1587 plants were recorded from 94 locations within the survey area (Plate 54 and Plate 55). This record is a range extension, occurring approximately 15 km west of the nearest record.



Plate 54 ***Dicrastylis micrantha (P3) flowers***



Plate 55 ***Dicrastylis micrantha (P3) shrub***

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Grevillea rogersoniana (P3)

Grevillea rogersoniana (P3) is an erect, many-stemmed, non-lignotuberous shrub or tree, 1 to 8 m high. Flowers red, pink, purple from August to October. Known to occur on red sand. A total of six plants were recorded from two locations within the survey area (Plate 56 and Plate 57). This record is a range extension, occurring approximately 60 km south of the nearest record and representing the southernmost extent of this species known range.



Plate 56 ***Grevillea rogersoniana (P3) flower***



Plate 57 ***Grevillea rogersoniana (P3) shrub***

Hemigenia saligna (P3)

Hemigenia saligna (P3) is a shrub, 0.3 to 1 m high. Flowering blue-purple-violet from July to October. Known to occur on lateritic & sandy soils (WA Herbarium 1998-). A total of one plant was recorded from one location within the survey area (Plate 58).



Plate 58 ***Hemigenia saligna (P3)***

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Lasiopetalum oppositifolium (P3)

Lasiopetalum oppositifolium (P3) is a multi-stemmed shrub, 0.3 to 1 m high. Flowering pink from July to September. Known to occur on sandy soils over sandstone or limestone, sandstone cliffs & crevices (WA Herbarium 1998-). A total of three plants were recorded from three locations within the survey area (Plate 59). This record is a range extension, occurring approximately 30 km north of the nearest record and representing the northernmost extent of this species known range.



Plate 59 ***Lasiopetalum oppositifolium (P3)***

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Lepidium biplicatum (P3)

Lepidium biplicatum (P3) is an erect shrub, flowering white in September, known to occur in coastal regions (WA Herbarium 1998-). A total of two plants were recorded from two locations within the survey area (Plate 60).



Plate 60 ***Lepidium biplicatum (P3) flower***

Macarthuria intricata (P3)

Macarthuria intricata (P3) is an intricately branched shrub, 0.4 to 1 m high, to 3 m wide. Flowering white-cream-yellow from September to December. Known to occur on red or black soil over limestone, grey sand over sandstone, sandy clay, sandplains and sand dunes (WA Herbarium 1998-). A total of 12 plants were recorded from nine locations within the survey area (Plate 61 and Plate 62), of these records two taxa were tentatively identified until further material can be collected and studied to confirm taxon.



Plate 61 ***Macarthuria intricata (P3)***



Plate 62 ***Macarthuria intricata (P3) flowers***

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Mirbelia corallina (P3)

Slender, sprawling sub-shrub to 1 m tall and 0.6 m wide. Flowering pink and yellow from August to October. Known to occur on flat sandplains, white-yellow clayey sand over limestone (WA Herbarium 1998-). A total of one plant was recorded from one location within the survey area (Plate 63).



Plate 63 ***Mirbelia corallina (P3) flower***

Scholtzia oleosa (P3)

Scholtzia oleosa (P3) is a shrub 0.4 to 3 m high and 0.5 to 4 m wide. Flowers pale to medium pink from August to October. Known to occur in yellow to reddish sandy soils (Rye 2019). A total of seven plants were recorded from seven locations within the survey area (Plate 64 and Plate 65).



Plate 64 ***Scholtzia oleosa (P3) shrubland located in quadrat MUR17***



Plate 65 ***Scholtzia oleosa (P3) flowers***

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Stenanthemum divaricatum (P3)

Stenanthemum divaricatum (P3) is a small, much-branched shrub. Known to occur on white or yellow sand over sandstone (WA Herbarium 1998-). A total of four plants were recorded from four locations within the survey area (Plate 66).



Plate 66 ***Stenanthemum divaricatum (P3)***

Thryptomene caduca (P3)

This species is a shrub 0.7 to 1.5 m high and 1 m wide. Flowers deep pink from July to September (also recorded in April). This species is known from sandy habitats, including coastal sand dunes, sand over limestone and sandplains (Rye 2014). A total of one plan was recorded from one location within the survey area (Plate 67 and Plate 68).



Plate 67 ***Thryptomene caduca (P3) flower***



Plate 68 ***Thryptomene caduca (P3) shrub and habitat***

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Verticordia cooloomia (P3)

Verticordia cooloomia (P3) is an erect, spindly shrub, 1.5 to 3 m high. Flowering yellow from September to November and known to occur on yellow sand on undulating terrain (WA Herbarium 1998-). A total of over 56,048 plants were recorded from 27 locations within the survey area (Plate 69 and Plate 70).



Plate 69 ***Verticordia cooloomia (P3) flowers***



Plate 70 ***Verticordia cooloomia (P3) shrubs on dunal habitat.***

Verticordia dichroma var. *dichroma* (P3)

Verticordia dichroma var. *dichroma* (P3) is an erect, spindly or spreading shrub, 0.3 to 3 m high. Flowering yellow, orange and red from October to December. Known to occur on yellow sand on sandplains (WA Herbarium 1998-). A total of four plants were recorded from three locations within the survey area (Plate 71 and Plate 72).



Plate 71 ***Verticordia dichroma var. dichroma (P3) flowers***



Plate 72 ***Verticordia dichroma var. dichroma (P3) shrub.***

Verticordia dichroma var. *syntoma* (P3)

Verticordia dichroma var. *syntoma* (P3) is a shrub, 0.4 to 1.7 m high. Flowering yellow, orange and red from October to November. Known to occur on yellow or red sand on sandplains (WA Herbarium 1998-). A total of two plants were recorded from one location within the survey area (Plate 73).

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Plate 73 *Verticordia dichroma var. syntoma (P3)*

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Priority 4

Eucalyptus zopherophloia (P4)

Eucalyptus zopherophloia (P4) is a spreading mallee, 2.5 to 6 m high, bark rough, fibrous. Flowering cream-white in October to December or January. Known to occur in grey-white sand with limestone rubble and within coastal areas (WA Herbarium 1998-). A total of three plants were recorded from three locations within the survey area (Plate 74).



Plate 74 ***Eucalyptus zopherophloia (P4)***

Jacksonia dendrospinosa (P4)

Jacksonia dendrospinosa (P4) is a dense, erect, shrub, 1.5 to 3.3 m high. Flowering yellow in November. It is known to occur on sandy clay and flat sandplains with *Eucalyptus* and *Allocasuarina* species (WA Herbarium 1998-). A total of one plant was recorded from one location within the survey area (Plate 75 and Plate 76). This record is a range extension, occurring approximately 50 km west of the nearest record.

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Plate 75 *Jacksonia dendrospinosa (P4)*



Plate 76 *Jacksonia dendrospinosa (P4) flowers*

Jacksonia velutina (P4)

Jacksonia velutina (P4) is an erect, broom-like shrub, 0.3 to 1.5 m high. Flowering yellow, orange and red from August to September. Known to occur on yellow sand, sandplains and sandhills (WA Herbarium 1998-). A total of 11 plants were recorded from ten locations within the survey area (Plate 77).



Plate 77 *Jacksonia velutina (P4) flowers*

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Triodia bromoides (P4)

Triodia bromoides (P4) is a tussock-forming perennial, grass-like or herb, 0.5 to 1.5 m high, glumes and lemma long-awned, spikelet of loose, relatively few florets. Flowers green-purple from July to October. Known to occur on red, grey & calcareous sand, dunes, sandplains, and stony rises (WA Herbarium 1998-). A total of 67 plants were recorded from 45 locations within the survey area (Plate 78 and Plate 79).

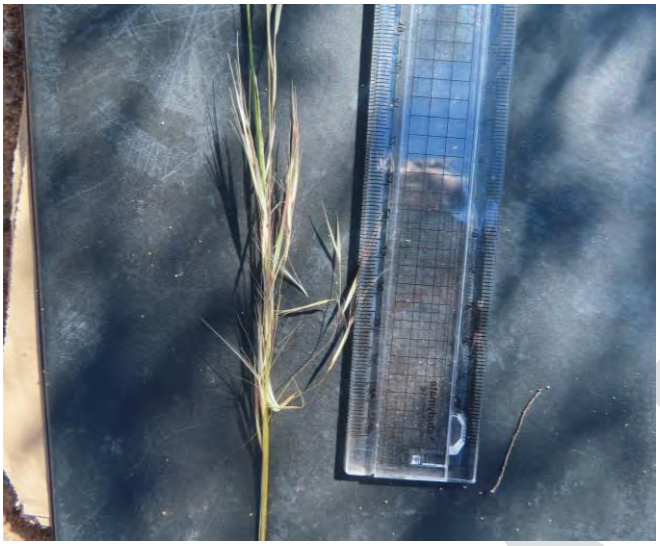


Plate 78 ***Triodia bromoides (P4) inflorescence***



Plate 79 ***Triodia bromoides (P4) dominated sedgeland.***

Verticordia capillaris (P4)

Verticordia capillaris (P4) is a corymbose shrub, 0.3 to1.5 m high. Flowering cream-white from October to November. Known to occur on yellow sand, sandy loam, sandy clay and sandplains (WA Herbarium 1998-). A total of 137 plants were recorded from 17 locations within the survey area (Plate 80 and Plate 81).

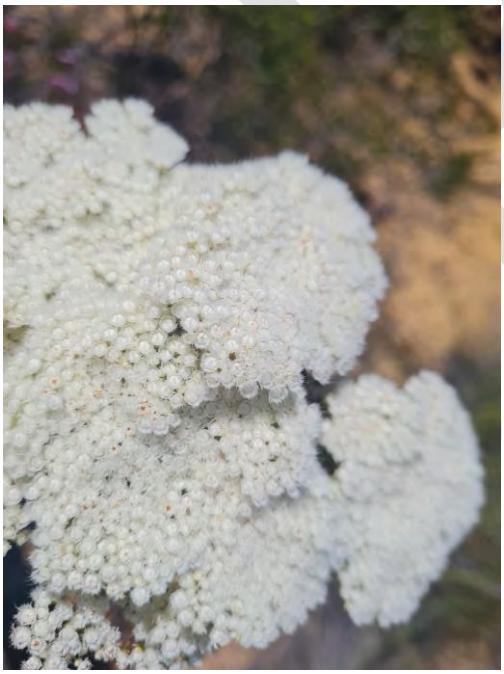


Plate 80 ***Verticordia capillaris (P4) inflorescence***



Plate 81 ***Verticordia capillaris (P4) shrub***

Post-survey likelihood of assessment

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A likelihood of occurrence (LOO) assessment was undertaken post-survey. The post-survey assessment took into account records from DBCA, previous studies, reported habitat requirements and results of the current survey. The post-survey LOO concluded that:

– Forty-nine significant taxa are known from current survey, which includes five taxa that were not previously known from the desktop study area
– Two species were known from previous records but were not recorded in this current survey: *Macarthuria georgeana* (P1), *Mirbelia* sp. Zuytdorp (G.J. Keighery & N. Gibson 1688) (P1) and *Melaleuca boeophylla* (P2)
– Three taxa were considered likely to occur: *Acacia leptospermoides* subsp. *obovata* (P2), *Eremophila microtheca* (P4) and *Lepidium puberulum* (P4)
– The remaining taxa identified in the desktop assessment 39 were considered possibly to occur and 54 taxa were considered unlikely to occur with the survey area due to lack of suitable habitat.

The species list is provided in Appendix D in the likelihood of occurrence table.

4.2.4 Regional flora surveys

The regional flora survey targeted species that were determined to have restricted distributions through the desktop analysis and confirmed as occurring in the survey area through the current surveys. These species were included as target species for the regional surveys and included the following taxa:

– *Caladenia barbarella* (Threatened)
– *Pileanthus aurantiacus* (P1)
– *Scaevola* sp. Golden hairs (D. & B. Bellairs 1450) (P1)
– *Verticordia lepidophylla* var. *quantula* (P1)

The regional surveys recorded locations of all target species; *Caladenia barbarella* (Threatened), *Pileanthus aurantiacus* (P1), *Scaevola* sp. Golden hairs (D. & B. Bellairs 1450) (P1) and *Verticordia lepidophylla* var. *quantula* (P1).

Caladenia barbarella (Threatened) was recorded adjacent to the northern boundary of the survey area within UCL with 71 individuals recorded from two main locations within a low depression within a low shrubland. *Caladenia barbarella* (Threatened) was not recorded from Kalbarri National Park and Zuytdorp Nature Reserve. Previous records within Zuytdorp Nature Reserve (DBCA 2022b) could not be accessed during the survey due to large distance from tracks, therefore the number of individuals could not be verified.

Pileanthus aurantiacus (P1) was recorded approximately 2 km north of the northern boundary of the survey area within UCL. A total of 34 individuals were recorded from 13 scattered locations.

Scaevola sp. Golden hairs (D. & B. Bellairs 1450) (P1) was recorded from two individuals at one location within Zuytdorp Nature Reserve.

Verticordia lepidophylla var. *quantula* (P1) was recorded from four individuals adjacent to the northern boundary of the survey area within UCL and two locations from quadrat sites within Zuytdorp Nature Reserve with 10 % and 1 % cover respectively.

4.2.5 Flora of interest

Flora of interest represent specimens that were collected from the survey area that could not be identified to the known taxonomic groups and either represent taxonomic anomalies and/or potential new entities that require further study, collections and determination to raise a new phrase-named taxon. In addition, flora of interest also includes taxa that were recorded within the survey area that are poorly known and currently not listed as conservation significant species. The locations of each flora of interest entity are presented on Figure 7, Appendix A.

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Alyogyne sp. 1

The survey recorded a flora of interest *Alyogyne* sp. 1, which is considered to be potentially a new taxon (Plate 82), as it is not synonymous with any of the species within the genera as it differs from other species by deeply divided leaves, much larger stellate hairs and narrow liner epicalyx. *Alyogyne* sp. 1 was recorded from 27 individuals from three locations.



Plate 82 ***Alyogyne* sp. 1**

Alyogyne sp. 2

The survey recorded a flora of interest *Alyogyne* sp. 2, which is considered a new taxon (Plate 83), as it is not synonymous with any of the species within the genera as it differs from other species by having glabrous shallowly divided leaves, lanceolate epicalyx, and campanulate flowers. *Alyogyne* sp. 2 was recorded from 50 individuals from one location.



Plate 83 ***Alyogyne* sp. 2**

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Corynotheca aff. *dichotoma*

Corynotheca dichotoma is a tufted, tangled, rhizomatous perennial shrub, flowers white to cream from August to November. This species grows on yellow sand flats and sand dunes, on deep sands or over clay or laterite (Barrett 2021). Species recorded within the survey area were noted to be more woody (less green a fleshy) and have shorter secondary branches than *Corynotheca dichotoma,* it was therefore described as having an affinity to, but not considered identical to *Corynotheca dichotoma*. A total of 1 plant was recorded from one location within the survey area (within MUR169) (Plate 84).

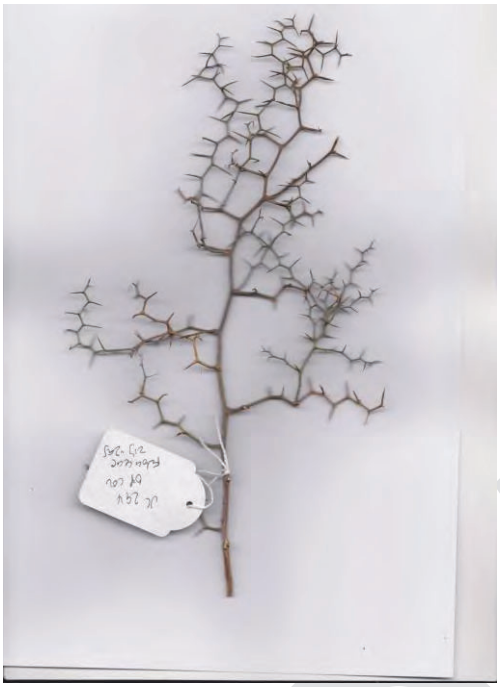


Plate 84 ***Corynotheca dichotoma***

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Drosera aff. *eremaea* (P3)

This taxon was unable to be confirmed as this species, as seeds are required to be collected to confidently confirm species. *Drosera* aff. *eremaea* is undergoing taxonomic review, this species has been recorded occurring further west than the taxon currently confirmed as *Drosera eremaea,* this species may represent a variation or different species. A total of two plants were recorded from two locations within the survey area (within MUR100 and MUR21) (Plate 85).



Plate 85 ***Drosera aff eremaea***

Melaleuca aff. *sclerophylla* (P3)

Melaleuca sclerophylla (P3) is an erect, spreading to prostrate shrub, 0.15 to 0.9 m high. Flowering pink from June to September and known to occur on gravelly sand, clayey sand and granite outcrops and rises (WA Herbarium 1998-). The taxon recorded within the survey area showed differences to this species in regard to leaf morphology, leaves were much thicker and oblong in shape, the specimen was an erect shrub. It was therefore described as having an affinity to, but not considered identical to *Melaleuca sclerophylla.* A total of 1 plant was recorded from one location within the survey area (within MUR31).

Melaleuca venusta

This species is currently only known from two location records (WA Herbarium 1998-). *Melaleuca venusta* is a shrub with silver foliage and flowers purple. A total of 1 plant was recorded from one location within the survey area (within MUR169), however, is widespread in suitable habitat across the survey area showing two forms in leaf morphology, narrow and a broad leaf (Plate 86 and 87). This species has been included as a flora of interest as it is poorly known, previously from two locations (WA Herbarium 1998-), only known from the Kalbarri area and currently not listed as a conservation significant species.

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Plate 87 *Melaleuca venusta (narrow leaf form)*



Plate 86 *Melaleuca venusta (broad leaf form)*

4.2.6 Range extensions

A total of 37 species recorded within the survey area, represent range extensions (R.E) from the species current known range (WAH -1998). Of these range extensions, three taxa are P1 flora, seven taxa are P2 flora, three taxa are P3 flora, one taxon is P4 flora, five taxa are introduced flora and the remaining 18 taxa are not listed conservation significant or introduced flora. These taxa and their distance from the closest known record are summarised below in Table 4.4. Three species have been tentatively identified, due to lack of fruiting or flowering material.

Table 4.4 *Flora species representing range extensions and their distance from the closest known record*

Species	Status	Distance from known record (km) (WAH -1998)	Comment
**Pentameris pallida*	R.E	400	Northern most record for this species
Centrolepis pilosa	R.E	170	Northern most record for this species
**Galium murale*	R.E	155	Northern most record for this species
Ptilotus alexandri	P2, R.E	155	Southern most record for this species
**Spergula pentandra*	R.E	145	Western most record for this species
Schoenus badius	P2, R.E	140	Northern most record for this species
**Vulpia ? muralis*	R.E	140	Northern most record for this species
Ptilotus exiliflorus	R.E	125	Northern most record for this species
**Aira cupaniana*	R.E	110	Northern most record for this species

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Species	Status	Distance from known record (km) (WAH -1998)	Comment
Austrostipa hemipogon	R.E	100	Northern most record for this species
Bossiaea spinescens	R.E	90	Northern most record for this species
Drosera aff eremaea	P3, R.E	68	Western most record for this species
Grevillea rogersoniana	P3, R.E	60	Southern most record for this species
Jacksonia dendrospinosa	P4, R.E	50	-
Rhodanthe humboldtiana	R.E	50	-
Geleznowia ? amabilis	P2, R.E	48	Northern most record for this species
Acacia hopperiana	R.E	45	Western most record for this species
Angianthus milnei	R.E	45	Southern most record for this species
Lepidobolus ? eurardyensis	P1, R.E	45	Northern most record for this species
Sclerolaena fusiformis	R.E	45	-
Cristonia stenophylla	R.E	43	Northern most record for this species
Eremaea ebracteata var. *ebracteata*	R.E	40	-
Hibbertia acerosa	R.E	40	Northern most record for this species
Hyalochlamys globifera	R.E	40	Western most record for this species
Thryptomene johnsonii	P2, R.E	40	Northern most record for this species
Maireana planifolia	R.E	35	-
Pterostylis macrocalymma	P1, R.E	30	Northern most record for this species
Nuytsia floribunda	R.E	30	Northern most record for this species
Malleostemon microphyllus	P2, R.E	30	southern most record for this species
Acacia lineolata subsp. *lineolata*	R.E	25	Western most record for this species
Calothamnus phellosus	R.E	25	-
Acacia stereophylla var. *cylindrata*	P2, R.E	25	Northern most record for this species
Lepidosperma tenue	R.E	20	-
Scholtzia oligandra	R.E	20	-
Dicrastylis micrantha	P3, R.E	15	-
Scaevola chrysopogon	P2, R.E	15	-
Scaevola sp. ?Golden hairs (D. & B. Bellairs 1450)	P1, R.E	15	Northern most record for this species

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5. Discussion and conclusion

The survey area is located within the Shire of Northampton, Western Australia, approximately 20 kilometre north of Kalbarri and is approximately 85,977 ha in size. The survey area lies within an environmental ecotone between the world heritage area of Shark Bay and the northern extent of the southwest bioregion. The south-west bioregion is regarded as a biodiversity hot spot for flora and is globally recognised due to an exceptional level of biodiversity and endemism (Hopper & Gioia 2004). The survey area predominantly lies within the Geraldton Sandplains IBRA bioregion with a small portion in the northeast of the survey area lying within the Yalgoo IBRA bioregion. As the survey area covered part of the northern extent of the Geraldton Sandplains bioregion and extends into the inter-zone Yalgoo bioregion, the flora diversity and vegetation types recorded reflect that transition of bioregions from temperate to more arid regions.

The survey area remains largely unsurveyed and poorly known prior to this survey. Previous significant flora records from the DBCA databases are opportunistic and not comprehensive, with few more recent collections made within the survey area. The Flora and Vegetation of the Southern Carnarvon Basin (Keighery *et al.* 2000) covered the survey area; however, only five floristic sites were established directly south of Zuytdorp Nature Reserve.

Vegetation

Thirty-one vegetation types were described and mapped within the survey area, excluding previously cleared areas for tracks, sand dunes, beach and ocean. The vegetation present comprised a mosaic of vegetation types across the survey area. No TEC's listed under the EPBC Act or BC Act or PECs listed by the DBCA were identified within the survey area during the field survey.

Vegetation of interest included vegetation types that were highlighted for having restricted distributions within the survey area, specific landforms and a concentration of significant flora species that formed, in most cases, the dominant species within the structural layers that defined the vegetation types. The linear dunes of VT18 (BsAcCaGe). The statistical analysis did not separate out the quadrats sampled from the linear dunes from the broader VT18 vegetation type on yellow sandplains quadrats, however, the linear dunes assemblage appeared unique and restricted. The linear dunes contain abundance of *Verticordia cooloomia* (P3) and *Pileanthus aurantiacus* (P1) within the shrub layer.

In order to determine whether the linear dunes of VT18 (BsAcCaGe) were unique to the survey area two quadrats were sampled within Kalbarri National Park (MUR124 and MUR152) and four quadrats were sampled within Zuytdorp Nature Reserve (MUR30, MUR122, MUR123, MUR151). Quadrats MUR124 and MUR152 were sampled near the northern boundary of Kalbarri National Park on a low yellow sandy rise vegetation type. These two quadrats grouped with MUR159R, which is located within the survey area. This vegetation type was described as VT19 – (BsEg). Quadrats MUR124 and MUR152 grouped separately from quadrats within VT18 (BsAcCaGe), indicating that they are not statistically similar to the quadrats recorded within the survey area, including those sampled from the linear dunes.

Quadrats MUR30, MUR122, MUR123, MUR151 sampled within Zuytdorp Nature Reserve on high sand dunes grouped separately from all quadrats sampled within the survey area and in particular those sampled as part of VT18 (BsAcCaGe). This indicated that through this analysis and sampling the quadrats sampled on linear dunes outside the survey area within Zuytdorp Nature Reserve are not statistically similar to the quadrats recorded within the survey area, including those sampled from the linear dunes within VT18 (BsAcCaGe).

The regional vegetation type comparison focusing on the linear dunes of the survey area determined, from the limited sampling sites recorded within Kalbarri National Park and Zuytdorp Nature Reserve, that VT18 (BsAcCaGe) is potentially unique to the survey area, including the linear dunes.

VT23 – (McChSo) low shrubland on pink/orange sand on low depressions / water gaining areas within the sandplains was also recorded as vegetation of interest. This vegetation type was restricted to the low depression landforms within the yellow sandplain vegetation types and contained several significant flora species including *Caladenia barbarella* (T), *Chamelaucium* sp. Coolcalalaya (A.H. Burbidge 4233) (P1), *Desmocladus ferruginipes* (P1), *Calytrix harvestiana* (P2), *Thryptomene johnsonii* (P2) and *Scholtzia oleosa* (P3). It is unknown whether this vegetation type occurs outside the survey area.

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Flora

Five hundred and ninety-six flora taxa representing 75 families and 257 genera were recorded from the survey area during the field survey. This total comprised 548 native taxa and 48 introduced flora taxa.

In comparison, the NatureMap (DBCA 2007-) database identified 10,043 taxa previously recorded within a 40 km radius from the centre of the survey area. This database search area covers a large part of Kalbarri National Park, which contains different vegetation types (associated with gorges and major drainage system) that do not occur in the survey area. The Carnarvon basin study, which includes Kalbarri-Shark Bay (Keighery *et al.* 2000) recorded 2133 taxa, with this survey area covering a far greater geographical area and bioregion spread. Kalbarri National Park is approximately 186 000 ha in size and has been recorded to include 1070 taxa (Keighery *et al.* 2000). This study recorded 596 taxa within the survey area, and given it is less than half the size of Kalbarri National Park and does not contain gorge habitats, it is comparable to Kalbarri National Park in terms of species diversity and total taxa recorded. Kalbarri National Park is comparable to the botanical significance of the Stirling Range (1,543 species) and the Fitzgerald Biosphere Reserve (1,557 species) (Keighery & Gibson 1999). The survey area, being comparable in diversity to Kalbarri National Park, is also considered to be significant for flora diversity.

A total of 49 significant flora were recorded within the survey area, of these; two species were Threatened, eight species were P1, 14 species were P2, 20 species were P3 and five species were P4. In comparison the desktop database searches identified 153 significant flora species within the desktop study area (40 km search area) and upon completion of the post-likelihood assessment. Kalbarri National Park has 94 significant flora taxa recorded (DPaW 2015), with this number likely to be higher with more updated survey information. The Carnarvon basin study, which includes Kalbarri-Shark Bay (Keighery *et al.* 2000) recorded 155 significant flora taxa, with this survey area covering a far greater geographical area and bioregion spread. Similar to the flora diversity comparison with Kalbarri National Park regarding geographical size and available habitats, the survey area is considered to be comparable with Kalbarri National Park in terms of diversity of significant flora taxa. This is further enhanced by the total number of range extensions for significant flora taxa, with 15 taxa considered to also represent range extensions, mostly representing the most northern record for the species. The survey area is also considered to be significant for the diversity of significant flora present in comparison to outside the survey area.

In total, 37 species recorded within the survey area, represent range extensions from the species current known range, with extensions in distribution mostly north. Keighery *et al.* (2000) recorded 246 species (nearly 24 per cent of all recorded species in the Kalbarri National Park) at the end of their range. This study has further extended some of these species to the north. Therefore, these plants are potentially vulnerable to the impacts of climate change and changes to hydrological regimes (DPaW 2015). The survey also ‘filled in’ holes in the distribution of some species, with records occurring around the survey area with no records within the survey area, further highlighting how under-surveyed the area was prior to this current study.

The survey recorded two flora of interest *Alyogyne* sp. 1 and *Alyogyne* sp. 2, which are considered to be potential new taxa that require further study. In addition, two specimens determined as *Corynotheca* aff. *dichotoma* and *Drosera* aff. *eremaea* may represent a variation or different species with further taxonomic review and study required. The presence of these flora of interest within the survey area also highlight how poorly known the survey area is prior to this survey.

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Appendices

Appendix A

Figures

Figure 1 *Site location*

Figure 2 *Survey effort*

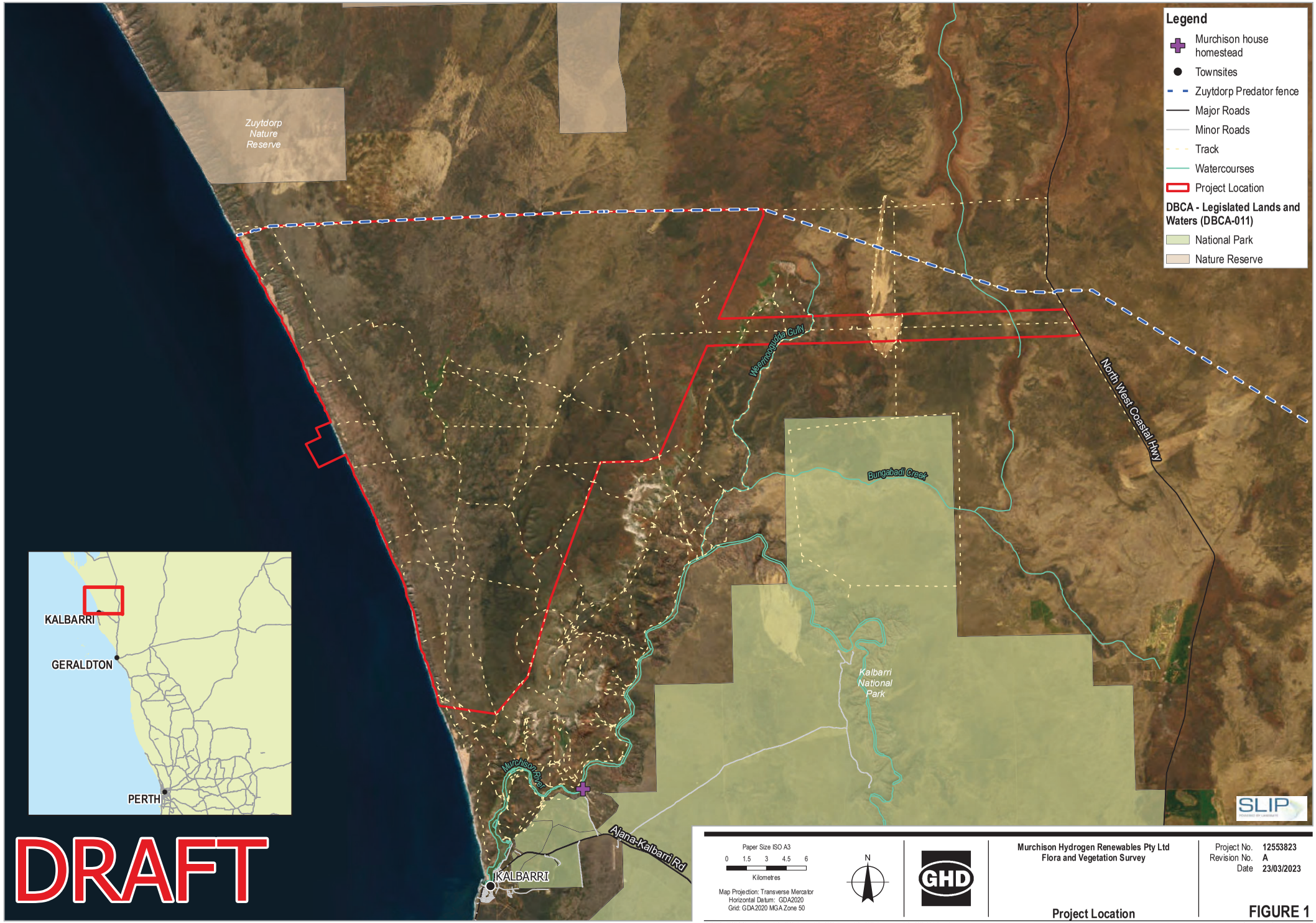
Figure 3 *Hydrological use and land constraints*

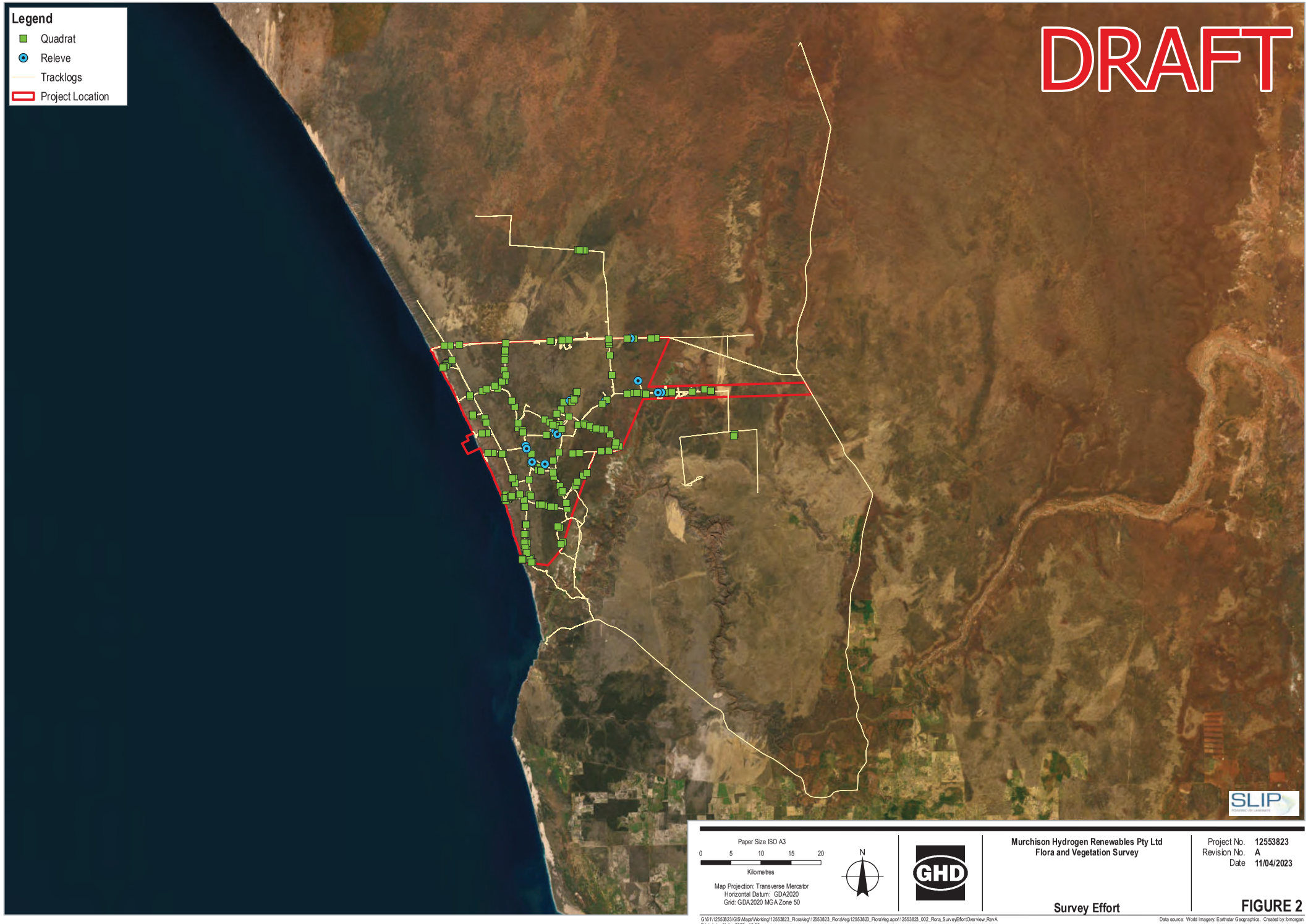
Figure 4 *Ecological constraints*

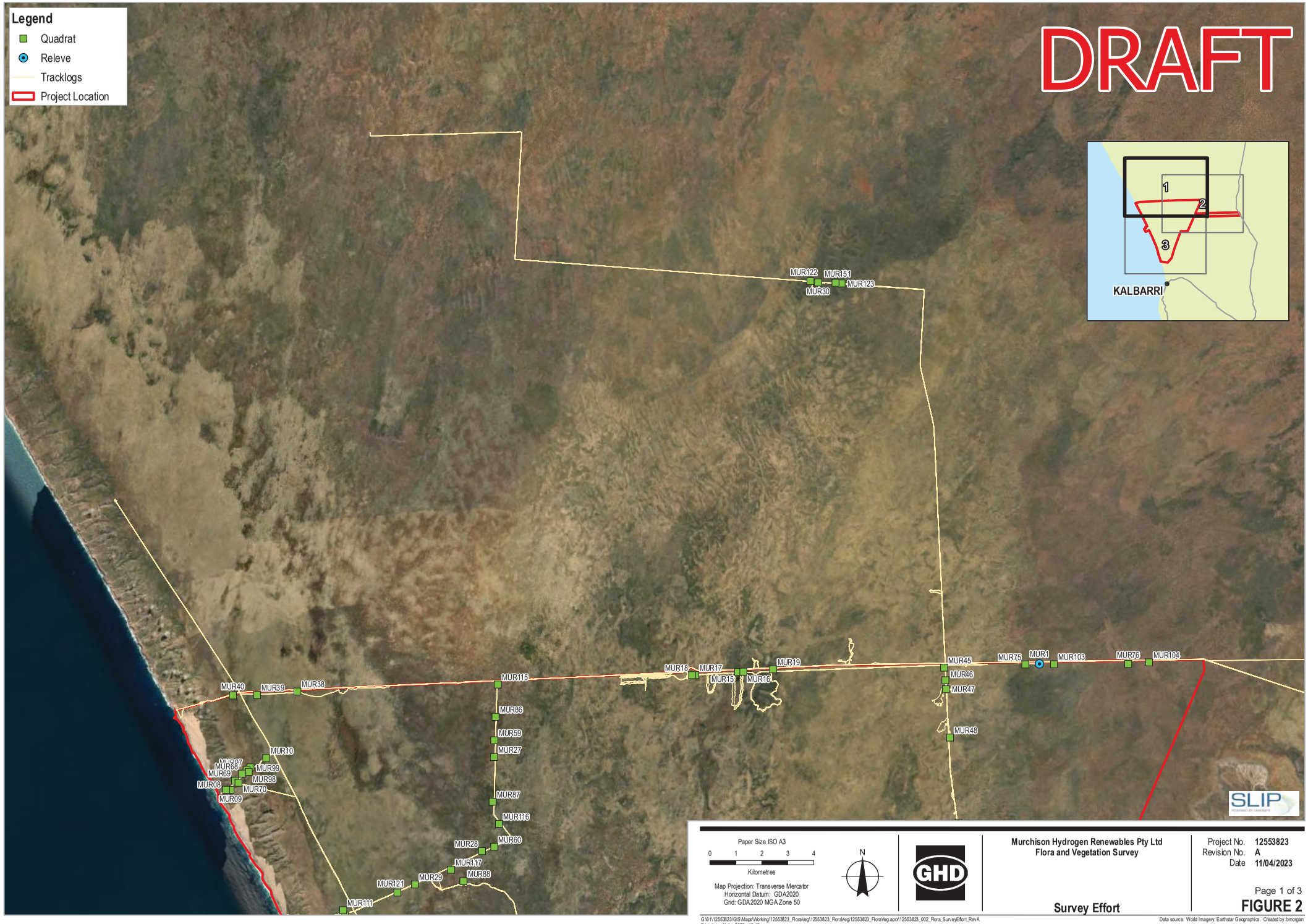
Figure 5 *Vegetation types, vegetation of interest and sample locations*

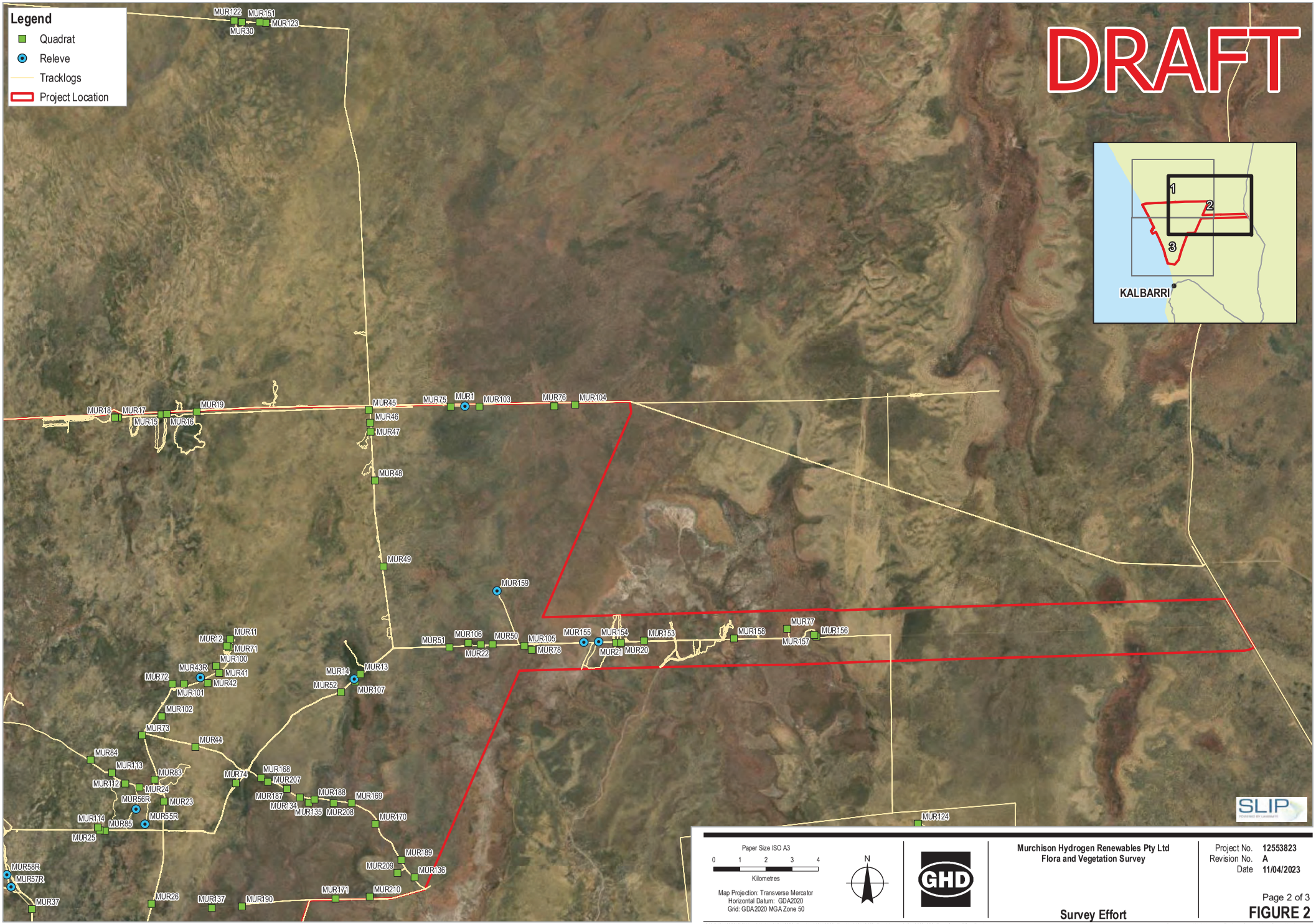
Figure 6 *Vegetation condition and significant weed location*

Figure 7 *Significant flora and flora of interest locations*


Legend
Murchison house homestead
Townsites
Zuytdorp Predator fence
Major Roads
Minor Roads
Track
Watercourses
Project Location
DBCA - Legislated Lands and Waters (DBCA-011)
National Park
Nature Reserve
Zuytdorp Nature Reserve
Weemoguyida Gully
North West Coastal Hwy
Bungabadi Creek
Kalbarri National Park
Murchison River
Ajana-Kalbarri Rd
KALBARRI
KALBARRI
GERALDTON
PERTH
DRAFT
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Kilometres
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Grid: GDA2020 MGA Zone 50
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Murchison Hydrogen Renewables Pty Ltd
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Revision No. A
Date 23/03/2023
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Flora and Vegetation Survey
Survey Effort
Project No. 12553823
Revision No. A
Date 11/04/2023
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Flora and Vegetation Survey
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Revision No. A
Date 11/04/2023
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Tracklogs
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Survey Effort
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Date 11/04/2023
Page 2 of 3
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Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

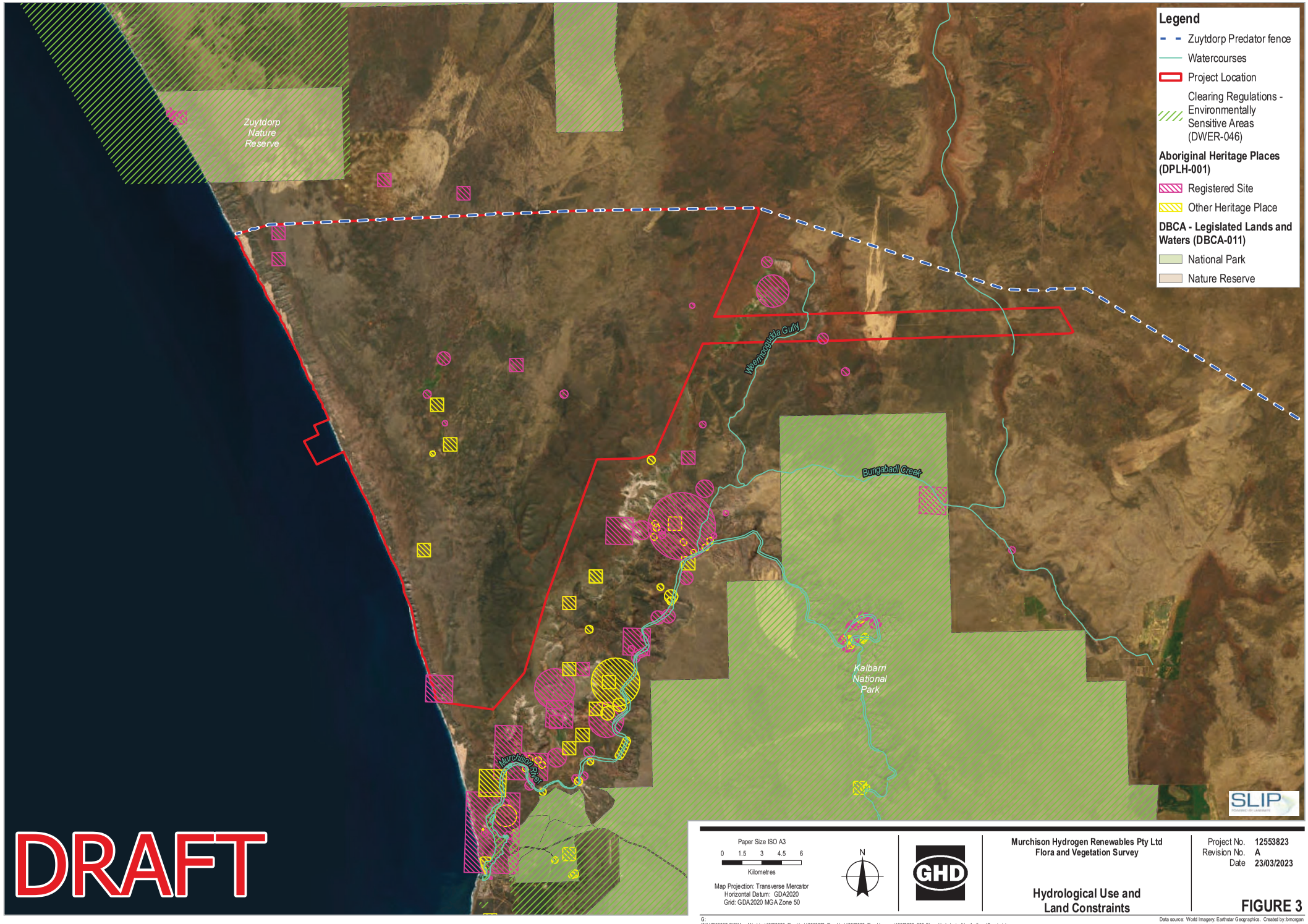
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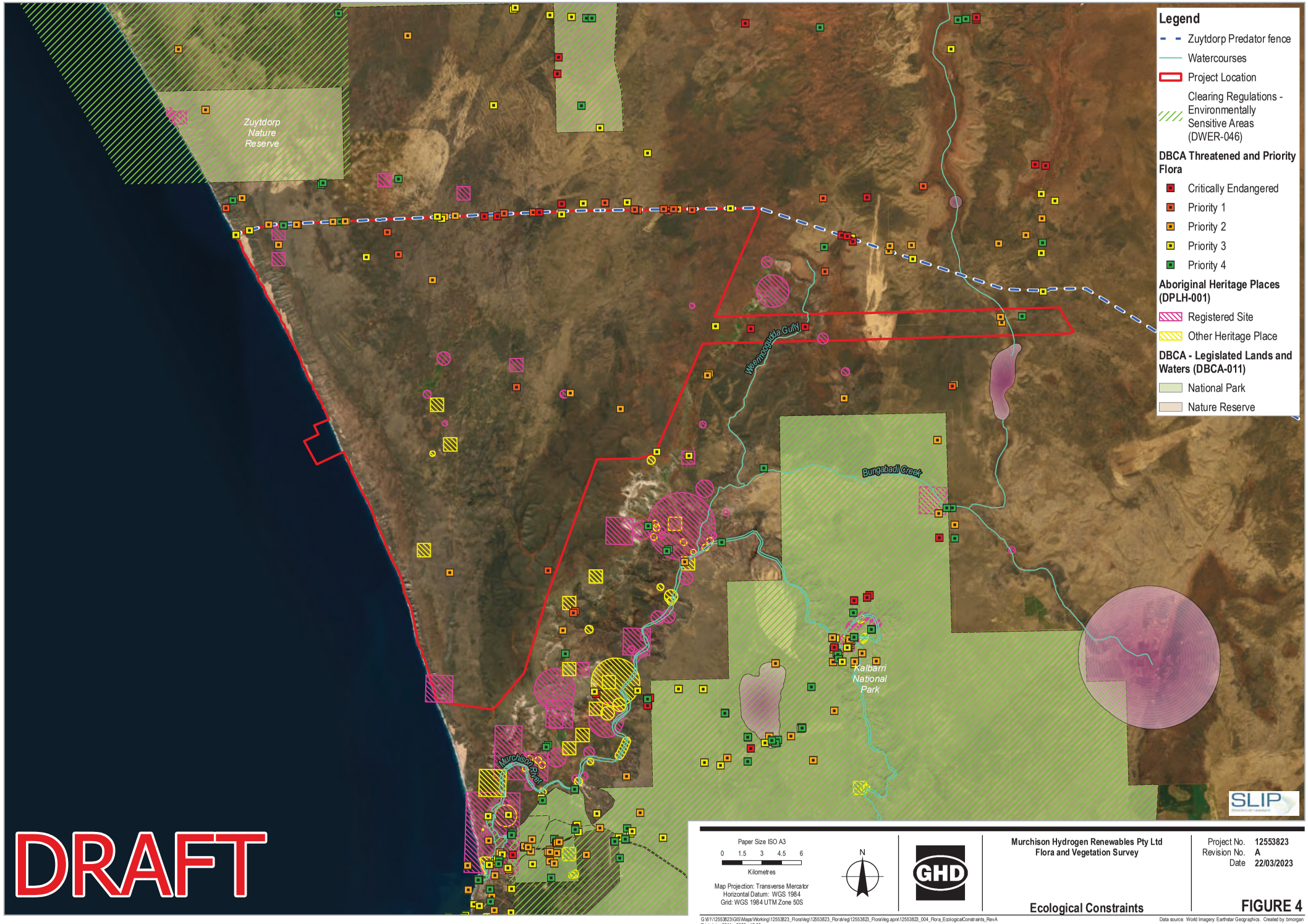
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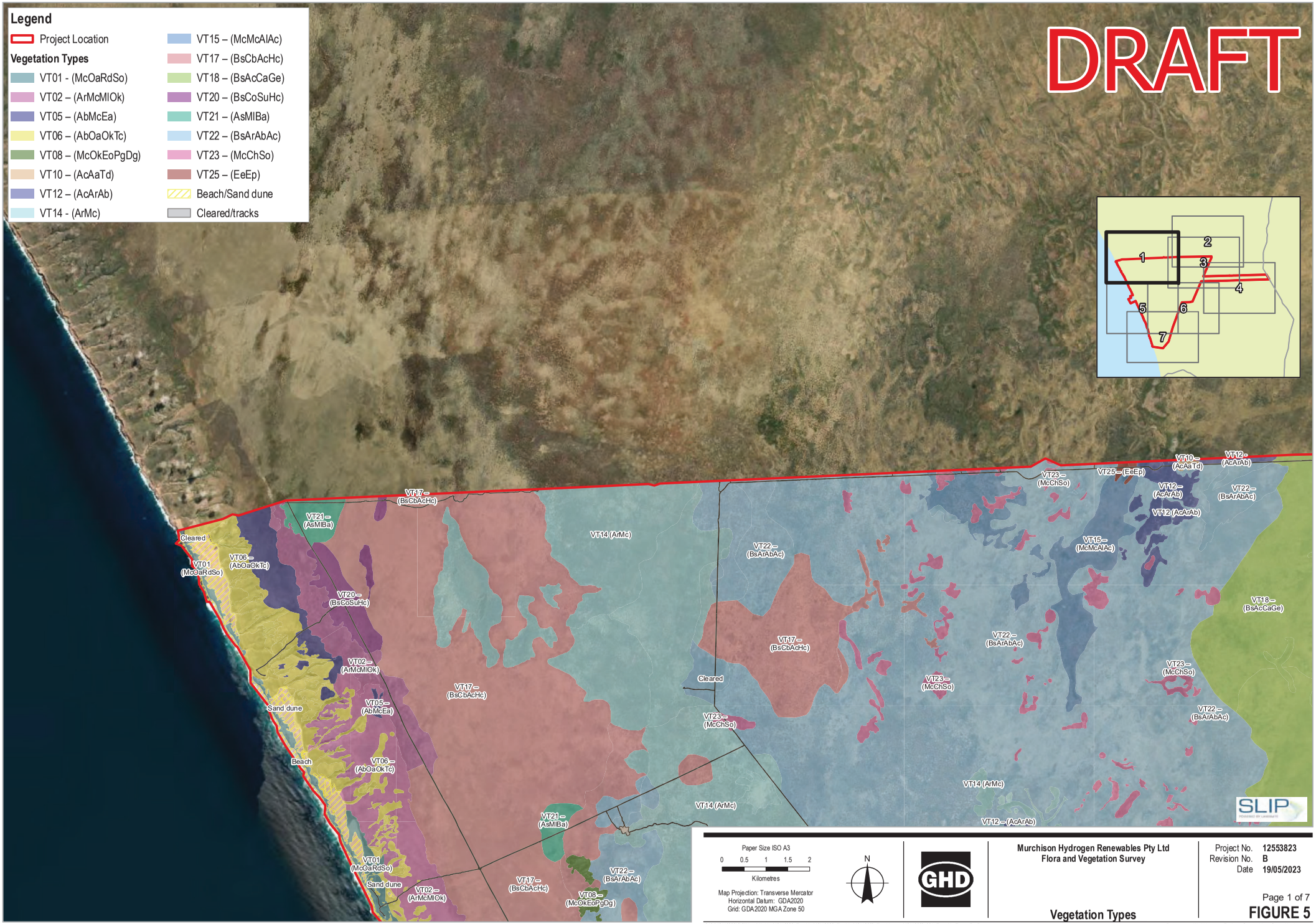
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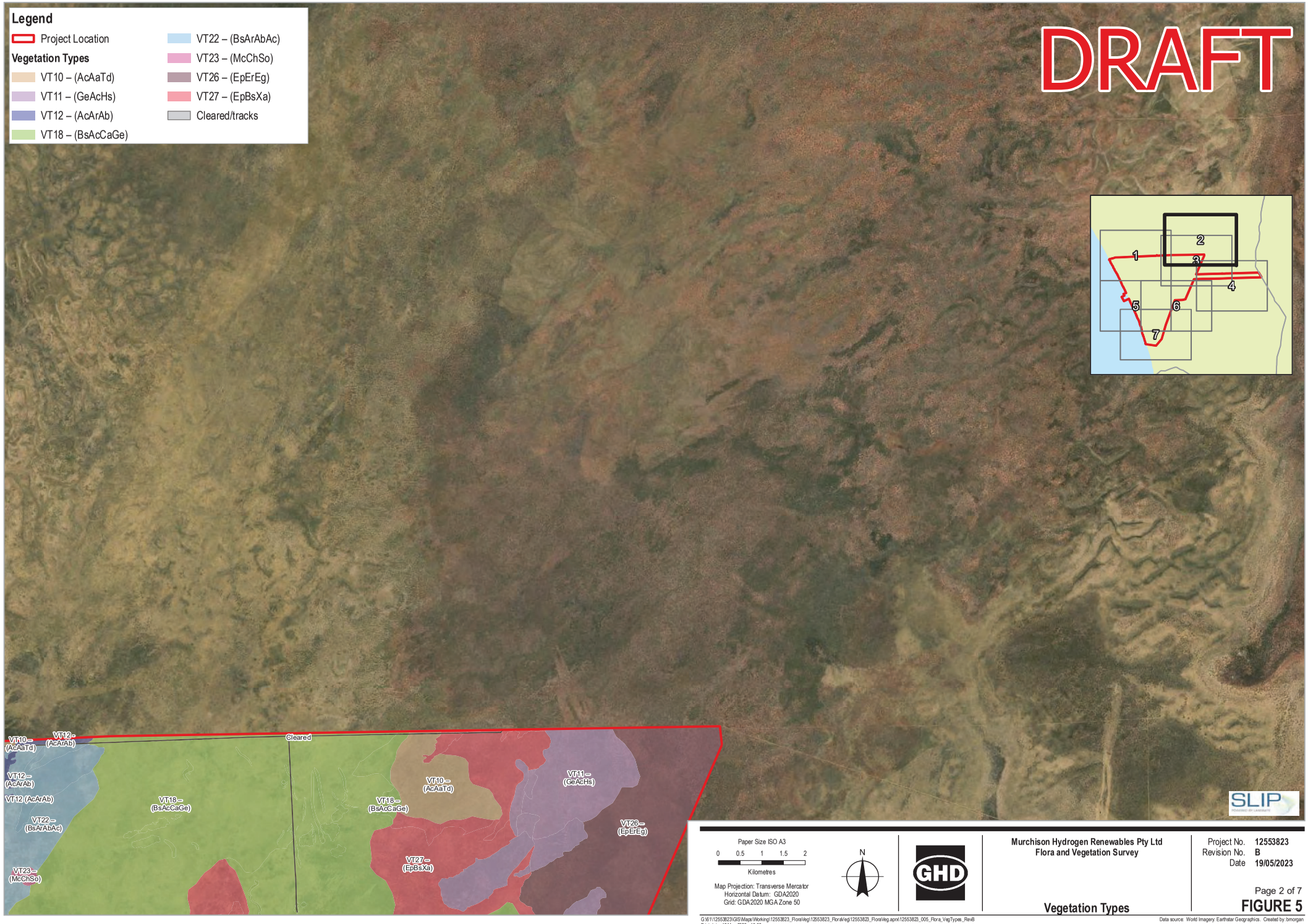
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Legend
Zuytdorp Predator fence
Watercourses
Project Location
Clearing Regulations - Environmentally Sensitive Areas (DWER-046)
Aboriginal Heritage Places (DPLH-001)
Registered Site
Other Heritage Place
DBCA - Legislated Lands and Waters (DBCA-011)
National Park
Nature Reserve
Zuytdorp Nature Reserve
Weenaguda Gully
Bungabadi Creek
Kalbarri National Park
Murchison River
SLIP
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Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey
Hydrological Use and Land Constraints
Project No. 12553823
Revision No. A
Date 23/03/2023
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Watercourses
Project Location
Clearing Regulations - Environmentally Sensitive Areas (DWER-046)
DBCA Threatened and Priority Flora
Critically Endangered
Priority 1
Priority 2
Priority 3
Priority 4
Aboriginal Heritage Places (DPLH-001)
Registered Site
Other Heritage Place
DBCA - Legislated Lands and Waters (DBCA-011)
National Park
Nature Reserve
Zuytdorp Nature Reserve
Weenoggidda Gully
Bungabadi Creek
Kalbarri National Park
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Revision No. A
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VT05 – (AbMcEa)
VT06 – (AbOaOkTc)
VT08 – (McOkEoPgDg)
VT10 – (AcAaTd)
VT12 – (AcArAb)
VT14 - (ArMc)
VT15 – (McMcAlAc)
VT17 – (BsCbAcHc)
VT18 – (BsAcCaGe)
VT20 – (BsCoSuHc)
VT21 – (AsMlBa)
VT22 – (BsArAbAc)
VT23 – (McChSo)
VT25 – (EeEp)
Beach/Sand dune
Cleared/tracks
DRAFT
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2
3
4
5
6
7
Cleared
Sand dune
Beach
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Kilometres
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Revision No. B
Date 19/05/2023
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Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

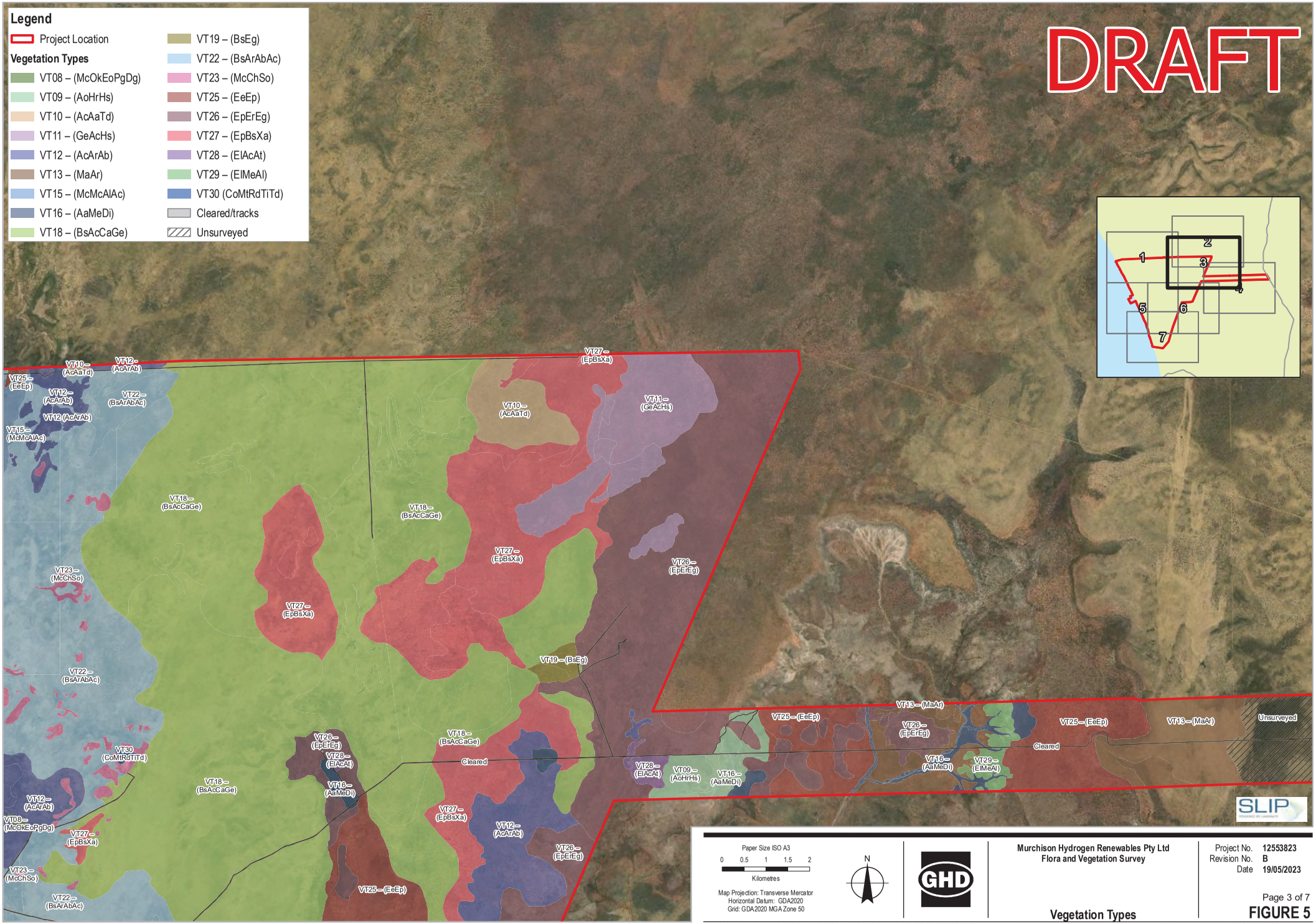
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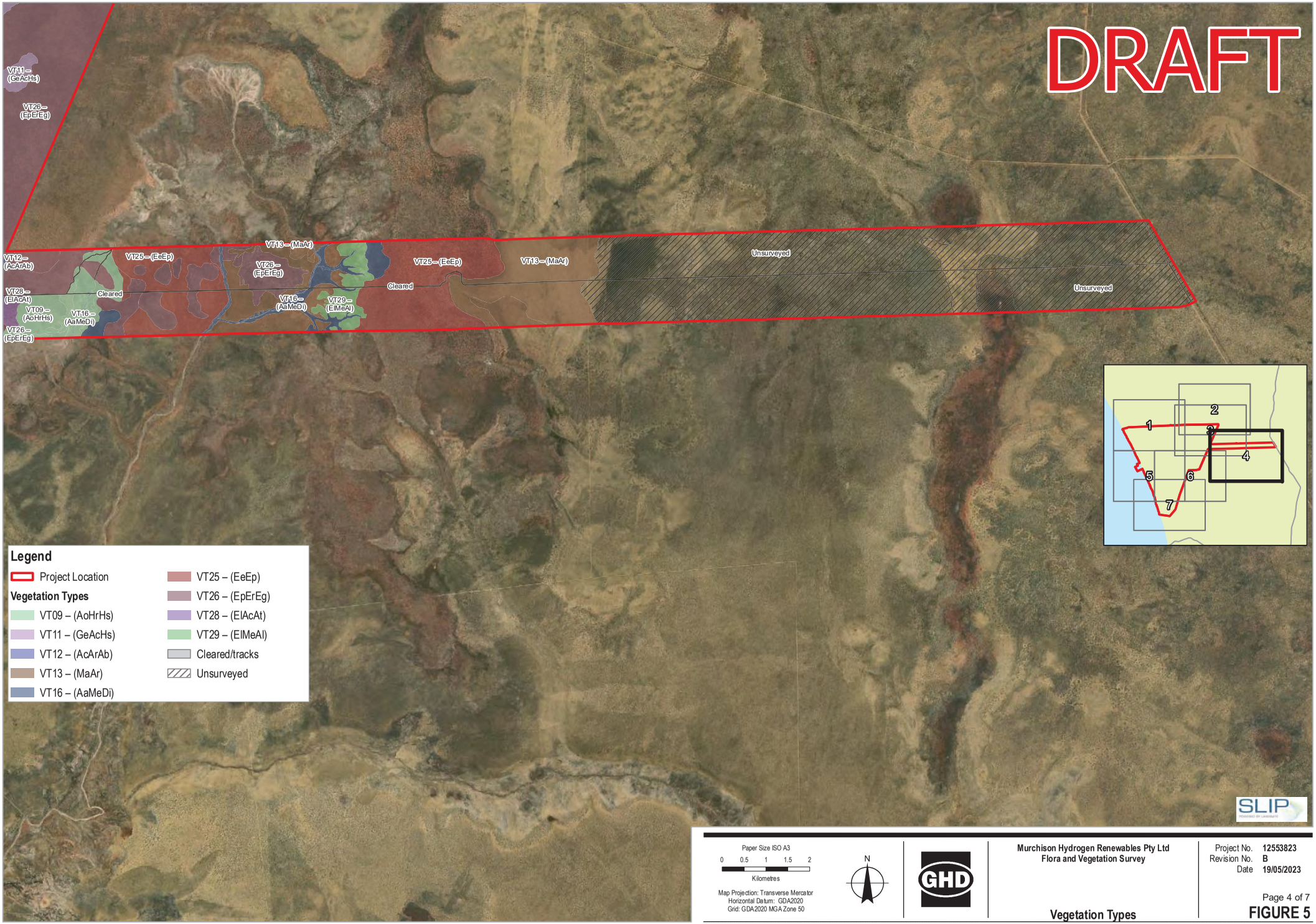
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Revision No. **B**
Date **19/05/2023**

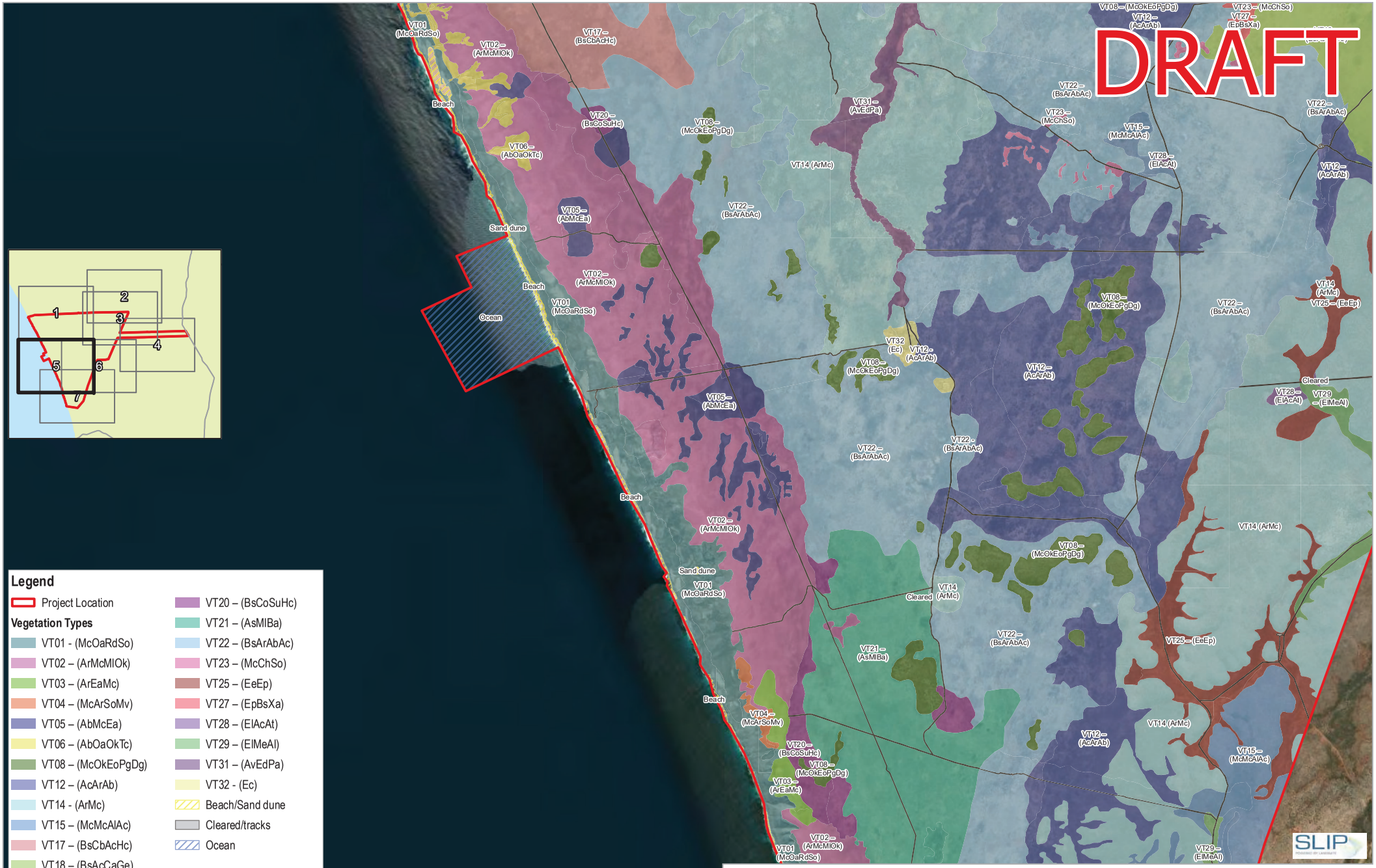
FIGURE 5

G:\61\12553823\GIS\Maps\Working\12553823_FloraVeg\12553823_Floral\eg\12553823_FloraVeg.aprx\12553823_005_Flora_VegTypes_RevB
Print date: 19 May 2023 - 15:53

Data source: World Imagery: Earthstar Geographics. Created by: bmorgan


Legend
Project Location
Vegetation Types
VT08 – (McOkEoPgDg)
VT09 – (AoHrHs)
VT10 – (AcAaTd)
VT11 – (GeAcHs)
VT12 – (AcArAb)
VT13 – (MaAr)
VT15 – (McMcAlAc)
VT16 – (AaMeDi)
VT18 – (BsAcCaGe)
VT19 – (BsEg)
VT22 – (BsArAbAc)
VT23 – (McChSo)
VT25 – (EeEp)
VT26 – (EpErEg)
VT27 – (EpBsXa)
VT28 – (ElAcAt)
VT29 – (ElMeAl)
VT30 (CoMtRdTiTd)
Cleared/tracks
Unsurveyed
DRAFT
1
2
3
4
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7
SLIP
Paper Size ISO A3
0 0.5 1 1.5 2
Kilometres
Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50
N
GHD
Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey
Vegetation Types
Project No. 12553823
Revision No. B
Date 19/05/2023
Page 3 of 7
FIGURE 5
G:\61\12553823\GIS\Maps\Working\12553823_FloraVeg\12553823_FloraVeg.aprx\12553823_005_Flora_VegTypes_RevB
Print date: 19 May 2023 - 15:53
Data source: World Imagery: Earthstar Geographics. Created by: bmorgan


DRAFT
VT11 – (GeAcHs)
VT26 – (EpErEg)
VT12 – (AcArAb)
VT25 – (EeEp)
VT13 – (MaAr)
VT28 – (EpErEg)
Cleared
VT25 – (EeEp)
VT13 – (MaAr)
Unsurveyed
Cleared
Unsurveyed
VT28 – (ElAcAt)
VT09 – (AoHrHs)
VT16 – (AaMeDi)
VT16 – (AaMeDi)
VT29 – (ElMeAl)
VT26 – (EpErEg)
1
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Legend
Project Location
Vegetation Types
VT09 – (AoHrHs)
VT11 – (GeAcHs)
VT12 – (AcArAb)
VT13 – (MaAr)
VT16 – (AaMeDi)
VT25 – (EeEp)
VT26 – (EpErEg)
VT28 – (ElAcAt)
VT29 – (ElMeAl)
Cleared/tracks
Unsurveyed
SLIP
Paper Size ISO A3
0 0.5 1 1.5 2
Kilometres
Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50
N
GHD
Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey
Vegetation Types
Project No. 12553823
Revision No. B
Date 19/05/2023
Page 4 of 7
FIGURE 5
G:\61\12553823\GIS\Maps\Working\12553823_FloraVeg\12553823_Floral\egl\12553823_FloraVeg.aprx\12553823_005_Flora_VegTypes_RevB
Print date: 19 May 2023 - 15:54
Data source: World Imagery: Earthstar Geographics. Created by: bmorgan



Legend

- Project Location

Vegetation Types

- VT01 - (McOaRdSo)
- VT02 – (ArMcMlOk)
- VT03 – (ArEaMc)
- VT04 – (McArSoMv)
- VT05 – (AbMcEa)
- VT06 – (AbOaOkTc)
- VT08 – (McOkEoPgDg)
- VT12 – (AcArAb)
- VT14 - (ArMc)
- VT15 – (McMcAlAc)
- VT17 – (BsCbAcHc)
- VT18 – (BsAcCaGe)
- VT20 – (BsCoSuHc)
- VT21 – (AsMlBa)
- VT22 – (BsArAbAc)
- VT23 – (McChSo)
- VT25 – (EeEp)
- VT27 – (EpBsXa)
- VT28 – (ElAcAt)
- VT29 – (ElMeAl)
- VT31 – (AvEdPa)
- VT32 - (Ec)
- Beach/Sand dune
- Cleared/tracks
- Ocean

Paper Size ISO A3

0 0.5 1 1.5 2

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

N

GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

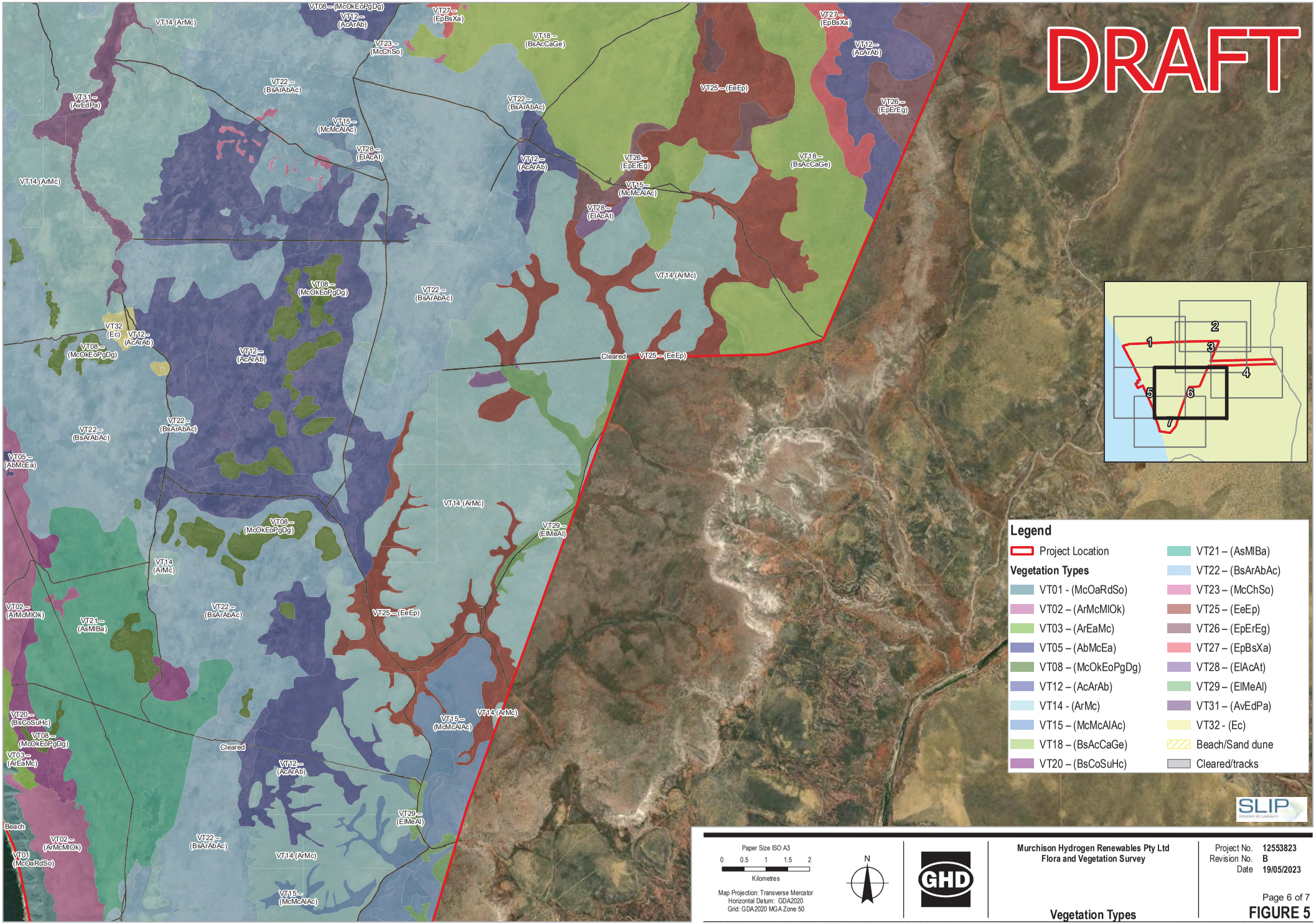
Project No. 12553823
Revision No. B
Date 19/05/2023

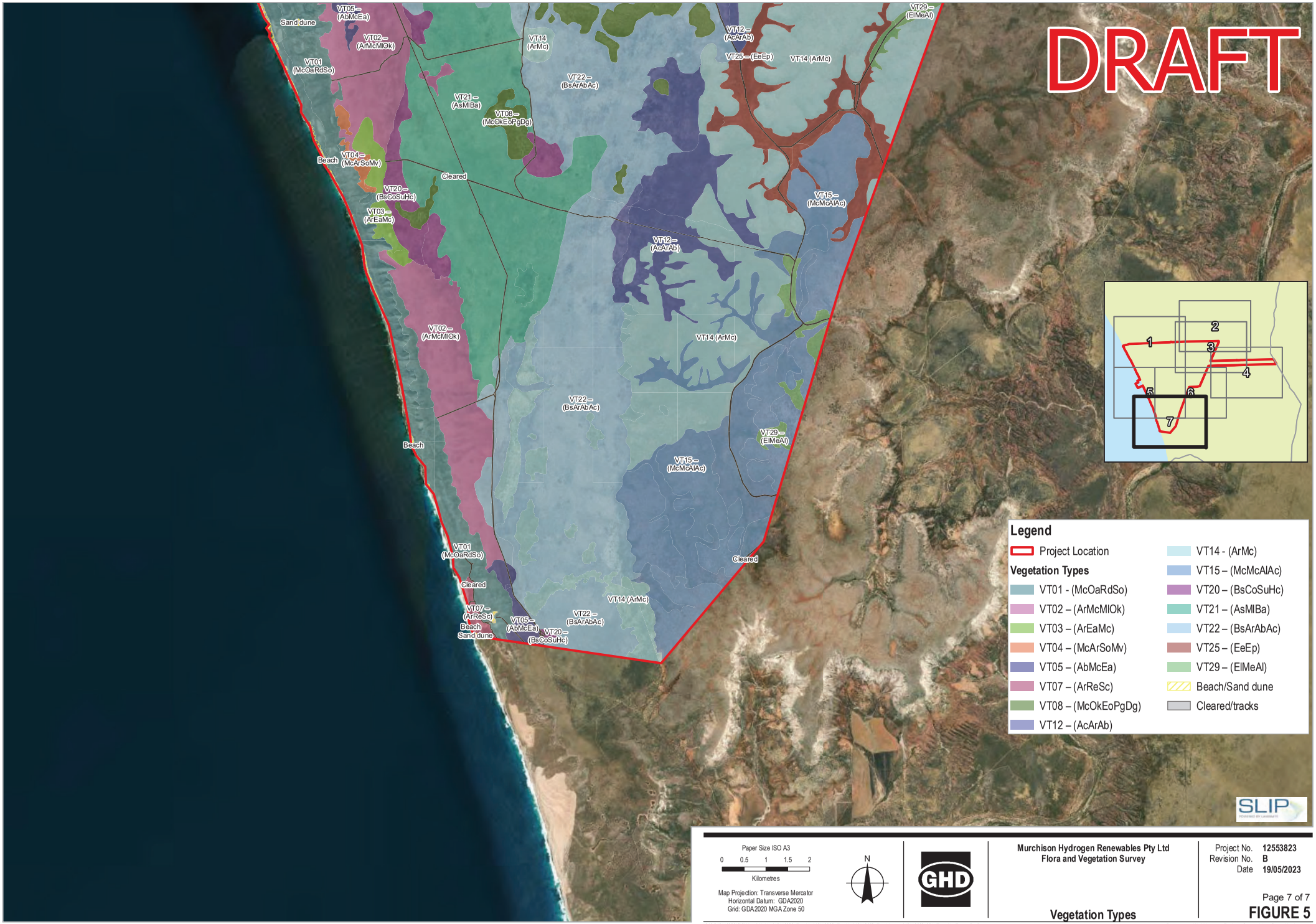
Vegetation Types

FIGURE 5

G:\61\12553823\GIS\Maps\Working\12553823_FloraVeg\12553823_FloraVeg.aprx\12553823_005_Flora_VegTypes_RevB
Print date: 19 May 2023 - 15:54

Data source: World Imagery: Earthstar Geographics. Created by: bmorgan


DRAFT
VT14 (ArMc)
VT08 – (McOkEoPgDg)
VT12 – (AcArAb)
VT27 – (EpBsXa)
VT23 – (McChSo)
VT18 – (BsAcCaGe)
VT22 – (BsArAbAc)
VT31 – (AvEdPa)
VT15 – (McMcAlAc)
VT28 – (ElAcAt)
VT26 – (EpErEg)
VT25 – (EeEp)
Cleared
VT32 (Ec)
VT05 – (AbMcEa)
VT29 – (ElMeAl)
VT21 – (AsMlBa)
VT20 – (BsCoSuHc)
VT03 – (ArEaMc)
Beach
VT02 – (ArMcMlOk)
VT01 (McOaRdSo)
Legend
Project Location
Vegetation Types
VT01 - (McOaRdSo)
VT02 – (ArMcMlOk)
VT03 – (ArEaMc)
VT05 – (AbMcEa)
VT08 – (McOkEoPgDg)
VT12 – (AcArAb)
VT14 - (ArMc)
VT15 – (McMcAlAc)
VT18 – (BsAcCaGe)
VT20 – (BsCoSuHc)
VT21 – (AsMlBa)
VT22 – (BsArAbAc)
VT23 – (McChSo)
VT25 – (EeEp)
VT26 – (EpErEg)
VT27 – (EpBsXa)
VT28 – (ElAcAt)
VT29 – (ElMeAl)
VT31 – (AvEdPa)
VT32 - (Ec)
Beach/Sand dune
Cleared/tracks
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SLIP
Paper Size ISO A3
0 0.5 1 1.5 2
Kilometres
Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50
N
GHD
Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey
Vegetation Types
Project No. 12553823
Revision No. B
Date 19/05/2023
Page 6 of 7
FIGURE 5
G:\61\12553823\GIS\Maps\Working\12553823_FloraVeg\12553823_FloraVeg.aprx\12553823_005_Flora_VegTypes_RevB
Print date: 19 May 2023 - 15:55
Data source: World Imagery: Earthstar Geographics. Created by: bmorgan


DRAFT
VT05 – (AbMcEa)
Sand dune
VT02 – (ArMcMlOk)
VT01 (McOaRdSc)
VT14 (ArMc)
VT12 – (AcArAb)
VT25 – (EeEp)
VT14 (ArMc)
VT29 – (ElMeAl)
VT22 – (BsArAbAc)
VT21 – (AsMlBa)
VT08 – (McOkEoPgDg)
Beach
VT04 – (McArSoMv)
Cleared
VT20 – (BsCoSuHc)
VT03 – (ArEaMc)
VT15 – (McMcAlAc)
VT12 – (AcArAb)
VT02 – (ArMcMlOk)
VT14 (ArMc)
VT22 – (BsArAbAc)
VT29 – (ElMeAl)
Beach
VT15 – (McMcAlAc)
VT01 (McOaRdSc)
Cleared
Cleared
VT14 (ArMc)
VT07 – (ArReSc)
VT05 – (AbMcEa)
VT22 – (BsArAbAc)
Beach
Sand dune
VT20 – (BsCoSuHc)
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Legend
Project Location
Vegetation Types
VT01 - (McOaRdSo)
VT02 – (ArMcMlOk)
VT03 – (ArEaMc)
VT04 – (McArSoMv)
VT05 – (AbMcEa)
VT07 – (ArReSc)
VT08 – (McOkEoPgDg)
VT12 – (AcArAb)
VT14 - (ArMc)
VT15 – (McMcAlAc)
VT20 – (BsCoSuHc)
VT21 – (AsMlBa)
VT22 – (BsArAbAc)
VT25 – (EeEp)
VT29 – (ElMeAl)
Beach/Sand dune
Cleared/tracks
SLIP
Paper Size ISO A3
0 0.5 1 1.5 2
Kilometres
Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50
N
GHD
Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey
Vegetation Types
Project No. 12553823
Revision No. B
Date 19/05/2023
Page 7 of 7
FIGURE 5
G:\61\12553823\GIS\Maps\Working\12553823_FloraVeg\12553823_FloraVeg.aprx\12553823_005_Flora_VegTypes_RevB
Print date: 19 May 2023 - 15:55
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Paper Size ISO A3

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Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

N

GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

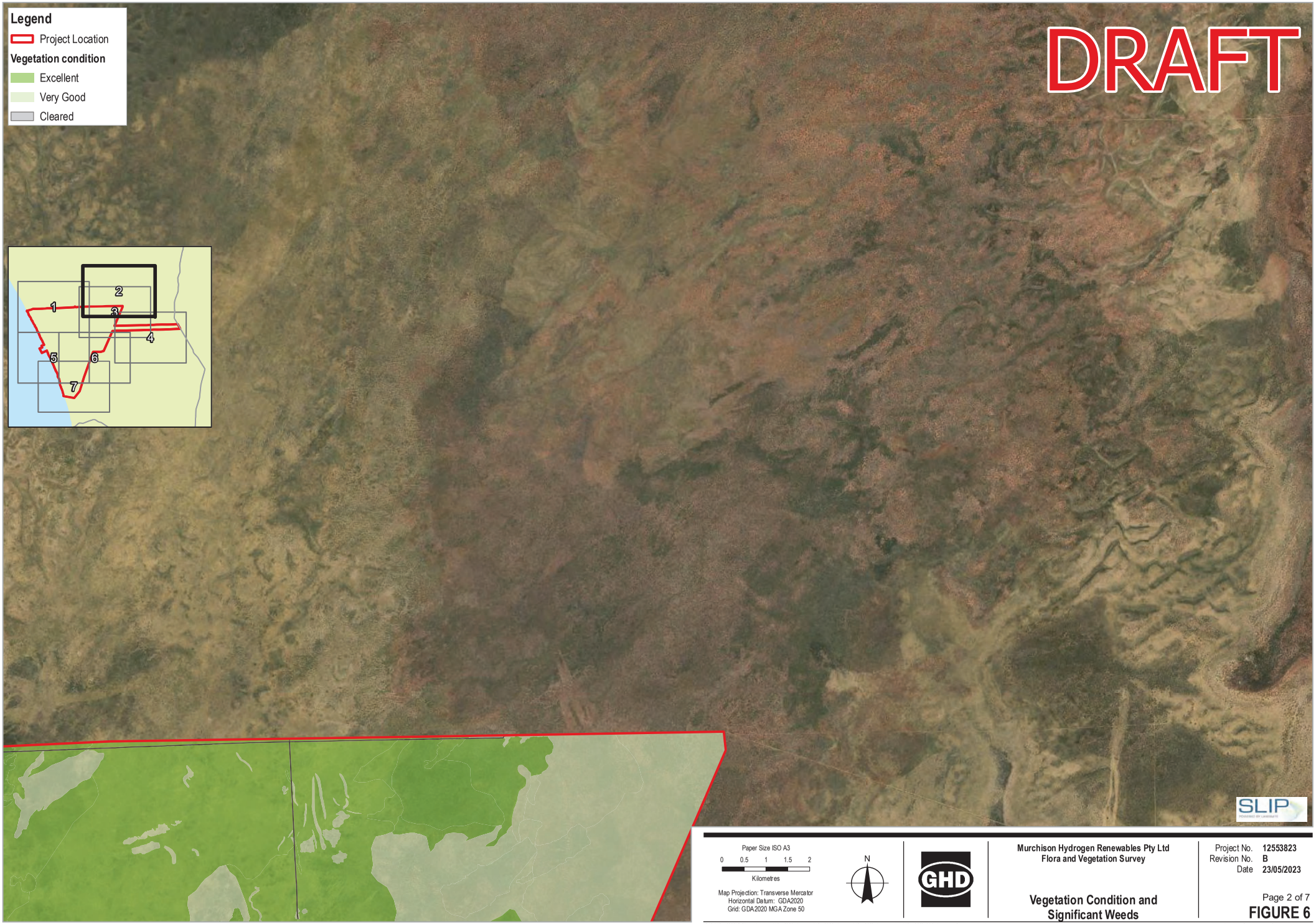
Vegetation Condition and Significant Weeds

Project No. **12553823**
Revision No. **B**
Date **23/05/2023**

Page 1 of 7
FIGURE 6

G:\61\12553823\GIS\Maps\Working\12553823_FloraVeg\12553823_Flora\eg\12553823_FloraVeg.aprx\12553823_006_Flora_VegCondition_RevB
Print date: 23 May 2023 - 16:19

Data source: World Imagery: Earthstar Geographics. Created by: bmorgan



Paper Size ISO A3

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Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

N

GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

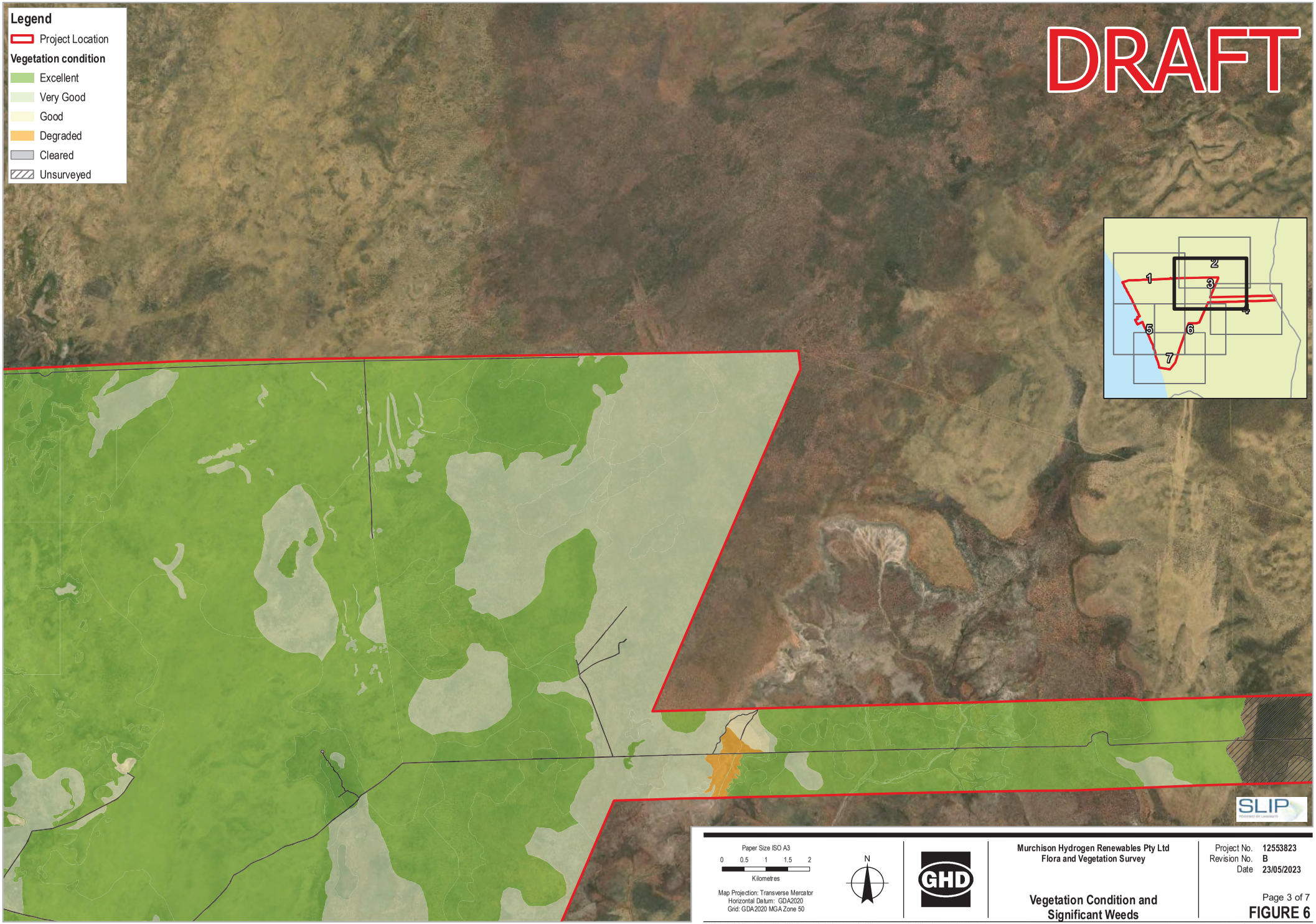
Vegetation Condition and Significant Weeds

Project No. 12553823
Revision No. B
Date 23/05/2023

FIGURE 6

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Paper Size ISO A3

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Kilometres

Map Projection: Transverse Mercator
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Grid: GDA2020 MGA Zone 50

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GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

Vegetation Condition and Significant Weeds

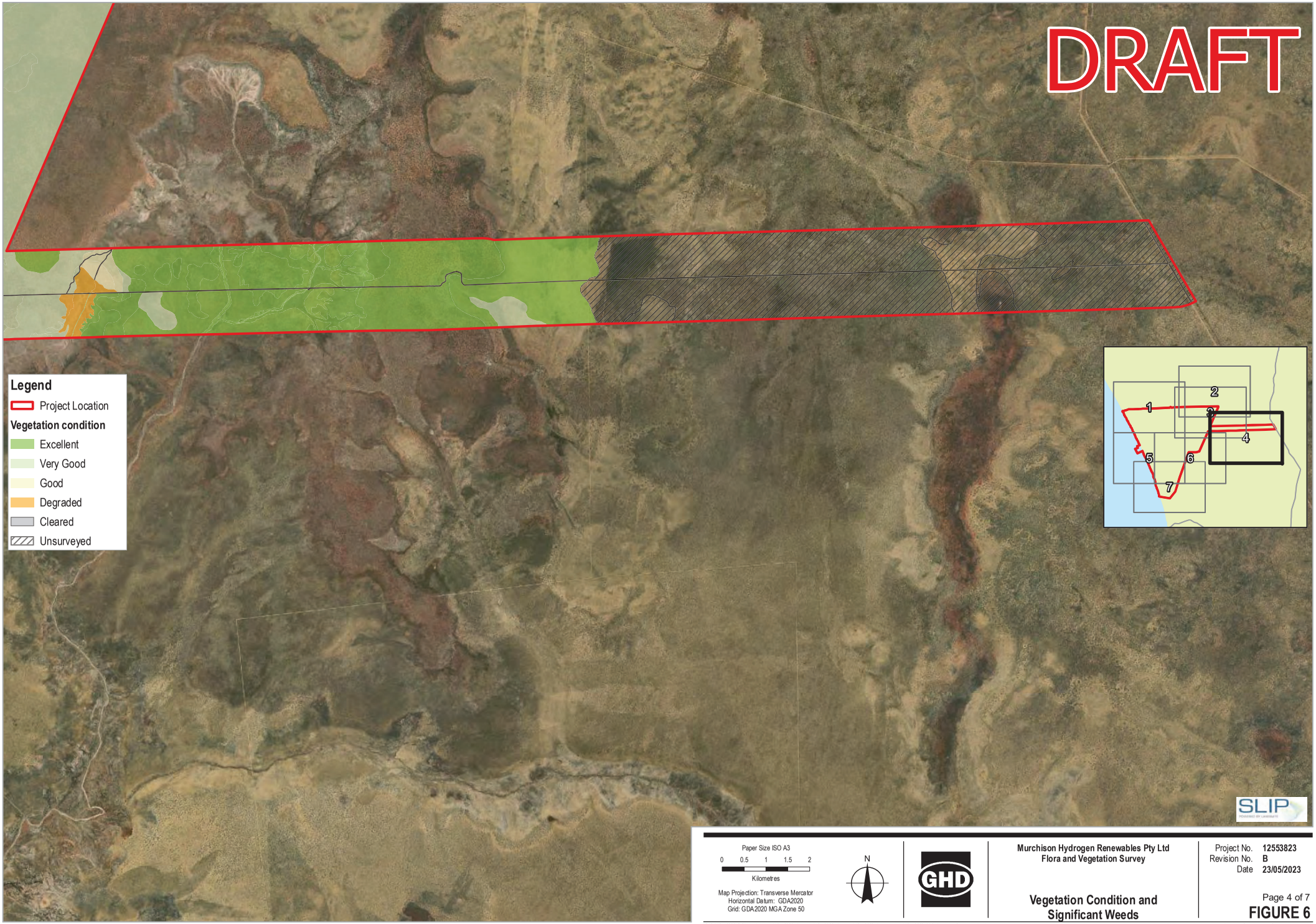
Project No. **12553823**
Revision No. **B**
Date **23/05/2023**

FIGURE 6

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Print date: 23 May 2023 - 16:20

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DRAFT



Paper Size ISO A3

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Kilometres

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Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

N

GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

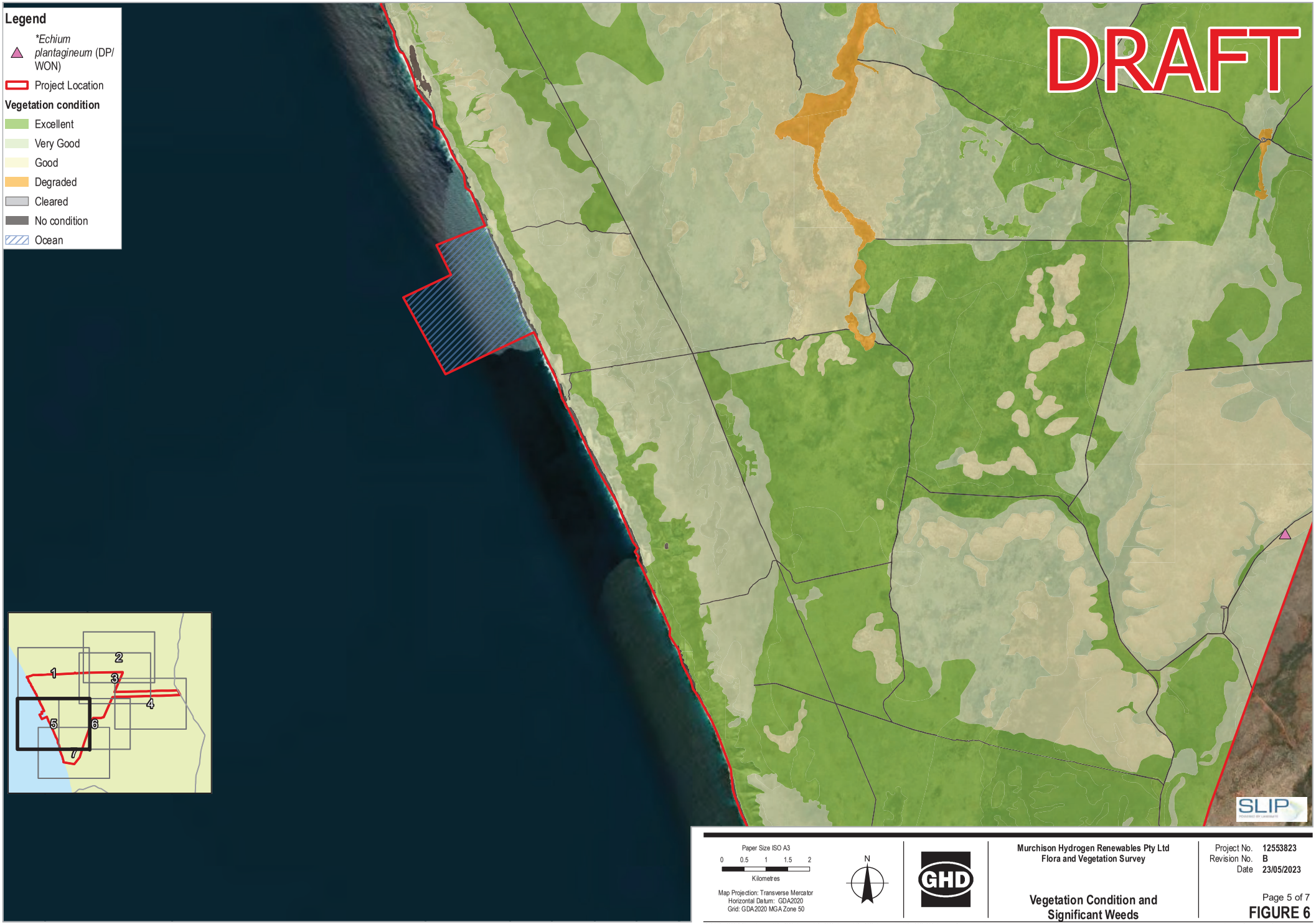
Vegetation Condition and Significant Weeds

Project No. **12553823**
Revision No. **B**
Date **23/05/2023**

FIGURE 6

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Data source: World Imagery: Earthstar Geographics. Created by: bmorgan



Paper Size ISO A3

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Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

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GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

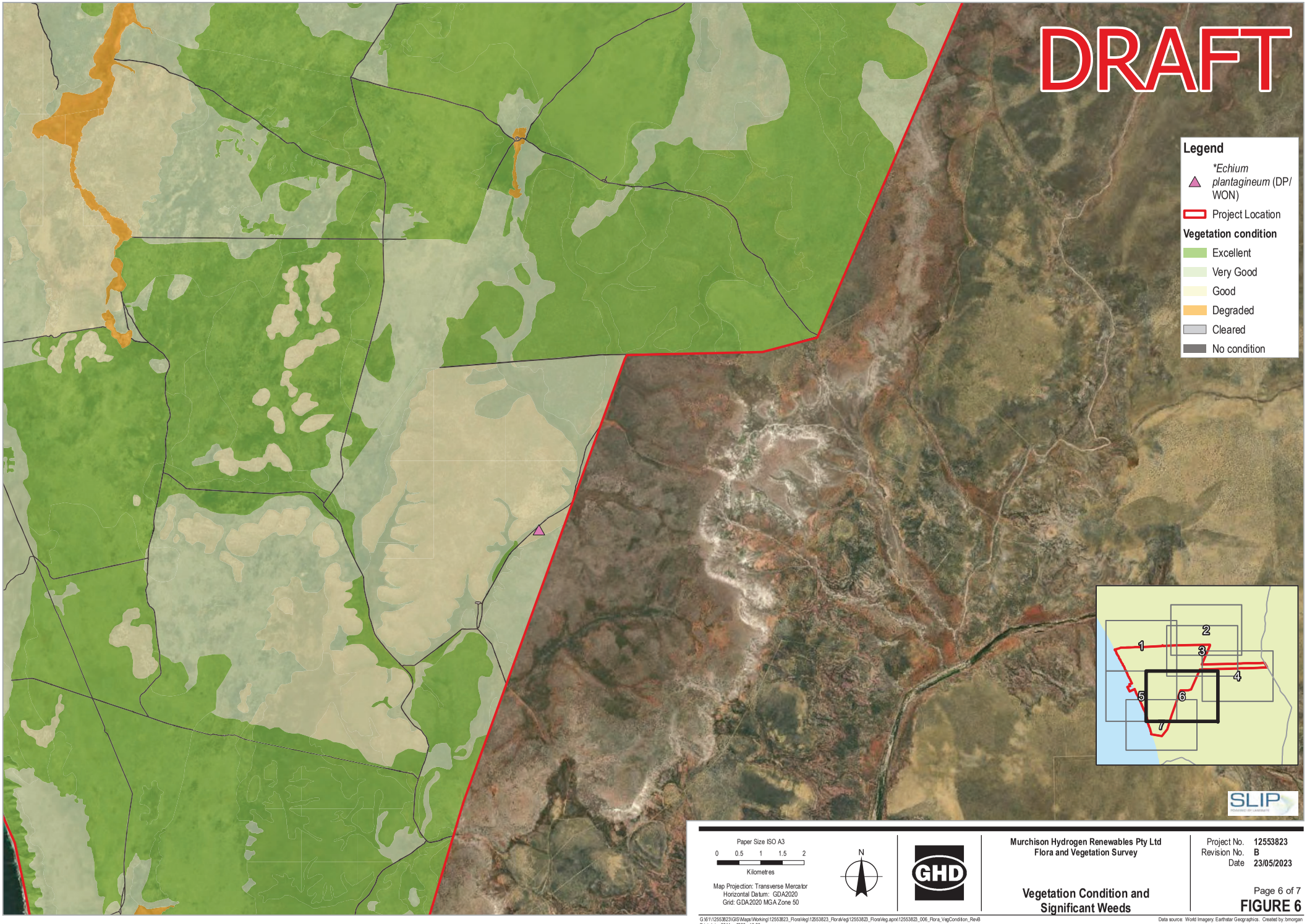
Vegetation Condition and Significant Weeds

Project No. **12553823**
Revision No. **B**
Date **23/05/2023**

FIGURE 6

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Print date: 23 May 2023 - 16:22

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Paper Size ISO A3

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Kilometres

Map Projection: Transverse Mercator
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Grid: GDA2020 MGA Zone 50

N

GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

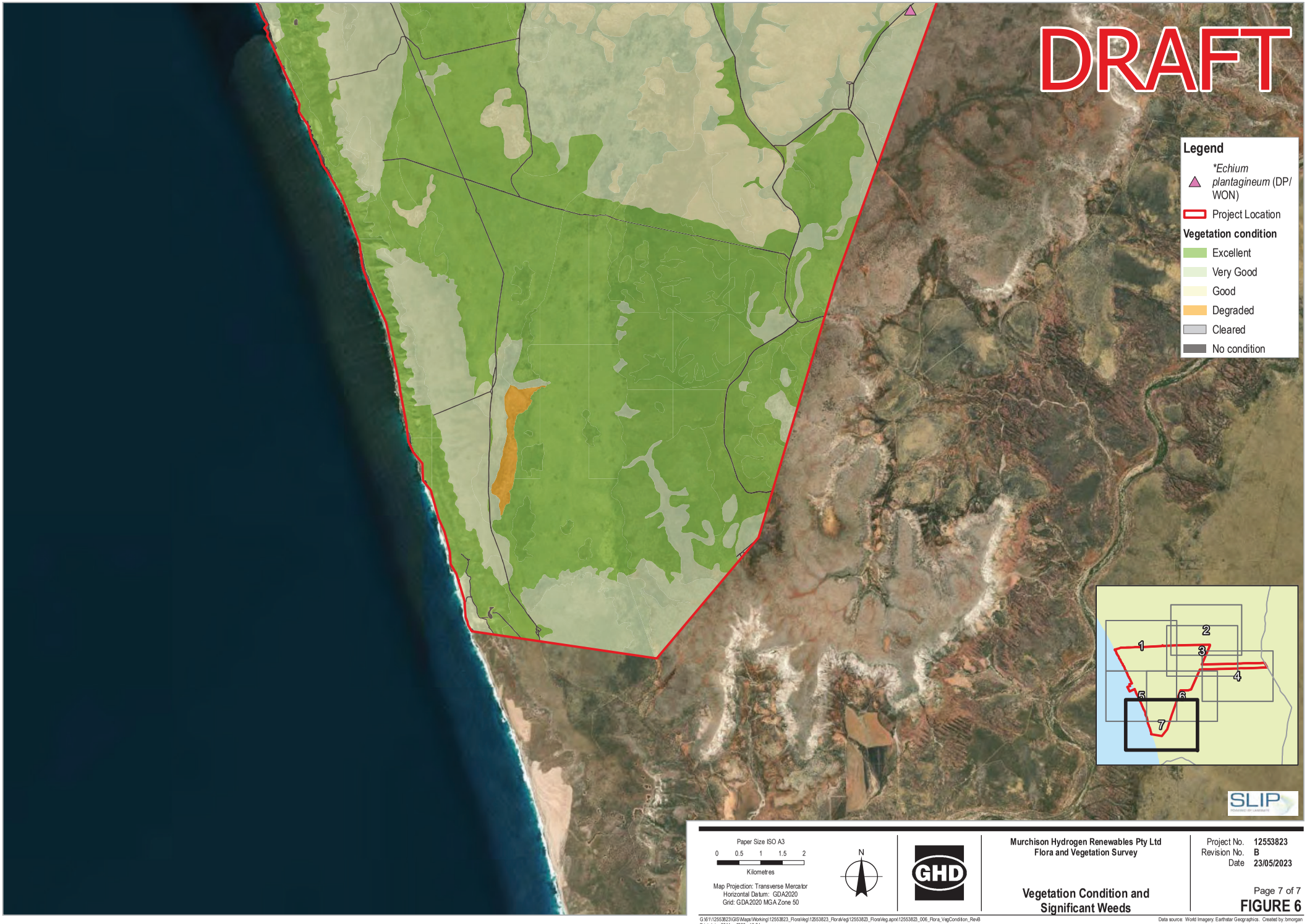
Vegetation Condition and Significant Weeds

Project No. **12553823**
Revision No. **B**
Date **23/05/2023**

FIGURE 6

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Print date: 23 May 2023 - 16:23

Data source: World Imagery: Earthstar Geographics. Created by: bmorgan



Paper Size ISO A3

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Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

N

GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

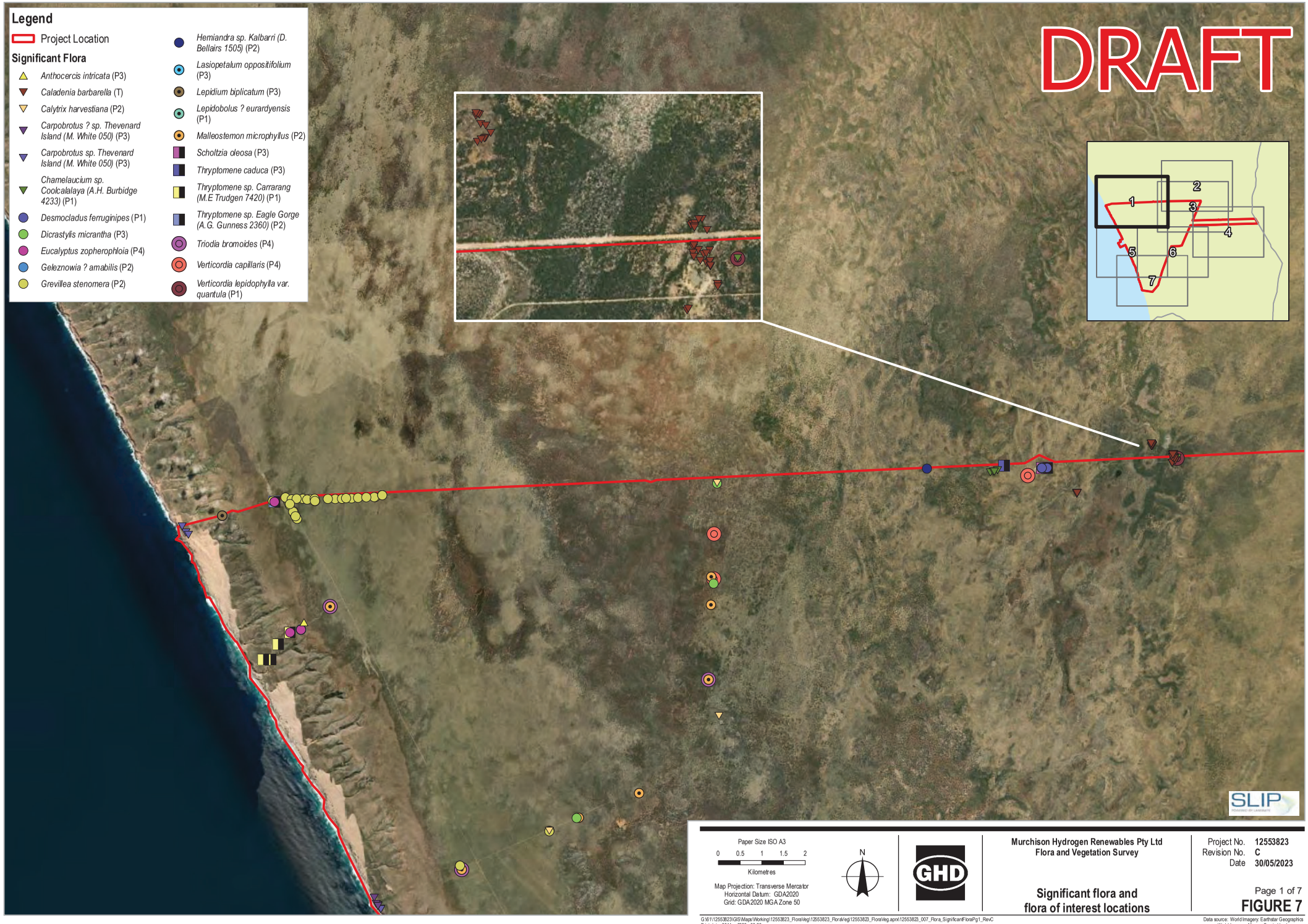
Vegetation Condition and Significant Weeds

Project No. **12553823**
Revision No. **B**
Date **23/05/2023**

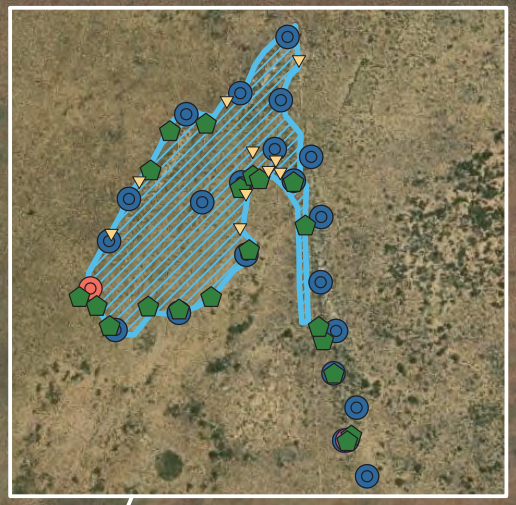
FIGURE 6

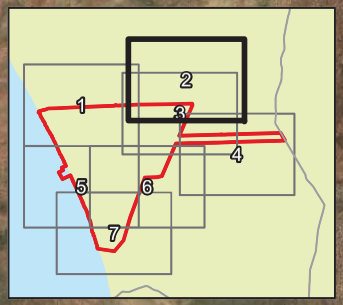
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Print date: 23 May 2023 - 16:24

Data source: World Imagery: Earthstar Geographics. Created by: bmorgan


Legend
Project Location
Significant Flora
Anthocercis intricata (P3)
Caladenia barbarella (T)
Calytrix harvestiana (P2)
Carpobrotus ? sp. Thevenard Island (M. White 050) (P3)
Carpobrotus sp. Thevenard Island (M. White 050) (P3)
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233) (P1)
Desmocladus ferruginipes (P1)
Dicrastylis micrantha (P3)
Eucalyptus zopherophloia (P4)
Geleznowia ? amabilis (P2)
Grevillea stenomera (P2)
Hemiandra sp. Kalbarri (D. Bellairs 1505) (P2)
Lasiopetalum oppositifolium (P3)
Lepidium biplicatum (P3)
Lepidobolus ? eurardyensis (P1)
Malleostemon microphyllus (P2)
Scholtzia oleosa (P3)
Thryptomene caduca (P3)
Thryptomene sp. Carrarang (M.E Trudgen 7420) (P1)
Thryptomene sp. Eagle Gorge (A.G. Gunness 2360) (P2)
Triodia bromoides (P4)
Verticordia capillaris (P4)
Verticordia lepidophylla var. quantula (P1)
DRAFT
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SLIP
Paper Size ISO A3
0 0.5 1 1.5 2
Kilometres
Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50
N
GHD
Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey
Significant flora and flora of interest locations
Project No. 12553823
Revision No. C
Date 30/05/2023
Page 1 of 7
FIGURE 7
G:\61\12553823\GIS\Maps\Working\12553823_FloraVeg\12553823_FloraVeg\12553823_FloraVeg.aprx\12553823_007_Flora_SignificantFloraPg1_RevC
Print date: 30 May 2023 - 09:26
Data source: World Imagery: Earthstar Geographics
World Imagery: Maxar. Created by: bmorgan

DRAFT





Legend

Project Location

Significant Flora

- *Caladenia barbarella* (T)
- *Calytrix harvestiana* (P2)
- *Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)* (P1)
- *Dasymalla glutinosa* (P3)
- *Jacksonia velutina* (P4)
- *Pileanthus aurantiacus* (P1)
- *Scaevola sp. ?Golden hairs D. B. Bellairs 1450 A* (P1)
- *Triodia bromoides* (P4)
- *Verticordia capillaris* (P4)
- *Verticordia cooloomia* (P3)
- *Verticordia lepidophylla var. quantula* (P1)

Significant Flora Areas

- *Verticordia cooloomia*

Paper Size ISO A3

0 0.5 1 1.5 2

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

N

GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

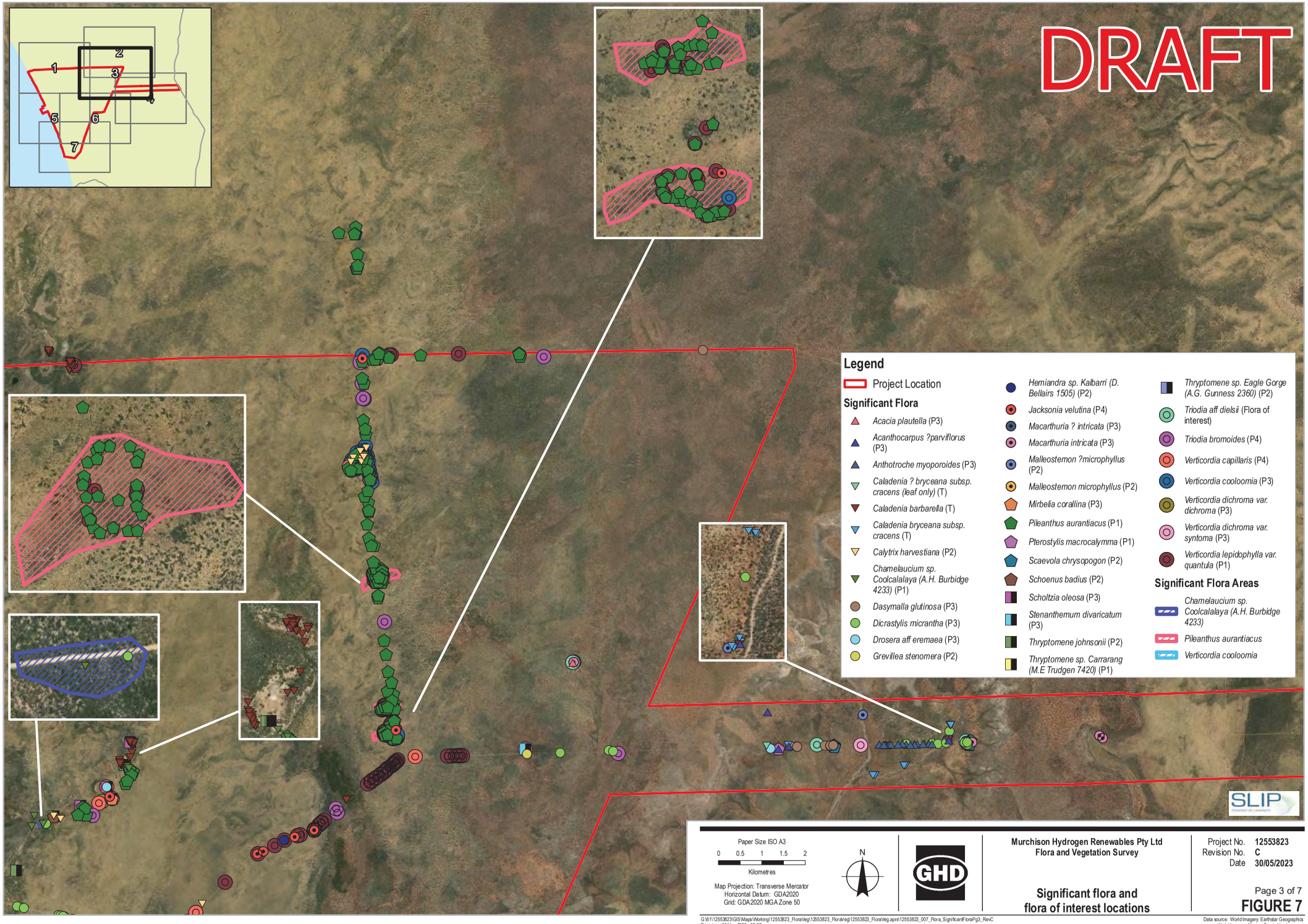
Significant flora and flora of interest locations

Project No. 12553823
Revision No. C
Date 30/05/2023

FIGURE 7

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Print date: 30 May 2023 - 09:26

Data source: World Imagery: Earthstar Geographics
World Imagery: Maxar. Created by: bmorgan



Paper Size ISO A3

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Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

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GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

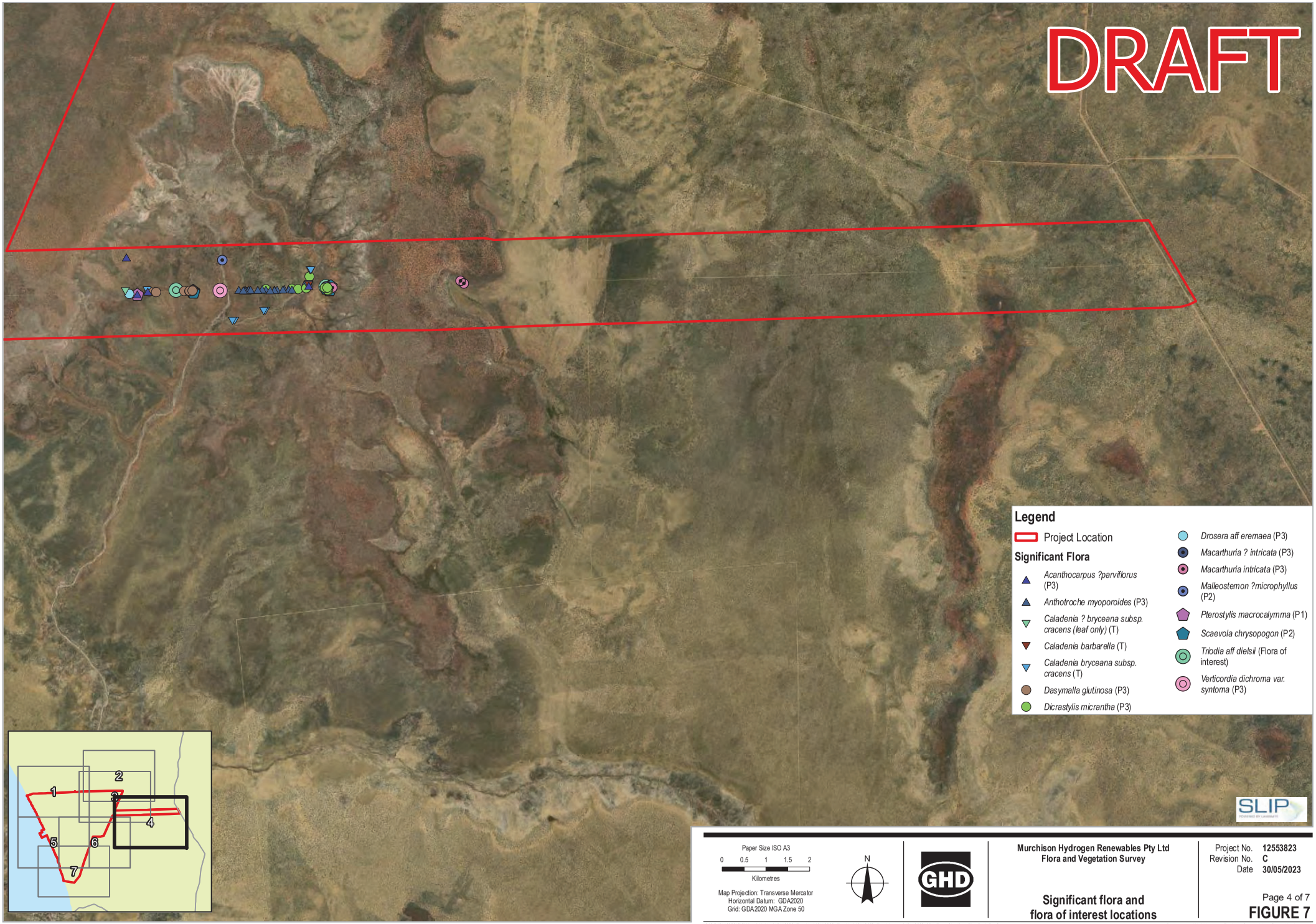
Significant flora and flora of interest locations

Project No. **12553823**
Revision No. **C**
Date **30/05/2023**

FIGURE 7

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Print date: 30 May 2023 - 09:27

Data source: World Imagery: Earthstar Geographics
World Imagery: Maxar. Created by: bmorgan



Paper Size ISO A3

0 0.5 1 1.5 2

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA2020
Grid: GDA2020 MGA Zone 50

N

GHD

Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey

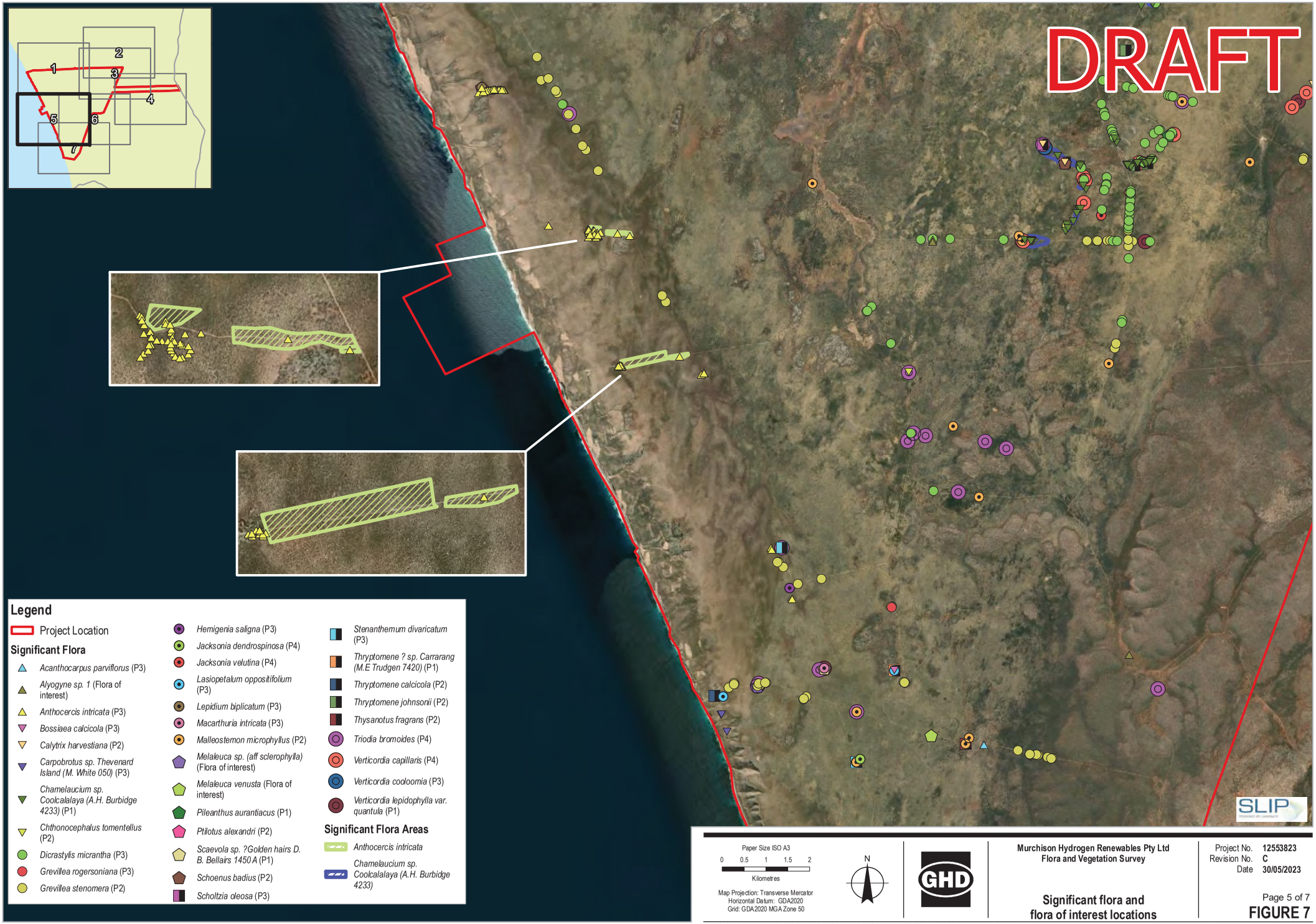
Significant flora and flora of interest locations

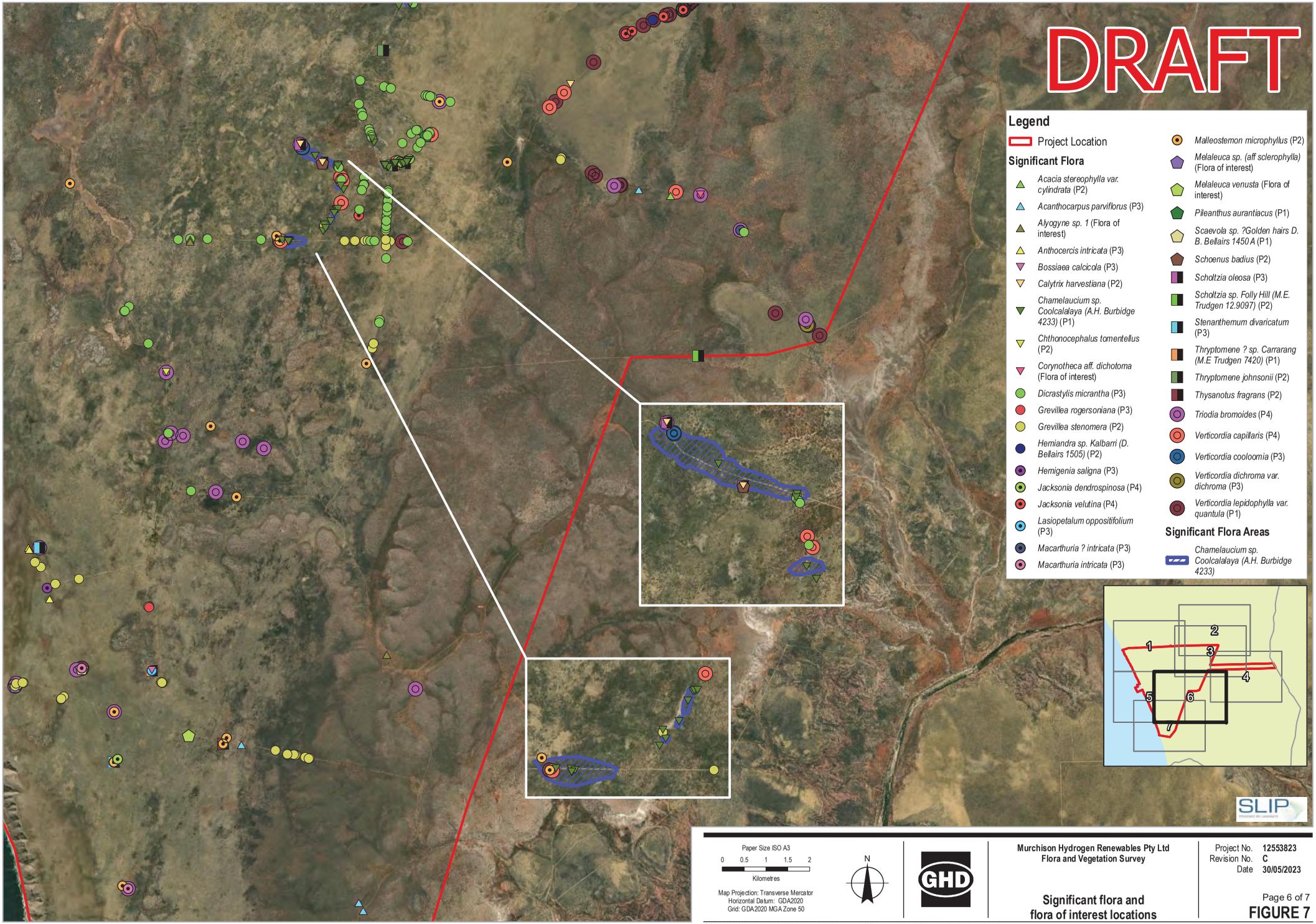
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Revision No. **C**
Date **30/05/2023**

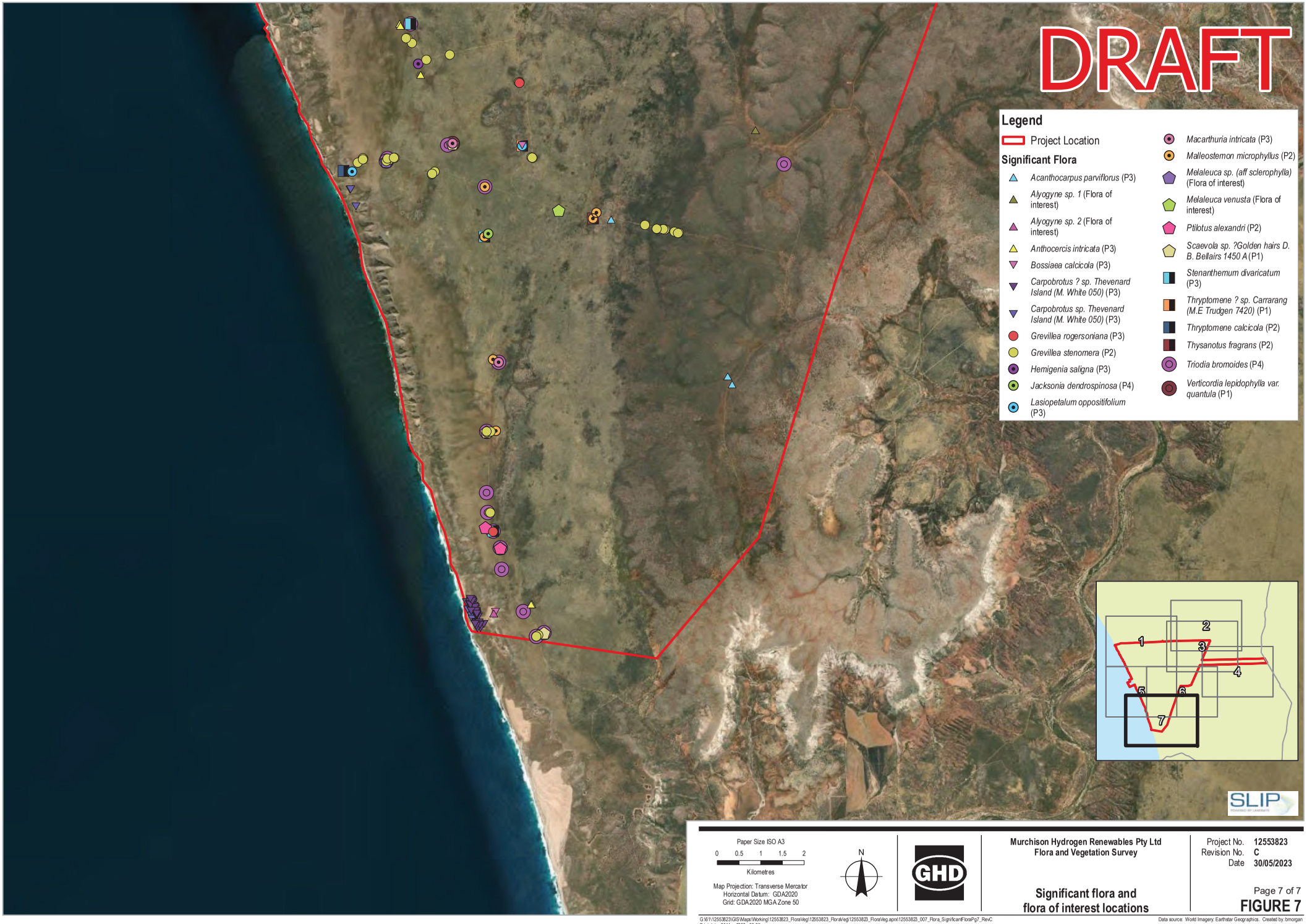
FIGURE 7

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Data source: World Imagery: Earthstar Geographics. Created by: bmorgan


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Legend
Project Location
Significant Flora
Acanthocarpus parviflorus (P3)
Alyogyne sp. 1 (Flora of interest)
Anthocercis intricata (P3)
Bossiaea calcicola (P3)
Calytrix harvestiana (P2)
Carpobrotus sp. Thevenard Island (M. White 050) (P3)
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233) (P1)
Chthonocephalus tomentellus (P2)
Dicrastylis micrantha (P3)
Grevillea rogersoniana (P3)
Grevillea stenomera (P2)
Hemigenia saligna (P3)
Jacksonia dendrospinosa (P4)
Jacksonia velutina (P4)
Lasiopetalum oppositifolium (P3)
Lepidium biplicatum (P3)
Macarthuria intricata (P3)
Malleostemon microphyllus (P2)
Melaleuca sp. (aff sclerophylla) (Flora of interest)
Melaleuca venusta (Flora of interest)
Pileanthus aurantiacus (P1)
Ptilotus alexandri (P2)
Scaevola sp. ?Golden hairs D. B. Bellairs 1450 A (P1)
Schoenus badius (P2)
Scholtzia oleosa (P3)
Stenanthemum divaricatum (P3)
Thryptomene ? sp. Carrarang (M.E Trudgen 7420) (P1)
Thryptomene calcicola (P2)
Thryptomene johnsonii (P2)
Thysanotus fragrans (P2)
Triodia bromoides (P4)
Verticordia capillaris (P4)
Verticordia cooloomia (P3)
Verticordia lepidophylla var. quantula (P1)
Significant Flora Areas
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Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)
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Grid: GDA2020 MGA Zone 50
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Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey
Significant flora and flora of interest locations
Project No. 12553823
Revision No. C
Date 30/05/2023
Page 5 of 7
FIGURE 7
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Alyogyne sp. 1 (Flora of interest)
Anthocercis intricata (P3)
Bossiaea calcicola (P3)
Calytrix harvestiana (P2)
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233) (P1)
Chthonocephalus tomentellus (P2)
Corynotheca aff. dichotoma (Flora of interest)
Dicrastylis micrantha (P3)
Grevillea rogersoniana (P3)
Grevillea stenomera (P2)
Hemiandra sp. Kalbarri (D. Bellairs 1505) (P2)
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Jacksonia dendrospinosa (P4)
Jacksonia velutina (P4)
Lasiopetalum oppositifolium (P3)
Macarthuria ? intricata (P3)
Macarthuria intricata (P3)
Malleostemon microphyllus (P2)
Melaleuca sp. (aff sclerophylla) (Flora of interest)
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Pileanthus aurantiacus (P1)
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Schoenus badius (P2)
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Scholtzia sp. Folly Hill (M.E. Trudgen 12.9097) (P2)
Stenanthemum divaricatum (P3)
Thryptomene ? sp. Carrarang (M.E Trudgen 7420) (P1)
Thryptomene johnsonii (P2)
Thysanotus fragrans (P2)
Triodia bromoides (P4)
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Significant Flora Areas
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Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey
Significant flora and flora of interest locations
Project No. 12553823
Revision No. C
Date 30/05/2023
Page 6 of 7
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Bossiaea calcicola (P3)
Carpobrotus ? sp. Thevenard Island (M. White 050) (P3)
Carpobrotus sp. Thevenard Island (M. White 050) (P3)
Grevillea rogersoniana (P3)
Grevillea stenomera (P2)
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Jacksonia dendrospinosa (P4)
Lasiopetalum oppositifolium (P3)
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Melaleuca sp. (aff sclerophylla) (Flora of interest)
Melaleuca venusta (Flora of interest)
Ptilotus alexandri (P2)
Scaevola sp. ?Golden hairs D. B. Bellairs 1450 A (P1)
Stenanthemum divaricatum (P3)
Thryptomene ? sp. Carrarang (M.E Trudgen 7420) (P1)
Thryptomene calcicola (P2)
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Murchison Hydrogen Renewables Pty Ltd
Flora and Vegetation Survey
Significant flora and flora of interest locations
Project No. 12553823
Revision No. C
Date 30/05/2023
Page 7 of 7
FIGURE 7
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Appendix B

Relevant legislation, background information and conservation codes

Relevant legislation

Federal *Environment Protection and Biodiversity Conservation Act 1999*

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is the Federal Government's central piece of environmental legislation. It provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places, which are defined in the EPBC Act as Matters of National Environmental Significance (MNES).

The biological aspects listed as MNES include:

Nationally threatened flora and fauna species and ecological communities

Migratory species

A person must not undertake an action that has, will have, or is likely to have a significant impact (direct or indirect) on MNES, without approval from the Federal Minister for the Environment.

The EPBC Act is administered by the Department of Agriculture, Water and the Environment (DAWE).

State *Environmental Protection Act 1986*

The *Environmental Protection Act 1986* (EP Act) is the primary legislative Act dealing with the protection of the environment in Western Australia. The Act allows the Environmental Protection Authority (EPA), to prevent, control and abate pollution and environmental harm, for the conservation, preservation, protection, enhancement and management of the environment and for matters incidental to or connected with the foregoing. Part IV of the EP Act is administered by the EPA and makes provisions for the EPA to undertake environmental impact assessment of significant proposals, strategic proposals and land use planning schemes.

The Department of Water and Environment Regulation (DWER) is responsible for administering the clearing provisions of the EP Act (Part V). Clearing of native vegetation in Western Australia requires a permit from the DWER, unless exemptions apply. Applications for clearing permits are assessed by the Department and decisions are made to grant or refuse the application in accordance with the Act. When making a decision the assessment considers clearing against the ten clearing principles as specified in Schedule 5 of the EP Act:

1. Native vegetation should not be cleared if it comprises a high level of biodiversity.
2. Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a significance habitat for fauna indigenous to Western Australia.
3. Native vegetation should not be cleared if it includes, or is necessary, for the continued existence of rare flora.
4. Native vegetation should not be cleared if it comprises the whole or part of native vegetation in an area that has been extensively cleared.
5. Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.
6. Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
7. Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.
8. Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
9. Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

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10. Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence of flooding.

Exemptions for clearing include clearing that is a requirement of a written law or authorised under certain statutory processes (listed in Schedule 6 of the EP Act) and exemptions for prescribed low impact day-to-day activities (prescribed in the Environmental Protection (Clearing of Native Vegetation) Regulations 2004); these exemptions do not apply in environmentally sensitive areas (ESAs).

State *Biodiversity and Conservation Act 2016*

The *Biodiversity Conservation Act 2016* (BC Act) provides for the conservation and protection of biodiversity and biodiversity components, as well as the promotion of the ecologically sustainable use of biodiversity components in Western Australia. The BC Act replaces both the repealed *Wildlife Conservation Act 1950* (WC Act) and the *Sandalwood Act 1929* (Sandalwood Act), as well as their associated regulations. To attain the objectives of the BC Act, principles of ecological sustainable development have been established:

– Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations
– If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation
– The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations
– The conservation of biodiversity and ecological integrity should be a fundamental consideration indecision-making
– Improved valuation, pricing and incentive mechanisms should be promoted.

The BC Act is administered by the Department of Biodiversity Conservation and Attractions (DBCA).

State Biosecurity and Agriculture Management Act 2007

The *Biosecurity and Agriculture Management Act 2007* (BAM Act) and associated regulations are administered by the Department of Primary Industries and Regional Development (DPIRD) and replace the repealed *Agriculture and Related Resources Protection Act 1976.* The main purposes of the BAM Act and its regulations are to:

– Prevent new animal and plant pests (vermin and weeds) and diseases from entering WA
– Manage the impact and spread of those pests already present in the state
– Safely manage the use of agricultural and veterinary chemicals
– Increased control over the sale of agricultural products that contain violative chemical residues.

The Western Australian Organism List (WAOL) provides the status of organisms which have been categorised under the BAM Act. A Declared Pest is a prohibited organism or an organism for which a declaration under Section 22(2) of the Act is in force. Declared Pests may be assigned a control category including: C1 (exclusion), C2 (eradication) and C3 (management). The category may apply to the whole of the State, LGAs, districts, individual properties or even paddocks, and all landholders are obliged to comply with the specific category of control. Categories of control are defined below.

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DPIRD Categories for Declared Pests under the BAM Act

Control class code	Description
C1 (Exclusion)	Pests will be assigned to this category if they are not established in Western Australia and control measures are to be taken, including border checks, in order to prevent them entering and establishing in the State.
C2 (Eradication)	Pests will be assigned to this category if they are present in Western Australia in low enough numbers or in sufficiently limited areas that their eradication is still a possibility.
C3 (Management)	Pests will be assigned to this category if they are established in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in population size or density or moving from an area in which it is established into an area which currently is free of that pest.

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Background information

Environmentally Sensitive Areas

Environmentally Sensitive Areas (ESAs) are declared by the Minister for Environment under Section 51B of the EP Act. The Table below outlines the aspects of areas declared as ESA in the Environmental Protection (Environmentally Sensitive Areas) Notice 2005.

Aspects of ESAs

Aspects of Environmentally Sensitive Areas
A declared World Heritage property as defined in Section 13 of the EPBC Act.
An area that is included on the Register of the National Estate (RNE), because of its natural values, under the *Australian Heritage Commission Act 1975* of the Commonwealth (the RNE was closed in 2007 and is no longer a statutory list – all references to the RNE were removed from the EPBC Act on 19 February 2012).
A defined wetland and the area within 50 m of the wetland. Defined wetlands include Ramsar wetlands, conservation category wetlands and nationally important wetlands.
The area covered by vegetation within 50 m of rare flora, to the extent to which the vegetation is continuous with the vegetation in which the rare flora is located.
The area covered by a Threatened Ecological Community.
A Bush Forever Site listed in "Bush Forever" Volumes 1 and 2 (2000), published by the Western Australia Planning Commission, except to the extent to which the site is approved to be developed by the Western Australia Planning Commission.
The areas covered by the *Environmental Protection (Gnangara Mound Crown Land) Policy 1992*.
The areas covered by the *Environmental Protection (Western Swamp Tortoise Habitat) Policy 2002*.
The areas covered by the lakes to which the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* (EPP Lakes) applies.
Protected wetlands as defined in the *Environmental Protection (South West Agricultural Zone Wetlands) Policy 1998*.

Reserves and conservation areas

Department of Biodiversity, Conservation and Attractions managed land and waters

DBCA manages lands and waters throughout Western Australia to conserve ecosystems and species, and to provide for recreation and appreciation of the natural environment. DBCA managed lands and waters include national parks, conservation parks and reserves, marine parks and reserves, regional parks, nature reserves, State forest and timber reserves. Access to, or through, some areas of DBCA managed lands may require a permit or could be restricted due to management activities. Proposed land use changes and development proposals that abut DBCA managed lands will generally be referred to DBCA throughout the assessment process.

Wetlands

Wetlands include not only lakes with open water, but areas of seasonally, intermittently or permanently waterlogged soil.

Ramsar Wetlands (Wetlands of International Importance)

The Convention of Wetlands of International Importance was signed in 1971 at the Iranian town of Ramsar. The Convention has since been referred to as the Ramsar Convention. Ramsar Listed wetlands are "sites containing

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representative, rare or unique wetlands, or wetlands that are important for conserving biological diversity … because of their ecological, botanical, zoological, limnological or hydrological importance" (DAWE 2020b). Once a Ramsar Listed Wetland is designated, the country agrees to manage its conservation and ensure its wise use. Under the Convention, wise use is broadly defined as "maintaining the ecological character of a wetland" (DAWE 2020b).

Nationally important wetlands

Wetlands of national significance are listed under the Directory of Important Wetlands in Australia. Nationally important wetlands are wetlands which meet at least one of the following criteria (DAWE 2020a):

- It is a good example of a wetland type occurring within a biogeographic region in Australia
- It is a wetland which plays an important ecological or hydrological role in the natural functioning of a major wetland system/complex
- It is a wetland which is important as the habitat for animal taxa at a vulnerable stage in their life cycles, or provides a refuge when adverse conditions such as drought prevail
- The wetland supports one percent or more of the national populations of any native plant or animal taxa
- The wetland supports native plant or animal taxa or communities which are considered endangered or vulnerable at the national level
- The wetland is of outstanding historical or cultural significance.

Geomorphic wetlands

Categorisation of wetlands has been conducted by Hill et al. (1996), delineating Swan Coastal Plain wetlands into levels of protection and management categories. Conservation Category Wetlands are wetlands that support high levels of attributes and functions. Resource Enhancement Wetlands are those that have been partly modified but still support substantial functions and attributes. Multiple Use Wetlands are classified as those wetlands with few attributes that still provide important wetland functions. Multiple Use wetlands have few important ecological attributes and functions remaining.

The Geomorphic Wetlands Swan Coastal Plain dataset displays the location, boundary, geomorphic classification (wetland type) and management category of wetlands on the Swan Coastal Plain.

Vegetation extent and status

The National Objectives and Targets for Biodiversity Conservation 2001–2005 (Commonwealth of Australia 2001) recognise that the retention of 30 percent or more of the pre-clearing extent of each ecological community is necessary if Australia's biological diversity is to be protected. This is the threshold level below which species loss appears to accelerate exponentially and loss below this level should not be permitted. This level of recognition is in keeping with the targets recommended in the review of the National Strategy for the Conservation of Australia's Biological Diversity (ANZECC 2000).

The extent of remnant native vegetation in WA has been assessed by Shepherd et al. (2002) and the GoWA (2019), based on broadscale vegetation association mapping by Beard (various publications). The GoWA produces Statewide Vegetation Statistics Reports that are used for a number of purposes including conservation planning, land use planning and when assessing development applications. The reports are updated every 2-3 years.

Vegetation condition

The vegetation condition can be assessed in accordance with the vegetation condition rating scale for the South West and Interzone Botanical Provinces (EPA 2016a). The scale recognises the intactness of vegetation and consists of six rating levels as outlined below.

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Vegetation condition rating scale for the South West and Interzone Botanical Provinces

Condition	South West and Interzone Botanical Provinces description
Pristine	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species. Damage to trees caused by fire, the presence of non-aggressive weeds and occasional vehicle tracks.
Very Good	Vegetation structure altered, obvious signs of disturbance. Disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. Disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds at high density, partial clearing, dieback and grazing.
Completely Degraded	The structure of vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

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Conservation codes

Species of significant flora, fauna and communities are protected under both Federal and State Acts. The Federal EPBC Act provides a legal framework to protect and manage nationally important flora and communities. The State BC Act is the primary wildlife conservation legislation in Western Australia. Information on the conservation codes is summarised in the following sections.

Ecological communities

Significant communities

Ecological communities are defined as naturally occurring biological assemblages that occur in a particular type of habitat (English and Blyth 1997). Federally listed Threatened Ecological Communities (TECs) are protected under the EPBC Act. The BC Act provides for the Minister to list an ecological community as a TEC (section 27), or as a collapsed ecological community (section 31) statutory listing of State TECs by the Minister. The legislation also describes statutory processes for preparing recovery plans for TECs, the registration of their critical habitat, and penalties for unauthorised modification of TECs.

Possible TECs that do not meet survey criteria are added to the DBCA Priority Ecological Community (PEC) List under Priorities 1, 2 and 3. These are ecological communities that are adequately known; are rare but not threatened, or meet criteria for Near Threatened. PECs that have been recently removed from the threatened list are placed in Priority 4. These ecological communities require regular monitoring. Conservation dependent ecological communities are placed in Priority 5. PECs are not listed under any formal Federal or State legislation, however, may be listed as TECs under the EPBC Act.

Codes and definitions for TECs listed under the EPBC Act and/or BC Act

Categories	Definitions
Federal Government Conservation Categories (EPBC Act)	
Critically Endangered (CR)	An ecological community if, at that time, is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria (as outlined in Environment Protection and Biodiversity Conservation Regulations 2000).
Endangered *(EN)	An ecological community if, at that time: – is not critically endangered; and – is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria (as outlined in Environment Protection and Biodiversity Conservation Regulations 2000).
Vulnerable (VU)	An ecological community if, at that time: – is not critically endangered or endangered; and – is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria (as outlined in Environment Protection and Biodiversity Conservation Regulations 2000).
Western Australia Conservation Categories (BC Act)	
Threatened Ecological Communities	
Critically Endangered (CR)	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated.
Endangered (EN)	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future.

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Categories	Definitions
Vulnerable (VU)	An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range.

Collapsed ecological communities

An ecological community is eligible for listing as a collapsed ecological community at a particular time if, at that time –

– there is no reasonable doubt that the last occurrence of the ecological community has collapsed); or

– the ecological community has been so extensively modified throughout its range that no occurrence of it is likely to recover –

- its species composition or structure; or
- its species composition and structure.

Section 33 of the BC Act provides for a collapsed ecological community to be regarded as a threatened ecological community if it is discovered in a state that no longer makes it eligible for listing as a collapsed ecological community.

Categories and definitions for PECs as listed by the DBCA

Category	Description
Priority 1	Poorly known ecological communities. Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤100 ha). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.
Priority 2	Poorly known ecological communities. Communities that are known from few occurrences with a restricted distribution (generally ≤10 occurrences or a total area of ≤200 ha). At least some occurrences are not believed to be under immediate threat of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.
Priority 3	Poorly known ecological communities. – Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or: – communities 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, or; – communities 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, and inappropriate fire regimes. Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.
Priority 4	Ecological communities that are 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. – Rare. Ecological communities known from few occurrences 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 communities are usually represented on conservation lands. – Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.

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Category	Description
	– Ecological communities that have been removed from the list of threatened communities during the past five years.
Priority 5	Conservation Dependent ecological communities. Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

Other significant vegetation

Vegetation may be significant for a range of reasons other than a statutory listing. The EPA (2016a, b) states that significant vegetation may include vegetation that includes the following:

- Restricted distribution
- Degree of historical impact from threatening processes
- A role as a refuge
- Providing an important function required to maintain ecological integrity of a significant ecosystem
- Local endemism in restricted habitats
- Novel combinations of taxa
- A role as a key habitat for Threatened species or large population representing a significant proportion of the local to regional total population of a species
- Being representative of a vegetation unit in 'pristine' condition in a highly cleared landscape, recently discovered range extensions, or isolated outliers of the main range.

This may apply at a number of levels, so the unit may be significant when considered at the fine-scale (intra-locality), intermediate-scale (locality or inter-locality) or broad-scale (local to region).

Flora and fauna

Significant flora and fauna

Species of significant flora are protected under both Federal and State legislation. Any activities that are deemed to have a significant impact on species that are recognised by the EPBC Act, and/or the BC Act can warrant referral to DAWE and/or the EPA.

The Federal conservation level of flora and fauna species and their significance status is assessed under the EPBC Act. The significance levels for flora and fauna used in the EPBC Act align with the International Union for Conservation of Nature (IUCN) Red List criteria, which are internationally recognised as providing best practice for assigning the conservation status of species. The EPBC Act also protects land and migratory species that are listed under International Agreements. The list of migratory species established under section 209 of the EPBC Act comprises:

- Migratory species which are native to Australia and are included in the appendices to the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals Appendices I and II)
- Migratory species included in annexes established under the Japan-Australia Migratory Bird Agreement (JAMBA) and the China–Australia Migratory Bird Agreement (CAMBA)
- Native, migratory species identified in a list established under, or an instrument made under, an international agreement approved by the Minister, such as the republic of Korea–Australia Migratory Bird Agreement (ROKAMBA)

The State conservation level of flora and fauna species and their significance status also follows the IUCN Red List criteria. Under the BC Act flora and fauna can be listed as Threatened, Extinct and as Specially Protected species.

Threatened species are those are species which have been adequately searched for and are deemed to be, in the wild, either rare, under identifiable threat of extinction, or otherwise in need of special protection, and have been gazetted as such. The assessment of the conservation status of Threatened species is based on their national

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extent and ranked according to their level of threat using IUCN Red List categories and criteria. Specially protected species meet one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection. Species that are listed as Threatened or Extinct species under the BC Act cannot also be listed as Specially Protected species.

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened flora or fauna.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

For the purposes of this assessment, all species listed under the EPBC Act, BC Act and DBCA Priority species are considered significant.

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Categories and definitions for EPBC Act and BC Act listed flora and fauna species

Conservation category	Definition
Threatened species	
Critically Endangered (CR)	Threatened species considered to be "facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines.
Endangered (EN)	Threatened species considered to be "facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines.
Vulnerable (VU)	Threatened species considered to be "facing a high risk of extinction in the wild in the medium term future, as determined in accordance with criteria set out in the ministerial guidelines". Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines.
Extinct species	
Extinct (EX)	Species where "there is no reasonable doubt that the last member of the species has died", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).
Extinct in the Wild (EW)	Species that "is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).
Specially protected species	
Migratory (MI)	Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act). Includes 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 fauna subject to the Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.
Species of Special conservation interest (conservation dependent fauna) (CD)	Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened.
Other specially protected fauna (OS)	Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Codes for DBCA listed Priority flora and fauna

Priority category	Definition
Priority 1	Poorly-known taxa Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

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Priority category	Definition
Priority 2	Poorly-known taxa Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
Priority 3	Poorly-known taxa Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
Priority 4	Rare, Near Threatened and other taxa in need of monitoring – Rare: Taxa 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 taxa are usually represented on conservation lands. – Near Threatened. Taxa that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable. – Taxa that have been removed from the list of threatened taxa during the past five years for reasons other than taxonomy.

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Other significant flora

Flora species, subspecies, varieties, hybrids and ecotypes may be significant for a range of reasons, other than a statutory listing. The EPA (2016a, b) states that significant flora may include taxa that have/are:

– A keystone role in a particular habitat for Threatened or Priority flora or fauna species, or large populations representing a considerable proportion of the local or regional total population of a species
– Relictual status, being representation of taxonomic or physiognomic groups that no longer occur widely in the broader landscape
– New species or anomalous features that indicate a potential new species
– Being representative of the range of a species (particularly, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range)
– Unusual species, including restricted subspecies, varieties, or naturally occurring hybrids
– Local endemism (a restricted distribution) or association with a restricted habitat type (e.g. surface water or groundwater dependent ecosystems).

Other significant fauna

Fauna species may be significant for a range of reasons other than those protected by international agreement or treaty, Specially Protected or Priority Fauna. Significant fauna may include short-range endemic species, species that have declining populations or declining distributions, species at the extremes of their range, or isolated outlying populations, or species which may be undescribed (EPA 2010).

Introduced plants (weeds)

Declared Pests

Information on species considered to be Declared Pests is provided under *State Biosecurity and Agriculture Management Act 2007.*

Weeds of National Significance

The spread of weeds across a range of land uses or ecosystems is important in the context of socio-economic and environmental values. The assessment of Weeds of National Significance (WoNS) is based on four major criteria:

– Invasiveness
– Impacts
– Potential for spread
– Socio-economic and environmental values.

Australian state and territory governments have identified thirty-two Weeds of National Significance (WoNS); a list of 20 WoNS was endorsed in 1999 and a further 12 were added in 2012.

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Appendix C

Desktop searches

EPBC PMST search

Nature Map searches

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 24-Jan-2022

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

Caveat
Acknowledgements

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	1
National Heritage Places:	1
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	58
Listed Migratory Species:	47

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at http://www.environment.gov.au/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	80
Whales and Other Cetaceans:	14
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	2
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	9
Regional Forest Agreements:	None
Nationally Important Wetlands:	1
EPBC Act Referrals:	6
Key Ecological Features (Marine):	2
Biologically Important Areas:	16
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties [Resource Information]

Name	State	Legal Status	Buffer Status
Shark Bay, Western Australia	WA	Declared property	In feature area

National Heritage Places [Resource Information]

Name	State	Legal Status	Buffer Status
Natural			
Shark Bay, Western Australia	WA	Listed place	In feature area

Commonwealth Marine Area [Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name	Buffer Status
EEZ and Territorial Sea	In feature area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Anous tenuirostris melanops			
Australian Lesser Noddy [26000]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Calidris canutus			
Red Knot, Knot [855]	Endangered	Species or species habitat may occur within area	In feature area
Calidris ferruginea			
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Charadrius leschenaultii			
Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In feature area
Bettongia penicillata ogilbyi Woylie [66844]	Endangered	Species or species habitat known to occur within area	In buffer area only
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eubalaena australis Southern Right Whale [40]	Endangered	Species or species habitat likely to occur within area	In feature area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Species or species habitat known to occur within area	In feature area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Species or species habitat may occur within area	In feature area
Petrogale lateralis lateralis Black-flanked Rock-wallaby, Moororong, Black-footed Rock Wallaby [66647]	Endangered	Species or species habitat known to occur within area	In buffer area only
PLANT			
Androcalva bivillosa Straggling Androcalva [87807]	Critically Endangered	Species or species habitat known to occur within area	In feature area
Beyeria lepidopetala Small-petalled Beyeria, Short-petalled Beyeria [18362]	Endangered	Species or species habitat known to occur within area	In buffer area only
Caladenia barbarella Small Dragon Orchid, Common Dragon Orchid [68686]	Endangered	Species or species habitat known to occur within area	In feature area
Caladenia bryceana subsp. cracens Northern Dwarf Spider-orchid [64556]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Caladenia elegans Elegant Spider-orchid [56775]	Endangered	Species or species habitat known to occur within area	In feature area
Caladenia hoffmanii Hoffman's Spider-orchid [56719]	Endangered	Species or species habitat known to occur within area	In feature area
Caladenia wanosa Kalbarri Spider-orchid [5878]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
Drakaea concolor Kneeling Hammer-orchid [56777]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eucalyptus beardiana Beard's Mallee [18933]	Vulnerable	Species or species habitat known to occur within area	In feature area
Eucalyptus cuprea Mallee Box [56773]	Endangered	Species or species habitat likely to occur within area	In buffer area only
Glyceria drummondii Nangetty Grass [14008]	Endangered	Species or species habitat known to occur within area	In buffer area only
Hypocalymma longifolium Long-leaved Myrtle [8081]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lechenaultia chlorantha Kalbarri Leschenaultia [16763]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Stachystemon nematophorus Three-flowered Stachystemon [81447]	Vulnerable	Species or species habitat known to occur within area	In feature area
Wurmbea tubulosa Long-flowered Nancy [12739]	Endangered	Species or species habitat may occur within area	In feature area
REPTILE			

NatureMap Flora species list

Taxon	Clade	Status
Acacia aciphylla	DICOT	
Acacia acuaria	DICOT	
Acacia acuminata	DICOT	
Acacia andrewsii	DICOT	
Acacia anthochaera	DICOT	
Acacia ashbyae	DICOT	
Acacia ashbyae x *rostellifera*	DICOT	
Acacia bidentata	DICOT	
Acacia blakelyi	DICOT	
Acacia cavealis	DICOT	
Acacia chartacea	DICOT	
Acacia cochlearis	DICOT	
Acacia colletioides	DICOT	
Acacia coolgardiensis	DICOT	
Acacia coolgardiensis subsp. *effusa*	DICOT	
Acacia daphnifolia	DICOT	
Acacia effusifolia	DICOT	
Acacia ericifolia	DICOT	
Acacia erinacea	DICOT	
Acacia galeata	DICOT	
Acacia gelasina	DICOT	P2
Acacia hopperiana	DICOT	
Acacia idiomorpha	DICOT	
Acacia isoneura subsp. *nimia*	DICOT	P3
Acacia lasiocarpa	DICOT	
Acacia lasiocarpa var. *	DICOT	P1
Acacia lasiocarpa var. ?	DICOT	
Acacia lasiocarpa var. *lasiocarpa*	DICOT	
Acacia lasiocarpa var. lasiocarpa (flat pinnule variant)	DICOT	
Acacia latipes	DICOT	
Acacia latipes subsp. *latipes*	DICOT	
Acacia leptospermoides subsp. *leptospermoides*	DICOT	
Acacia leptospermoides subsp. *obovata*	DICOT	P2
Acacia ligulata	DICOT	
Acacia ligustrina	DICOT	
Acacia lineolata subsp. *lineolata*	DICOT	
Acacia longispinea	DICOT	
Acacia microcalyx	DICOT	
Acacia murrayana	DICOT	
Acacia neurophylla	DICOT	
Acacia neurophylla subsp. *erugata*	DICOT	
Acacia oldfieldii	DICOT	
Acacia oxyclada	DICOT	
Acacia plautella	DICOT	P3
Acacia puncticulata	DICOT	
Acacia quadrisulcata	DICOT	
Acacia ramulosa var. *ramulosa*	DICOT	
Acacia restiacea	DICOT	
Acacia rhodophloia	DICOT	
Acacia rostellifera	DICOT	

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Taxon	Clade	Status
Acacia rostellifera (Murchison variant)	DICOT	
Acacia rostellifera x *xanthina*	DICOT	
Acacia roycei	DICOT	
Acacia ryaniana	DICOT	P2
Acacia saligna	DICOT	
Acacia saligna subsp. *lindleyi*	DICOT	
Acacia saxatilis	DICOT	
Acacia scirpifolia	DICOT	
Acacia sclerosperma subsp. *sclerosperma*	DICOT	
Acacia Sect. Phyllod. (miscellaneous)	DICOT	
Acacia sessilis	DICOT	
Acacia signata	DICOT	
Acacia sp. Murchison River (B.R. Maslin 7789)	DICOT	
Acacia sp. Murchison River (B.R.Maslin 7789) subsp.	DICOT	
Acacia spathulifolia	DICOT	
Acacia sphenophylla	DICOT	
Acacia stereophylla var. *cylindrata*	DICOT	P2
Acacia stereophylla var. *stereophylla*	DICOT	
Acacia tetragonophylla	DICOT	
Acacia ulicina	DICOT	
Acacia wiseana	DICOT	
Acacia xanthina	DICOT	
Acanthocarpus aff. *robustus* (Hopper 1367)	MONOCOT	
Acanthocarpus humilis	MONOCOT	
Acanthocarpus parviflorus	MONOCOT	P3
Acanthocarpus preissii	MONOCOT	
Acanthocarpus robustus	MONOCOT	
Acanthocarpus sp.	MONOCOT	
Acanthocarpus sp. Ajana (C.A. Gardner 8596)	MONOCOT	
Acanthocarpus sp. Cooloomia (S.D. Hopper 3301)	MONOCOT	
Acanthocarpus verticillatus	MONOCOT	
Actinobole condensatum	DICOT	
Actinobole drummondianum	DICOT	
Actinobole oldfieldianum	DICOT	
Actinobole uliginosum	DICOT	
Actinotus leucocephalus	DICOT	
Adenanthos acanthophyllus	DICOT	P2
Adenanthos cygnorum subsp. *cygnorum*	DICOT	
Adriana quadripartita	DICOT	
Adriana tomentosa	DICOT	
Adriana tomentosa var. *tomentosa*	DICOT	
Agonis flexuosa var. *flexuosa*	DICOT	
Agrostis avenacea	MONOCOT	
Aira caryophyllea	MONOCOT	
Aira cupaniana	MONOCOT	
Alectryon oleifolius subsp. *oleifolius*	DICOT	
Allocasuarina acutivalvis	DICOT	
Allocasuarina acutivalvis subsp. *acutivalvis*	DICOT	
Allocasuarina acutivalvis subsp. *acutivalvis / prinsepiana*	DICOT	
Allocasuarina acutivalvis subsp. *prinsepiana*	DICOT	
Allocasuarina campestris	DICOT	
Allocasuarina dielsiana	DICOT	

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Taxon	Clade	Status
Allocasuarina huegeliana	DICOT	
Allocasuarina humilis	DICOT	
Allocasuarina microstachya	DICOT	
Alternanthera denticulata	DICOT	
Althenia bilocularis	MONOCOT	
Alyogyne cuneiformis	DICOT	
Alyogyne hakeifolia	DICOT	
Alyogyne huegelii var. *angulatus*	DICOT	
Alyogyne huegelii var. *grossulariifolia*	DICOT	
Alyogyne huegelii var. *wrayae*	DICOT	
Alyogyne pinoniana	DICOT	
Alyogyne sp.	DICOT	
Alyogyne sp. Geraldton (R. Davis 3487)	DICOT	
Alyogyne sp. Hutt River (B.J. Lepschi & T.R. Lally 2310)	DICOT	
Alyogyne sp. Kalbarri (P.G. Wilson 6720)	DICOT	
Alyogyne sp. Port Gregory (K.F. Kenneally 2382)	DICOT	
Alyxia buxifolia	DICOT	
Amphibromus nervosus	MONOCOT	
Amphipogon caricinus	MONOCOT	
Amphipogon caricinus var. *caricinus*	MONOCOT	
Amphipogon sp.	MONOCOT	
Amphipogon strictus	MONOCOT	
Amphipogon turbinatus	MONOCOT	
Amyema linophylla subsp. *linophylla*	DICOT	
Amyema melaleucae	DICOT	
Amyema miquelii	DICOT	
Amyema miraculosa	DICOT	
Amyema miraculosa subsp. *miraculosa*	DICOT	
Amyema preissii	DICOT	
Anagallis arvensis	DICOT	
Androcalva bivillosa	DICOT	CR
Androcalva gaudichaudii	DICOT	
Androcalva luteiflora	DICOT	
Androcalva microphylla	DICOT	P2
Angianthus cunninghamii	DICOT	
Angianthus microcephalus	DICOT	P2
Angianthus milnei	DICOT	
Angianthus tomentosus	DICOT	
Anigozanthos humilis	MONOCOT	
Anigozanthos humilis subsp. *humilis*	MONOCOT	
Anigozanthos kalbarriensis	MONOCOT	
Anigozanthos kalbarriensis x *manglesii*	MONOCOT	
Anigozanthos manglesii subsp. *quadrans*	MONOCOT	
Anogramma leptophylla	FERN	
Anthobolus foveolatus	DICOT	
Anthocercis genistoides	DICOT	
Anthocercis ilicifolia	DICOT	
Anthocercis ilicifolia subsp. *caldariola*	DICOT	
Anthocercis ilicifolia subsp. *ilicifolia*	DICOT	
Anthocercis intricata	DICOT	P3
Anthotroche myoporoides	DICOT	P3
Anthotroche walcottii	DICOT	

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Taxon	Clade	Status
Aotus phylicoides	DICOT	
Aphanopetalum clematideum	DICOT	
Aphelia nutans	MONOCOT	
Apium annuum	DICOT	
Apium prostratum	DICOT	
Archidium sp.	MOSS	
Arctotheca calendula	DICOT	
Aristida contorta	MONOCOT	
Aristida holathera	MONOCOT	
Aristida holathera var. *holathera*	MONOCOT	
Arnocrinum drummondii	MONOCOT	P3
Arnocrinum preissii	MONOCOT	
Arthropodium curvipes	MONOCOT	
Arthropodium dyeri	MONOCOT	
Asphodelus fistulosus	MONOCOT	
Astroloma glaucescens	DICOT	
Astroloma serratifolium	DICOT	
Astroloma sp. Kalbarri (D. & B. Bellairs 1368)	DICOT	
Atriplex amnicola	DICOT	
Atriplex cinerea	DICOT	
Atriplex isatidea	DICOT	
Atriplex paludosa subsp. *moquiniana*	DICOT	
Atriplex semilunaris	DICOT	
Austrostipa compressa	MONOCOT	
Austrostipa crinita	MONOCOT	
Austrostipa elegantissima	MONOCOT	
Austrostipa exilis	MONOCOT	
Austrostipa macalpinei	MONOCOT	
Austrostipa nitida	MONOCOT	
Austrostipa scabra	MONOCOT	
Austrostipa tenuifolia	MONOCOT	
Avena barbata	MONOCOT	
Baeckea blackallii	DICOT	
Baeckea pentagonantha	DICOT	
Baeckea robusta	DICOT	
Baeckea sp.	DICOT	
Baeckea sp. East Nabawa (M.E. Trudgen MET 21623)	DICOT	
Baeckea sp. Eurardy Station (Wildflower Society of W.A. EURA 15)	DICOT	
Baeckea sp. Gutha (B.L. Rye 239041 & M.E. Trudgen)	DICOT	
Baeckea sp. Murchison River (M.E. Trudgen 12009)	DICOT	
Baeckea sp. Nanga (A.S. George 11346)	DICOT	
Baeckea subcuneata	DICOT	P2
Banksia ashbyi	DICOT	
Banksia ashbyi subsp. *ashbyi*	DICOT	
Banksia attenuata	DICOT	
Banksia borealis subsp. *borealis*	DICOT	
Banksia fraseri	DICOT	
Banksia fraseri var. *ashbyi*	DICOT	
Banksia leptophylla var. *melletica*	DICOT	
Banksia lindleyana	DICOT	
Banksia lindleyana x *prionotes*	DICOT	
Banksia menziesii	DICOT	

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Taxon	Clade	Status
Banksia prionotes	DICOT	
Banksia sceptrum	DICOT	
Banksia sessilis var. *flabellifolia*	DICOT	
Banksia victoriae	DICOT	
Barbula calycina	MOSS	
Baumea articulata	MONOCOT	
Baumea juncea	MONOCOT	
Beaufortia aestiva	DICOT	
Beaufortia sprengelioides	DICOT	
Bellida graminea	DICOT	
Bergia perennis subsp. *exigua*	DICOT	
Beyeria cinerea	DICOT	
Beyeria cinerea subsp. *borealis*	DICOT	
Beyeria cinerea subsp. *cinerea*	DICOT	P3
Beyeria gardneri	DICOT	P3
Beyeria lepidopetala	DICOT	VU
Bidens subalternans var. *araneosa*	DICOT	
Billardiera erubescens	DICOT	
Blennospora drummondii	DICOT	
Bonamia rosea	DICOT	
Boronia coerulescens	DICOT	
Boronia coerulescens subsp. *spicata*	DICOT	
Boronia coerulescens subsp. *spinescens*	DICOT	
Boronia cymosa	DICOT	
Boronia purdieana	DICOT	
Boronia purdieana subsp. *calcicola*	DICOT	
Boronia purdieana subsp. *purdieana*	DICOT	
Boronia ramosa subsp. *anethifolia*	DICOT	
Borya sphaerocephala	MONOCOT	
Bossiaea calcicola	DICOT	P3
Bossiaea eriocarpa	DICOT	
Bossiaea inundata	DICOT	P2
Bossiaea rufa	DICOT	
Bossiaea spinescens	DICOT	
Brachychiton gregorii	DICOT	
Brachyloma djerral	DICOT	P3
Brachyloma pirara	DICOT	P2
Brachyscome billabongensis	DICOT	
Brachyscome cheilocarpa	DICOT	
Brachyscome iberidifolia	DICOT	
Brachyscome latisquamea	DICOT	
Brachyscome perpusilla	DICOT	
Brachysema aphyllum	DICOT	
Brachysema macrocarpum	DICOT	
Brassica tournefortii	DICOT	
Briza maxima	MONOCOT	
Bromus arenarius	MONOCOT	
Bromus diandrus	MONOCOT	
Bromus madritensis	MONOCOT	
Bromus rubens	MONOCOT	
Brunonia australis	DICOT	
Bryum sp.	MOSS	

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Taxon	Clade	Status
Bulbine semibarbata	MONOCOT	
Bulbostylis barbata	MONOCOT	
Burchardia rosea	MONOCOT	
Bursaria occidentalis	DICOT	
Caesia sp. Wongan (K.F. Kenneally 8820)	MONOCOT	
Caladenia barbarella	MONOCOT	EN
Caladenia bicalliata subsp. *bicalliata*	MONOCOT	
Caladenia bryceana subsp. *cracens*	MONOCOT	EN
Caladenia discoidea	MONOCOT	
Caladenia drummondii	MONOCOT	
Caladenia elegans	MONOCOT	CR
Caladenia flava	MONOCOT	
Caladenia flava subsp. *maculata*	MONOCOT	
Caladenia flava subsp. *maculata* x *reptans*	MONOCOT	
Caladenia flava x *reptans*	MONOCOT	
Caladenia hirta subsp. *rosea*	MONOCOT	
Caladenia hoffmanii	MONOCOT	EN
Caladenia incensum	MONOCOT	
Caladenia integra	MONOCOT	P4
Caladenia latifolia	MONOCOT	
Caladenia longicauda subsp. *borealis*	MONOCOT	
Caladenia longicauda subsp. *minima*	MONOCOT	P2
Caladenia nobilis	MONOCOT	
Caladenia nobilis x *wanosa*	MONOCOT	
Caladenia pachychila	MONOCOT	
Caladenia reptans subsp. *impensa*	MONOCOT	
Caladenia roei	MONOCOT	
Caladenia vulgata	MONOCOT	
Caladenia vulgata x *wanosa*	MONOCOT	
Caladenia wanosa	MONOCOT	EN
Caladenia x *ericksoniae*	MONOCOT	
Caladenia x *spectabilis*	MONOCOT	
Calandrinia baccata	DICOT	
Calandrinia corrigioloides	DICOT	
Calandrinia disperma	DICOT	
Calandrinia eremaea	DICOT	
Calandrinia flava	DICOT	
Calandrinia granulifera	DICOT	
Calandrinia lehmannii	DICOT	
Calandrinia liniflora	DICOT	
Calandrinia polyandra	DICOT	
Calandrinia polypetala	DICOT	
Calandrinia remota	DICOT	
Calandrinia sp.	DICOT	
Calandrinia sp. Bungalbin (G.J. Keighery & N. Gibson 1656)	DICOT	
Calandrinia sp. indet	DICOT	
Calandrinia sp. Shark Bay (A. Markey 1405)	DICOT	
Calandrinia sp. Truncate capsules (A. Markey & S. Dillon 3474)	DICOT	
Calandrinia translucens	DICOT	
Calandrinia vernicosa	DICOT	P2
Caleana lyonsii	MONOCOT	
Calectasia browneana	MONOCOT	P2

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Taxon	Clade	Status
Calectasia valida	MONOCOT	
Callistemon phoeniceus	DICOT	
Calocephalus francisii	DICOT	
Calocephalus multiflorus	DICOT	
Calothamnus blepharospermus	DICOT	
Calothamnus borealis	DICOT	
Calothamnus chrysanthereus	DICOT	
Calothamnus cupularis	DICOT	P2
Calothamnus formosus	DICOT	
Calothamnus glaber	DICOT	
Calothamnus homalophyllus	DICOT	
Calothamnus oldfieldii	DICOT	
Calothamnus phellosus	DICOT	
Calothamnus quadrifidus	DICOT	
Calothamnus quadrifidus subsp. *homalophyllus*	DICOT	
Calothamnus quadrifidus subsp. *obtusus*	DICOT	
Calothamnus sanguineus	DICOT	
Calothamnus sp.	DICOT	
Calotis hispidula	DICOT	
Calotis multicaulis	DICOT	
Calytrix brevifolia	DICOT	
Calytrix depressa	DICOT	
Calytrix drummondii	DICOT	
Calytrix formosa	DICOT	P3
Calytrix fraseri	DICOT	
Calytrix gracilis	DICOT	
Calytrix harvestiana	DICOT	P2
Calytrix leschenaultii	DICOT	
Calytrix oldfieldii	DICOT	
Calytrix paucicostata	DICOT	P2
Calytrix pimeleoides	DICOT	P3
Calytrix purpurea	DICOT	P2
Calytrix sapphirina	DICOT	
Calytrix sp.	DICOT	
Calytrix strigosa	DICOT	
Campylopus bicolor var. *bicolor*	MOSS	
Campylopus introflexus	MOSS	
Capparis spinosa	DICOT	
Capparis spinosa subsp. *nummularia*	DICOT	
Carpobrotus dioica	DICOT	
Carpobrotus sp.	DICOT	
Carpobrotus sp. Thevenard Island (M. White 050)	DICOT	P3
Carpobrotus virescens	DICOT	
Cartonema philydroides	MONOCOT	
Cassia chatelainiana	DICOT	
Cassia helmsii	DICOT	
Cassytha aurea	DICOT	
Cassytha aurea var. *aurea*	DICOT	
Cassytha aurea var. *hirta*	DICOT	
Cassytha flava	DICOT	
Cassytha nodiflora	DICOT	
Cassytha pomiformis	DICOT	

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Taxon	Clade	Status
Cassytha racemosa	DICOT	
Cassytha racemosa forma *racemosa*	DICOT	
Cassytha sp. indet	DICOT	
Casuarina obesa	DICOT	
Catharanthus roseus	DICOT	
Caustis dioica	MONOCOT	
Cenchrus ciliaris	MONOCOT	
Cenchrus echinatus	MONOCOT	
Cenchrus setaceus	MONOCOT	
Centaurea melitensis	DICOT	
Centaurium tenuiflorum	DICOT	
Centipeda cunninghamii	DICOT	
Centrolepis aristata	MONOCOT	
Centrolepis cephaloformis subsp. *murrayi*	MONOCOT	P3
Centrolepis drummondiana	MONOCOT	
Centrolepis eremica	MONOCOT	
Centrolepis glabra	MONOCOT	
Centrolepis humillima	MONOCOT	
Centrolepis mutica	MONOCOT	
Centrolepis pilosa	MONOCOT	
Centrolepis polygyna	MONOCOT	
Cephalipterum drummondii	DICOT	
Ceratogyne obionoides	DICOT	
Chaetanthus aristatus	MONOCOT	
Chamaescilla corymbosa	MONOCOT	
Chamaescilla corymbosa var. *corymbosa*	MONOCOT	
Chamelaucium gracile	DICOT	
Chamelaucium marchantii	DICOT	P3
Chamelaucium oenanthum	DICOT	
Chamelaucium sp.	DICOT	
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	DICOT	P1
Chamelaucium sp. Wongan Hills (B.H. Smith 1140)	DICOT	P3
Chamelaucium uncinatum	DICOT	
Cheilanthes adiantoides	FERN	
Cheilanthes sieberi subsp. *sieberi*	FERN	
Cheiranthera simplicifolia	DICOT	
Chenopodium gaudichaudianum	DICOT	
Chenopodium murale	DICOT	
Chloris gayana	MONOCOT	
Chloris pumilio	MONOCOT	
Chloris virgata	MONOCOT	
Choretrum pritzelii	DICOT	
Chorizandra enodis	MONOCOT	
Chorizema racemosum	DICOT	
Chrysitrix distigmatosa	MONOCOT	
Chrysopogon sp. Zuytdorp (GJK & NG 906)	MONOCOT	
Chthonocephalus muellerianus	DICOT	P2
Chthonocephalus oldfieldianus	DICOT	P1
Chthonocephalus pseudevax	DICOT	
Chthonocephalus spathulatus	DICOT	P3
Chthonocephalus tomentellus	DICOT	P2
Clematicissus angustissima	DICOT	

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Taxon	Clade	Status
Clematis linearifolia	DICOT	
Clematis microphylla	DICOT	
Cleretum papulosum subsp. *papulosum*	DICOT	
Codonocarpus cotinifolius	DICOT	
Comesperma calymega	DICOT	
Comesperma integerrimum	DICOT	
Comesperma polygaloides	DICOT	
Comesperma scoparium	DICOT	
Commersonia borealis	DICOT	
Commersonia densiflora	DICOT	
Commersonia gaudichaudii	DICOT	
Commicarpus australis	DICOT	
Conospermum acerosum	DICOT	
Conospermum acerosum subsp. *hirsutum*	DICOT	
Conospermum boreale	DICOT	
Conospermum boreale subsp. *boreale*	DICOT	
Conospermum canaliculatum	DICOT	
Conospermum canaliculatum (narrow leaved form)	DICOT	
Conospermum microflorum	DICOT	
Conospermum microflorum / stoechadis	DICOT	
Conospermum sp.	DICOT	
Conospermum stoechadis	DICOT	
Conospermum stoechadis / minutiflorum	DICOT	
Conospermum stoechadis subsp. *microflorum / stoechadis*	DICOT	
Conospermum stoechadis subsp. *stoechadis*	DICOT	
Conospermum triplinervium	DICOT	
Conostephium laeve	DICOT	
Conostephium preissii	DICOT	
Conostylis aculeata	MONOCOT	
Conostylis aculeata subsp. *echinissima*	MONOCOT	
Conostylis aculeata subsp. *rhipidion*	MONOCOT	
Conostylis aculeata subsp. *septentrionora*	MONOCOT	
Conostylis androstemma	MONOCOT	
Conostylis aurea	MONOCOT	
Conostylis candicans	MONOCOT	
Conostylis candicans subsp. *calcicola*	MONOCOT	
Conostylis candicans subsp. *flavifolia*	MONOCOT	
Conostylis prolifera	MONOCOT	
Conostylis resinosa	MONOCOT	
Conostylis robusta	MONOCOT	
Conostylis stylidioides	MONOCOT	
Conothamnus trinervis	DICOT	
Convolvulus remotus	DICOT	
Corrigiola litoralis	DICOT	
Corynotheca micrantha var. *acanthoclada*	MONOCOT	
Corynotheca micrantha var. *micrantha*	MONOCOT	
Cotula bipinnata	DICOT	
Cotula coronopifolia	DICOT	
Cotula cotuloides	DICOT	
Crassula closiana	DICOT	
Crassula colorata	DICOT	
Crassula colorata var. *acuminata*	DICOT	

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Taxon	Clade	Status
Crassula colorata var. *colorata*	DICOT	
Crassula exserta	DICOT	
Crassula natans var. *minus*	DICOT	
Crassula sp.	DICOT	
Cristonia stenophylla	DICOT	
Cryptandra apetala var. *apetala*	DICOT	
Cryptandra arbutiflora var. *borealis*	DICOT	
Cryptandra glabriflora	DICOT	P2
Cryptandra multispina	DICOT	
Cryptandra mutila	DICOT	
Cryptandra pungens	DICOT	
Cryptandra spyridioides	DICOT	
Cullen leucanthum	DICOT	
Cuscuta epithymum	DICOT	
Cuscuta planiflora	DICOT	
Cyanicula amplexans	MONOCOT	
Cyanicula gemmata	MONOCOT	
Cyclosorus interruptus	FERN	
Cymbopogon ambiguus	MONOCOT	
Cynanchum viminale subsp. *australe*	DICOT	
Cynodon dactylon	MONOCOT	
Cynoglossum australe	DICOT	
Cyperus gymnocaulos	MONOCOT	
Cyperus sp.	MONOCOT	
Cyperus vaginatus	MONOCOT	
Cyphanthera racemosa	DICOT	
Dactyloctenium radulans	MONOCOT	
Dampiera altissima	DICOT	
Dampiera incana	DICOT	
Dampiera incana var. *fuscescens*	DICOT	
Dampiera incana var. *incana*	DICOT	
Dampiera lindleyi	DICOT	
Dampiera oligophylla	DICOT	
Dampiera sp. Jurien (G. Lullfitz s.n. 10/7/1986)	DICOT	P2
Dampiera spicigera	DICOT	
Dampiera spicigera var. *lanata*	DICOT	
Dampiera tomentosa	DICOT	
Darwinia capitellata	DICOT	
Darwinia oldfieldii	DICOT	
Darwinia pauciflora	DICOT	
Darwinia virescens	DICOT	
Dasymalla glutinosa	DICOT	P3
Dasymalla terminalis	DICOT	
Daucus glochidiatus	DICOT	
Daviesia benthamii	DICOT	
Daviesia divaricata subsp. *lanulosa*	DICOT	
Daviesia grahamii	DICOT	
Daviesia hakeoides subsp. *hakeoides*	DICOT	
Daviesia hakeoides subsp. *subnuda*	DICOT	
Daviesia intricata	DICOT	
Daviesia nudiflora subsp. *nudiflora*	DICOT	
Daviesia pedunculata	DICOT	

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Taxon	Clade	Status
Daviesia podophylla	DICOT	
Daviesia ramosissima	DICOT	
Desmocladus asper	MONOCOT	
Desmocladus ferruginipes	MONOCOT	P1
Desmocladus lateriticus	MONOCOT	
Desmocladus parthenicus	MONOCOT	
Dianella revoluta	MONOCOT	
Dianella revoluta var. *divaricata*	MONOCOT	
Dichopogon sp.	MONOCOT	
Dichopogon tyleri	MONOCOT	
Dicrastylis fulva	DICOT	
Dicrastylis linearifolia	DICOT	P3
Dicrastylis micrantha	DICOT	P3
Dicrastylis sp. Peron Peninsula (M.E. Trudgen 7373)	DICOT	
Didymanthus roei	DICOT	
Didymodon torquatus	MOSS	
Dielitzia tysonii	DICOT	
Digitaria brownii	MONOCOT	
Dioscorea hastifolia	MONOCOT	
Diplolaena geraldtonensis	DICOT	
Diplolaena grandiflora	DICOT	
Diplolaena grandiflora x *mollis*	DICOT	
Diplolaena mollis	DICOT	
Diplolaena sp.	DICOT	
Diplopeltis huegelii subsp. *subintegra*	DICOT	
Diplopeltis intermedia	DICOT	
Diplopeltis intermedia var. *incana*	DICOT	
Diplopeltis intermedia var. *intermedia*	DICOT	
Diplopeltis petiolaris	DICOT	
Dischisma capitatum	DICOT	
Disphyma crassifolium	DICOT	
Ditrichum difficile	MOSS	
Diuris carecta	MONOCOT	
Diuris cruenta	MONOCOT	
Diuris oraria	MONOCOT	
Diuris setacea	MONOCOT	
Diuris sp.	MONOCOT	
Dodonaea aptera	DICOT	
Dodonaea caespitosa	DICOT	
Dodonaea divaricata	DICOT	
Dodonaea inaequifolia	DICOT	
Dodonaea larreoides	DICOT	
Dodonaea pinifolia	DICOT	
Dodonaea viscosa subsp. *angustissima*	DICOT	
Dodonaea viscosa subsp. *spatulata*	DICOT	
Drakaea concolor	MONOCOT	EN
Drosera drummondii	DICOT	
Drosera glanduligera	DICOT	
Drosera hirsuta	DICOT	
Drosera humilis	DICOT	
Drosera macrantha	DICOT	
Drosera macrantha subsp. *macrantha*	DICOT	

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Taxon	Clade	Status
Drosera menziesii	DICOT	
Drosera menziesii subsp. *thysanosepala*	DICOT	
Drosera neesii	DICOT	
Drosera omissa	DICOT	
Drosera prostrata	DICOT	
Drosera radicans	DICOT	P3
Drosera ramellosa	DICOT	
Drosera rechingeri	DICOT	P3
Drosera sp.	DICOT	
Drosera stolonifera	DICOT	
Drosera stolonifera subsp. *humilis*	DICOT	
Drosera stolonifera subsp. *stolonifera*	DICOT	
Drosera thysanosepala	DICOT	
Dryandra aff. *ashbyi* (GJK & NG 1571)	DICOT	
Dryandra borealis subsp. borealis	DICOT	
Duboisia hopwoodii	DICOT	
Duma florulenta	DICOT	
Duperreya sericea	DICOT	
Dysphania melanocarpa	DICOT	
Dysphania plantaginella	DICOT	
Dysphania rhadinostachya	DICOT	
Eccremidium pulchellum	MOSS	
Ecdeiocolea monostachya	MONOCOT	
Ecdeiocolea rigens	MONOCOT	
Ehrharta brevifolia var. *cuspidata*	MONOCOT	
Ehrharta longiflora	MONOCOT	
Eleocharis acuta	MONOCOT	
Emblingia calceoliflora	DICOT	
Emex australis	DICOT	
Enchylaena tomentosa	DICOT	
Enchylaena tomentosa var. *tomentosa*	DICOT	
Enekbatus cristatus	DICOT	P2
Entosthodon subnudus	MOSS	
Entosthodon subnudus var. *subnudus*	MOSS	
Ephemerum cristatum	MOSS	
Eragrostis barrelieri	MONOCOT	
Eragrostis curvula	MONOCOT	
Eragrostis dielsii	MONOCOT	
Eragrostis tenuifolia	MONOCOT	
Eremaea dendroidea	DICOT	
Eremaea ebracteata	DICOT	
Eremaea ebracteata var. *ebracteata*	DICOT	
Eremaea sp.	DICOT	
Eremophila clarkei	DICOT	
Eremophila decipiens	DICOT	
Eremophila decipiens subsp. *decipiens*	DICOT	
Eremophila deserti	DICOT	
Eremophila eriocalyx	DICOT	
Eremophila forrestii subsp. *hastieana*	DICOT	
Eremophila glabra	DICOT	
Eremophila glabra ssp. Zuytdorp (GJK & NG 518)	DICOT	
Eremophila glabra subsp. *albicans*	DICOT	

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Taxon	Clade	Status
Eremophila glabra subsp. *Elegans.*	DICOT	
Eremophila glabra subsp. *psammophora*	DICOT	
Eremophila glabra subsp. *tomentosa*	DICOT	
Eremophila glutinosa	DICOT	
Eremophila latrobei	DICOT	
Eremophila maitlandii	DICOT	
Eremophila microtheca	DICOT	P4
Eremophila oldfieldii	DICOT	
Eremophila oldfieldii subsp. *angustifolia*	DICOT	
Eremophila oldfieldii subsp. *oldfieldii*	DICOT	
Eremophila oppositifolia subsp. *angustifolia*	DICOT	
Eremophila serrulata	DICOT	
Eremophila sp. indet	DICOT	
Eriachne aristidea	MONOCOT	
Eriachne flaccida	MONOCOT	
Eriachne pulchella	MONOCOT	
Eriachne sp.	MONOCOT	
Eriochilus dilatatus subsp. *brevifolius*	MONOCOT	
Eriochilus dilatatus subsp. *dilatatus*	MONOCOT	
Eriochloa pseudoacrotricha	MONOCOT	
Erodium aureum	DICOT	
Erodium cicutarium	DICOT	
Erodium cygnorum	DICOT	
Erymophyllum glossanthus	DICOT	
Eucalyptus arachnaea subsp. *arachnaea*	DICOT	
Eucalyptus baudiniana	DICOT	
Eucalyptus baudiniana / oraria	DICOT	
Eucalyptus beardiana	DICOT	EN
Eucalyptus beardiana x *oldfieldii*	DICOT	
Eucalyptus burracoppinensis / oldfieldii	DICOT	
Eucalyptus camaldulensis	DICOT	
Eucalyptus camaldulensis subsp. *arida*	DICOT	
Eucalyptus camaldulensis subsp. *obtusa*	DICOT	
Eucalyptus camaldulensis var. *obtusa*	DICOT	
Eucalyptus diminuta	DICOT	
Eucalyptus dolichocera	DICOT	
Eucalyptus erythrocorys	DICOT	
Eucalyptus eudesmioides	DICOT	
Eucalyptus eudesmioides / pallida	DICOT	
Eucalyptus foecunda	DICOT	
Eucalyptus fruticosa	DICOT	
Eucalyptus gittinsii	DICOT	
Eucalyptus gittinsii subsp. *gittinsii*	DICOT	
Eucalyptus horistes	DICOT	
Eucalyptus jucunda	DICOT	
Eucalyptus jucunda x *roycei*	DICOT	
Eucalyptus kochii subsp. *borealis*	DICOT	
Eucalyptus leptopoda subsp. *arctata*	DICOT	
Eucalyptus leptopoda subsp. *arctata* x *oldfieldii*	DICOT	
Eucalyptus loxophleba subsp. *loxophleba*	DICOT	
Eucalyptus loxophleba subsp. *supralaevis*	DICOT	
Eucalyptus mannensis	DICOT	

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Taxon	Clade	Status
Eucalyptus mannensis subsp. *vespertina*	DICOT	
Eucalyptus obtusiflora	DICOT	
Eucalyptus obtusiflora subsp. *obtusiflora*	DICOT	
Eucalyptus oldfieldii	DICOT	
Eucalyptus oraria	DICOT	
Eucalyptus pallida	DICOT	
Eucalyptus pyriformis	DICOT	
Eucalyptus rigidula	DICOT	
Eucalyptus roycei	DICOT	
Eucalyptus rudis	DICOT	
Eucalyptus selachiana	DICOT	
Eucalyptus semivestita	DICOT	
Eucalyptus sp.	DICOT	
Eucalyptus sp. Kalbarri (M.I.H. Brooker 7937)	DICOT	
Eucalyptus subangusta subsp. *pusilla*	DICOT	
Eucalyptus subangusta subsp. *subangusta*	DICOT	
Eucalyptus transcontinentalis	DICOT	
Eucalyptus victrix	DICOT	
Eucalyptus zopherophloia	DICOT	P4
Euphorbia australis	DICOT	
Euphorbia boophthona	DICOT	
Euphorbia drummondii	DICOT	
Euphorbia philochalix	DICOT	
Euphorbia porcata	DICOT	
Euphorbia sharkoensis	DICOT	
Euphorbia sp.	DICOT	
Euphorbia tannensis subsp. *eremophila*	DICOT	
Euryomyrtus sp.	DICOT	
Exocarpos aphyllus	DICOT	
Exocarpos sparteus	DICOT	
Ficinia nodosa	MONOCOT	
Fissidens megalotis	MOSS	
Frankenia confusa	DICOT	P4
Frankenia pauciflora	DICOT	
Frankenia setosa	DICOT	
Frankenia sp.	DICOT	
Gahnia trifida	MONOCOT	
Gastrolobium bennettsianum	DICOT	
Gastrolobium ebracteolatum	DICOT	
Gastrolobium nervosum	DICOT	
Gastrolobium oxylobioides	DICOT	
Geleznowia sp. Binnu (K.A. Shepherd & J. Wege KS 1301)	DICOT	P3
Geleznowia sp. Marchagee (A. Crawford ADC 1353)	DICOT	
Geleznowia sp. Red Bluff (A. Crawford ADC 597)	DICOT	
Geleznowia verrucosa	DICOT	
Geleznowia verrucosa subsp. *formosa*	DICOT	
Geleznowia verrucosa subsp. Kalbarri (L.M. Broadhurst 123)	DICOT	
Gigaspermum repens	MOSS	
Gilberta tenuifolia	DICOT	
Gilruthia osbornii	DICOT	
Glischrocaryon angustifolium	DICOT	
Glischrocaryon aureum	DICOT	

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Taxon	Clade	Status
Glischrocaryon flavescens	DICOT	
Glischrocaryon sp.	DICOT	
Glossostigma diandrum	DICOT	
Glossostigma drummondii	DICOT	
Glyceria drummondii	MONOCOT	EN
Glycine canescens	DICOT	
Gnephosis arachnoidea	DICOT	
Gnephosis brevifolia	DICOT	
Gnephosis eriocephala	DICOT	
Gnephosis tenuissima	DICOT	
Gnephosis uniflora	DICOT	
Gompholobium glutinosum	DICOT	
Gompholobium gompholobioides	DICOT	
Gompholobium tomentosum	DICOT	
Gonocarpus confertifolius	DICOT	
Gonocarpus confertifolius var. *confertifolius*	DICOT	
Gonocarpus confertifolius var. *helmsii*	DICOT	
Gonocarpus nodulosus	DICOT	
Goodenia berardiana	DICOT	
Goodenia coerulea	DICOT	
Goodenia drummondii subsp. *drummondii*	DICOT	
Goodenia hassallii	DICOT	
Goodenia havilandii	DICOT	
Goodenia micrantha	DICOT	
Goodenia mimuloides	DICOT	
Goodenia neogoodenia	DICOT	P4
Goodenia occidentalis	DICOT	
Goodenia pulchella	DICOT	
Goodenia sericostachya	DICOT	P3
Grevillea annulifera	DICOT	
Grevillea argyrophylla	DICOT	
Grevillea biformis subsp. *biformis*	DICOT	
Grevillea brachystachya	DICOT	
Grevillea candelabroides	DICOT	
Grevillea candicans	DICOT	P3
Grevillea commutata	DICOT	
Grevillea commutata subsp. *commutata*	DICOT	
Grevillea commutata subsp. *pinnatisecta*	DICOT	
Grevillea commutata x *pinaster*	DICOT	
Grevillea costata	DICOT	P3
Grevillea didymobotrya	DICOT	
Grevillea didymobotrya subsp. *didymobotrya*	DICOT	
Grevillea dielsiana	DICOT	
Grevillea eriostachya	DICOT	
Grevillea excelsior	DICOT	
Grevillea gordoniana	DICOT	
Grevillea hakeoides subsp. *stenophylla*	DICOT	
Grevillea integrifolia	DICOT	
Grevillea intricata	DICOT	
Grevillea leptopoda	DICOT	P3
Grevillea leucoclada	DICOT	P3
Grevillea leucopteris	DICOT	

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Taxon	Clade	Status
Grevillea obliquistigma subsp. *obliquistigma*	DICOT	
Grevillea paradoxa	DICOT	
Grevillea petrophiloides	DICOT	
Grevillea petrophiloides subsp. *petrophiloides*	DICOT	
Grevillea pinaster	DICOT	
Grevillea preissii	DICOT	
Grevillea rogersoniana	DICOT	P3
Grevillea sp. Macleod	DICOT	
Grevillea stenobotrya	DICOT	
Grevillea stenomera	DICOT	P2
Grevillea stenostachya	DICOT	
Grevillea trachytheca	DICOT	
Grevillea vestita subsp. *isopogoides*	DICOT	
Guichenotia astropletha	DICOT	
Guichenotia basivirida	DICOT	
Guichenotia impudica	DICOT	P3
Guichenotia intermedia	DICOT	
Guichenotia ledifolia	DICOT	
Guichenotia ledifolia x *macrantha*	DICOT	
Guichenotia macrantha	DICOT	
Guichenotia micrantha	DICOT	
Gunniopsis septifraga	DICOT	
Gyrostemon racemiger	DICOT	
Gyrostemon ramulosus	DICOT	
Gyrostemon subnudus	DICOT	
Haemodorum brevisepalum	MONOCOT	
Haemodorum discolor	MONOCOT	
Haemodorum simulans	MONOCOT	
Hakea arida	DICOT	
Hakea auriculata	DICOT	
Hakea bucculenta	DICOT	
Hakea candolleana	DICOT	
Hakea circumalata	DICOT	
Hakea costata	DICOT	
Hakea incrassata	DICOT	
Hakea lissocarpha	DICOT	
Hakea minyma	DICOT	
Hakea orthorrhyncha var. *filiformis*	DICOT	
Hakea orthorrhyncha var. *orthorrhyncha*	DICOT	
Hakea preissii	DICOT	
Hakea prostrata	DICOT	
Hakea pycnoneura	DICOT	
Hakea recurva	DICOT	
Hakea recurva subsp. *recurva*	DICOT	
Hakea stenophylla	DICOT	
Hakea stenophylla subsp. *notialis*	DICOT	
Hakea trifurcata	DICOT	
Halgania anagalloides	DICOT	
Halgania argyrophylla	DICOT	
Halgania bebrana	DICOT	
Halgania cyanea	DICOT	
Halgania cyanea var. Allambi Stn (B.W. Strong 676)	DICOT	

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Taxon	Clade	Status
Halgania integerrima	DICOT	
Halgania littoralis	DICOT	
Halgania sericiflora	DICOT	
Haloragis trigonocarpa	DICOT	
Hannafordia quadrivalvis subsp. *quadrivalvis*	DICOT	
Haptotrichion colwillii	DICOT	
Harperia ferruginipes	MONOCOT	
Helianthus annuus	DICOT	
Heliotropium ammophilum	DICOT	
Heliotropium curassavicum	DICOT	
Helipterum craspedioides	DICOT	
Hemiandra leiantha	DICOT	
Hemiandra pungens	DICOT	
Hemiandra sp.	DICOT	
Hemiandra sp. Kalbarri (D. Bellairs 1505)	DICOT	P2
Hemigenia diplanthera	DICOT	
Hemigenia macrantha	DICOT	
Hemigenia pimelifolia	DICOT	
Hemigenia saligna	DICOT	P3
Hemigenia scabra	DICOT	
Hibbertia acerosa	DICOT	
Hibbertia conspicua	DICOT	
Hibbertia desmophylla	DICOT	
Hibbertia glabrisepala	DICOT	
Hibbertia glomerosa var. *glomerosa*	DICOT	
Hibbertia hypericoides subsp. *septentrionalis*	DICOT	
Hibbertia potentilliflora	DICOT	
Hibbertia pungens	DICOT	
Hibbertia racemosa	DICOT	
Hibbertia sp.	DICOT	
Hibbertia spicata	DICOT	
Hibbertia spicata subsp. *spicata*	DICOT	
Hibbertia stenophylla	DICOT	
Hibbertia subvaginata	DICOT	
Hibiscus drummondii	DICOT	
Homalocalyx aff. *aurea*	DICOT	
Homalocalyx aureus	DICOT	
Hordeum geniculatum	MONOCOT	
Hordeum hystrix	MONOCOT	
Hordeum leporinum	MONOCOT	
Hyalochlamys globifera	DICOT	
Hyalosperma cotula	DICOT	
Hyalosperma demissum	DICOT	
Hyalosperma glutinosum	DICOT	
Hyalosperma glutinosum subsp. *glutinosum*	DICOT	
Hyalosperma stoveae	DICOT	P2
Hybanthus calycinus	DICOT	
Hybanthus floribundus	DICOT	
Hybanthus floribundus subsp. *floribundus*	DICOT	
Hydrocotyle diantha	DICOT	
Hydrocotyle hispidula	DICOT	
Hydrocotyle pilifera var. *glabrata*	DICOT	

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Taxon	Clade	Status
Hydrocotyle scutellifera	DICOT	
Hypericum gramineum	DICOT	
Hypocalymma longifolium	DICOT	VU
Hypochaeris glabra	DICOT	
Hypochaeris sp.	DICOT	
Hypoestes floribunda	DICOT	
Indigofera australis	DICOT	
Indigofera australis subsp. *hesperia*	DICOT	
Isoetes drummondii	FERN	
Isoetes mongerensis	FERN	
Isolepis congrua	MONOCOT	
Isolepis marginata	MONOCOT	
Isolepis sp.	MONOCOT	
Isopogon divergens	DICOT	
Isotoma hypocrateriformis	DICOT	
Isotropis cuneifolia	DICOT	
Isotropis sp.	DICOT	
Isotropis sp. Shark Bay (M.E. Trudgen 7170)	DICOT	
Jacksonia angulata	DICOT	
Jacksonia arenicola	DICOT	
Jacksonia calcicola	DICOT	
Jacksonia cupulifera	DICOT	
Jacksonia dendrospinosa	DICOT	P4
Jacksonia hakeoides	DICOT	
Jacksonia ramulosa	DICOT	
Jacksonia rigida	DICOT	
Jacksonia velutina	DICOT	P4
Jasminum calcareum	DICOT	
Jasminum calcarium	DICOT	
Juncus bufonius	MONOCOT	
Juncus caespiticius	MONOCOT	
Juncus kraussii subsp. *australiensis*	MONOCOT	
Juncus pallidus	MONOCOT	
Kennedia prostrata	DICOT	
Keraudrenia hermanniifolia	DICOT	
Labichea cassioides	DICOT	
Labichea lanceolata	DICOT	
Labichea lanceolata subsp. *lanceolata*	DICOT	
Labichea teretifolia	DICOT	
Labichea teretifolia subsp. *grandistipulata*	DICOT	
Labichea teretifolia subsp. *teretifolia*	DICOT	
Lachnagrostis preissii	MONOCOT	
Lachnostachys eriobotrya	DICOT	
Lachnostachys ferruginea	DICOT	
Lamarchea hakeifolia	DICOT	
Lamarchea hakeifolia var. *brevifolia*	DICOT	
Lamarckia aurea	MONOCOT	
Lapeirousia anceps	MONOCOT	
Lasiopetalum angustifolium	DICOT	
Lasiopetalum oldfieldii	DICOT	P3
Lasiopetalum oppositifolium	DICOT	P3
Lawrencella davenportii	DICOT	

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Taxon	Clade	Status
Lawrencella rosea	DICOT	
Laxmannia sessiliflora	MONOCOT	
Laxmannia sessiliflora subsp. *sessiliflora*	MONOCOT	
Lechenaultia chlorantha	DICOT	EN
Lechenaultia floribunda	DICOT	
Lechenaultia hirsuta	DICOT	
Lechenaultia linarioides	DICOT	
Lechenaultia macrantha	DICOT	
Lechenaultia subcymosa	DICOT	
Lepidium biplicatum	DICOT	P3
Lepidium linifolium	DICOT	
Lepidium lyratogynum	DICOT	
Lepidium oxytrichum	DICOT	
Lepidium phlebopetalum	DICOT	
Lepidium puberulum	DICOT	P4
Lepidobolus chaetocephalus	MONOCOT	
Lepidobolus densus	MONOCOT	P4
Lepidobolus eurardyensis	MONOCOT	P1
Lepidobolus preissianus	MONOCOT	
Lepidobolus preissianus subsp. *preissianus*	MONOCOT	
Lepidosperma angustatum	MONOCOT	
Lepidosperma costale	MONOCOT	
Lepidosperma rupestre	MONOCOT	P4
Lepidosperma scabrum	MONOCOT	
Lepidosperma sp.	MONOCOT	
Lepidosperma sp. indet	MONOCOT	
Lepidosperma sp. Zuytdorp (G.J. Keighery & N. Gibson 1710)	MONOCOT	
Lepidosperma squamatum	MONOCOT	
Lepidosperma tenue	MONOCOT	
Leporella fimbriata	MONOCOT	
Leptomeria preissiana	DICOT	
Leptosema aphyllum	DICOT	
Leptosema daviesioides	DICOT	
Leptosema macrocarpum	DICOT	
Leptosema tomentosa	DICOT	
Leptosema tomentosum	DICOT	
Leptospermum sp.	DICOT	
Leucochrysum fitzgibbonii	DICOT	
Leucopogon aff. *propinquus* (Robinson 253)	DICOT	
Leucopogon cordifolius	DICOT	
Leucopogon cucullatus	DICOT	
Leucopogon hispidus	DICOT	
Leucopogon planifolius	DICOT	
Leucopogon sp. Kalbarri (J.M. Powell 1695)	DICOT	
Leucopogon sp. Mid West (J.S. Beard 7388)	DICOT	
Leucopogon sp. Murchison (R.J. Cranfield 9224)	DICOT	
Leucopogon sp. outer wheatbelt (M. Hislop 30)	DICOT	
Leucopogon strongylophyllus	DICOT	
Levenhookia leptantha	DICOT	
Levenhookia murfetii	DICOT	
Levenhookia octomaculata	DICOT	
Liparophyllum congestiflorum	DICOT	P4

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Taxon	Clade	Status
Lobelia anceps	DICOT	
Lobelia heterophylla	DICOT	
Lobelia rhytidosperma	DICOT	
Lobelia sp. indet	DICOT	
Lobelia winfridae	DICOT	
Logania litoralis	DICOT	
Lolium perenne	MONOCOT	
Lolium sp.	MONOCOT	
Lomandra hastilis	MONOCOT	
Lomandra maritima	MONOCOT	
Lomandra micrantha	MONOCOT	
Lotus australis	DICOT	
Loxocarya aspera	MONOCOT	
Lyginia imberbis	MONOCOT	
Lyginia sp.	MONOCOT	
Lyperanthus nigricans	MONOCOT	
Lysiana casuarinae	DICOT	
Lysimachia arvensis	DICOT	
Lysinema ciliatum	DICOT	
Lysinema pentapetalum	DICOT	
Macarthuria australis	DICOT	
Macarthuria georgeana	DICOT	P1
Macarthuria intricata	DICOT	P3
Maireana carnosa	DICOT	
Maireana planifolia	DICOT	
Maireana tomentosa subsp. *tomentosa*	DICOT	
Malleostemon costatus	DICOT	P2
Malleostemon hursthousei	DICOT	
Malleostemon microphyllus	DICOT	P2
Malleostemon minilyaensis	DICOT	
Malleostemon nerrenensis	DICOT	P1
Malleostemon peltiger	DICOT	
Malleostemon pentagonus	DICOT	P3
Malleostemon pustulatus	DICOT	P2
Malleostemon roseus	DICOT	
Malleostemon sp. Cooloomia (Hopper 1353)	DICOT	
Malleostemon sp. Moonyoonooka (R.J. Cranfield 2947)	DICOT	P2
Malleostemon tuberculatus	DICOT	
Malleostemon uniflorus	DICOT	
Marianthus bicolor	DICOT	
Marianthus ringens	DICOT	
Marsdenia australis	DICOT	
Marsilea drummondii	FERN	
Marsilea hirsuta	FERN	
Marsilea sp.	FERN	
Medicago polymorpha	DICOT	
Melaleuca acerosa	DICOT	
Melaleuca acutifolia	DICOT	
Melaleuca adnata	DICOT	
Melaleuca aff. *leiopyxis* (GJK & NG 1708)	DICOT	
Melaleuca aff. *eremerea carn* (GJK & NG 1332)	DICOT	
Melaleuca aff. *nesophila* (Beard 6768)	DICOT	

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Taxon	Clade	Status
Melaleuca aff. *sterophloia*	DICOT	
Melaleuca atroviridis	DICOT	
Melaleuca beardii	DICOT	
Melaleuca bisulcata	DICOT	
Melaleuca boeophylla	DICOT	P2
Melaleuca calothamnoides	DICOT	
Melaleuca campanae	DICOT	
Melaleuca cardiophylla	DICOT	
Melaleuca concreta	DICOT	
Melaleuca conothamnoides	DICOT	
Melaleuca cordata	DICOT	
Melaleuca delta	DICOT	
Melaleuca depressa	DICOT	
Melaleuca eleuterostachya	DICOT	
Melaleuca eulobata	DICOT	
Melaleuca filifolia	DICOT	
Melaleuca fulgens subsp. *steedmanii*	DICOT	
Melaleuca hollidayi	DICOT	
Melaleuca huttensis	DICOT	P3
Melaleuca idana	DICOT	
Melaleuca laetifica	DICOT	
Melaleuca lanceolata	DICOT	
Melaleuca lara	DICOT	
Melaleuca lateritia	DICOT	
Melaleuca leiopyxis	DICOT	
Melaleuca leuropoma	DICOT	
Melaleuca longistaminea	DICOT	
Melaleuca marginata	DICOT	
Melaleuca megacephala	DICOT	
Melaleuca nematophylla	DICOT	
Melaleuca oldfieldii	DICOT	P2
Melaleuca protrusa	DICOT	
Melaleuca psammophila	DICOT	
Melaleuca radula	DICOT	
Melaleuca rhaphiophylla	DICOT	
Melaleuca scabra	DICOT	
Melaleuca sclerophylla	DICOT	P3
Melaleuca seriata	DICOT	
Melaleuca sp.	DICOT	
Melaleuca stereophloia	DICOT	
Melaleuca systena	DICOT	
Melaleuca uncinata	DICOT	
Melaleuca venusta	DICOT	
Melaleuca viminea	DICOT	
Melaleuca viminea subsp. *viminea*	DICOT	
Melilotus indicus	DICOT	
Mesomelaena preissii	MONOCOT	
Mesomelaena pseudostygia	MONOCOT	
Microcorys tenuifolia	DICOT	P3
Micromyrtus collina	DICOT	P1
Micromyrtus greeniana	DICOT	P1
Micromyrtus racemosa	DICOT	

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Taxon	Clade	Status
Micromyrtus sp.	DICOT	
Microtis brownii	MONOCOT	
Millotia depauperata	DICOT	P1
Millotia jacksonii	DICOT	P2
Millotia myosotidifolia	DICOT	
Mirbelia balsiformis	DICOT	
Mirbelia corallina	DICOT	P3
Mirbelia depressa	DICOT	
Mirbelia microphylla	DICOT	
Mirbelia ramulosa	DICOT	
Mirbelia sp.	DICOT	
Mirbelia sp. 3	DICOT	
Mirbelia sp. Kalbarri (M.D. Crisp 6261)	DICOT	
Mirbelia sp. Zuytdorp (G.J. Keighery & N. Gibson 1688)	DICOT	P1
Mirbelia sp. Zuytdorp (GJK & NG 1688)	DICOT	
Mirbelia spinosa	DICOT	
Mirbelia trichocalyx	DICOT	
Monachather paradoxus	MONOCOT	
Monoculus monstrosus	DICOT	
Monopsis debilis var. *depressa*	DICOT	
Monotaxis bracteata	DICOT	
Monotaxis lurida	DICOT	
Muehlenbeckia adpressa	DICOT	
Murchisonia fragrans	MONOCOT	
Myoporum caprarioides	DICOT	
Myriocephalus appendiculatus	DICOT	
Myriocephalus guerinae	DICOT	
Myriocephalus oldfieldii	DICOT	
Myriocephalus sp.	DICOT	
Neurachne alopecuroidea	MONOCOT	
Nicotiana occidentalis	DICOT	
Nicotiana rotundifolia	DICOT	
Nuytsia floribunda	DICOT	
Olax aurantia	DICOT	
Olearia axillaris	DICOT	
Olearia homolepis	DICOT	
Olearia revoluta	DICOT	
Olearia sp.	DICOT	
Olearia sp. indet	DICOT	
Olearia sp. Kennedy Range (G. Byrne 66)	DICOT	
Opercularia spermacocea	DICOT	
Opercularia vaginata	DICOT	
Ophioglossum lusitanicum	FERN	
Orianthera biloba	DICOT	
Orianthera flaviflora	DICOT	
Orianthera spermacocea	DICOT	
Orthrosanthus laxus	MONOCOT	
Orthrosanthus laxus var. *laxus*	MONOCOT	
Oxalis perennans	DICOT	
Oxalis pes-caprae	DICOT	
Paracaleana lyonsii	MONOCOT	
Paracaleana terminalis	MONOCOT	

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Taxon	Clade	Status
Paractaenum novae-hollandiae	MONOCOT	
Paractaenum novae-hollandiae subsp. *novae-hollandiae*	MONOCOT	
Parapholis incurva	MONOCOT	
Parentucellia latifolia	DICOT	
Parietaria cardiostegia	DICOT	
Parietaria debilis	DICOT	
Paspalidium clementii	MONOCOT	
Paspalidium jubiflorum	MONOCOT	
Paspalum distichum	MONOCOT	
Patersonia drummondii	MONOCOT	
Patersonia drummondii subsp. Northern (R.D. Royce UWA 777)	MONOCOT	
Patersonia graminea	MONOCOT	
Patersonia occidentalis	MONOCOT	
Patersonia occidentalis var. *latifolia*	MONOCOT	
Patersonia occidentalis var. *occidentalis*	MONOCOT	
Pauridia occidentalis var. *occidentalis*	MONOCOT	
Pelargonium littorale	DICOT	
Pembertonia latisquamea	DICOT	
Pentameris airoides subsp. *airoides*	MONOCOT	
Pentaptilon careyi	DICOT	
Persoonia acicularis	DICOT	
Persoonia biglandulosa	DICOT	
Persoonia bowgada	DICOT	
Persoonia brachystylis	DICOT	P2
Persoonia diadena	DICOT	
Persoonia hexagona	DICOT	
Persoonia rufiflora	DICOT	
Persoonia saundersiana	DICOT	
Persoonia stricta	DICOT	
Petalostylis labicheoides	DICOT	
Petrophile brevifolia	DICOT	
Petrophile conifera	DICOT	
Petrophile conifera subsp. *conifera*	DICOT	
Petrophile foremanii	DICOT	
Petrophile macrostachya	DICOT	
Petrophile pilostyla subsp. *pilostyla*	DICOT	
Petrophile semifurcata	DICOT	
Petrophile seminuda	DICOT	
Petrophile shuttleworthiana	DICOT	
Phalaris minor	MONOCOT	
Phebalium tuberculosum	DICOT	
Pheladenia deformis	MONOCOT	
Philotheca brucei subsp. *brucei*	DICOT	
Philotheca kalbarriensis	DICOT	P2
Philotheca sericea	DICOT	
Phlegmatospermum drummondii	DICOT	
Phyla nodiflora var. *nodiflora*	DICOT	
Phyllanthus calycinus	DICOT	
Phyllanthus erwinii	DICOT	
Phyllanthus maderaspatensis	DICOT	
Phyllanthus scaber	DICOT	
Phymatocarpus porphyrocephalus	DICOT	

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Taxon	Clade	Status
Physopsis chrysophylla	DICOT	P3
Pileanthus aurantiacus	DICOT	P1
Pileanthus bellus	DICOT	P3
Pileanthus filifolius	DICOT	
Pileanthus peduncularis	DICOT	
Pileanthus peduncularis subsp. *peduncularis*	DICOT	
Pileanthus peduncularis subsp. *pilifer*	DICOT	
Pileanthus rubronitidus	DICOT	
Pileanthus sp.	DICOT	
Pileanthus sp. Kalbarri (D. & B. Bellairs 1684)	DICOT	
Pileanthus vernicosus	DICOT	
Pimelea angustifolia	DICOT	
Pimelea argentea	DICOT	
Pimelea gilgiana	DICOT	
Pimelea leucantha	DICOT	
Pimelea microcephala	DICOT	
Pimelea microcephala subsp. *microcephala*	DICOT	
Pimelea sessilis	DICOT	
Pittosporum angustifolium	DICOT	
Pittosporum ligustrifolium	DICOT	
Pittosporum phillyreoides	DICOT	
Pittosporum phillyreoides	DICOT	
Pityrodia atriplicina	DICOT	
Pityrodia glabra	DICOT	
Pityrodia hemigenioides	DICOT	
Pityrodia loxocarpa	DICOT	
Pityrodia oldfieldii	DICOT	
Pityrodia verbascina	DICOT	
Plantago coronopus subsp. *commutata*	DICOT	
Plantago debilis	DICOT	
Plantago drummondii	DICOT	
Plantago sp. (AHB 4517)	DICOT	
Plantago sp. Mt Magnet (A.S. George 6793)	DICOT	
Platysace juncea	DICOT	
Platysace sp. Kalbarri (D. & B. Bellairs 1383)	DICOT	P2
Platysace trachymenioides	DICOT	
Platysace xerophila	DICOT	
Plectrachne bromoides	MONOCOT	
Plectrachne danthonioides	MONOCOT	
Pleuridium nervosum var. *nervosum*	MOSS	
Pleurosorus rutifolius	FERN	
Poa annua	MONOCOT	
Podolepis aristata subsp. *affinis*	DICOT	
Podolepis aristata subsp. *aristata*	DICOT	
Podolepis canescens	DICOT	
Podolepis capillaris	DICOT	
Podolepis gardneri	DICOT	
Podolepis lessonii	DICOT	
Podolepis tepperi	DICOT	
Podotheca angustifolia	DICOT	
Podotheca gnaphalioides	DICOT	
Pogonolepis muelleriana	DICOT	

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Taxon	Clade	Status
Pogonolepis sp.	DICOT	
Pogonolepis stricta	DICOT	
Polycarpon tetraphyllum	DICOT	
Polypogon monspeliensis	MONOCOT	
Porana sericea	DICOT	
Poranthera drummondii	DICOT	
Poranthera microphylla	DICOT	
Prasophyllum calcicola	MONOCOT	
Prasophyllum elatum	MONOCOT	
Prasophyllum gracile	MONOCOT	
Prostanthera campbellii	DICOT	
Prostanthera scutata	DICOT	P2
Psammomoya choretroides	DICOT	
Pseudanthus intricatus	DICOT	
Pseudognaphalium luteoalbum	DICOT	
Psilotum nudum	FERN	
Pterochaeta paniculata	DICOT	
Pterostylis galgula	MONOCOT	
Pterostylis microglossa	MONOCOT	
Pterostylis nana	MONOCOT	
Pterostylis sanguinea	MONOCOT	
Pterostylis scabra	MONOCOT	
Pterostylis sp.	MONOCOT	
Pterostylis sp. inland (A.C. Beauglehole 11880)	MONOCOT	
Pterostylis spathulata	MONOCOT	
Pterostylis vittata	MONOCOT	
Ptilotus divaricatus	DICOT	
Ptilotus drummondii	DICOT	
Ptilotus drummondii var. *minor*	DICOT	
Ptilotus eremita	DICOT	
Ptilotus eriotrichus	DICOT	
Ptilotus exaltatus	DICOT	
Ptilotus gaudichaudii	DICOT	
Ptilotus gaudichaudii var. *parviflorus*	DICOT	
Ptilotus grandiflorus	DICOT	
Ptilotus humilis	DICOT	
Ptilotus manglesii	DICOT	
Ptilotus obovatus	DICOT	
Ptilotus polystachyus	DICOT	
Ptilotus schwartzii	DICOT	
Ptilotus stirlingii	DICOT	
Ptilotus stirlingii subsp. *stirlingii*	DICOT	
Ptilotus villosiflorus	DICOT	
Pyrorchis nigricans	MONOCOT	
Quinetia urvillei	DICOT	
Quoya atriplicina	DICOT	
Quoya cuneata	DICOT	
Quoya loxocarpa	DICOT	
Quoya oldfieldii	DICOT	
Quoya verbascina	DICOT	
Ranunculus sessiliflorus var. *sessiliflorus*	DICOT	
Raphanus raphanistrum	DICOT	

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Taxon	Clade	Status
Reichardia tingitana	DICOT	
Rhagodia drummondii	DICOT	
Rhagodia latifolia	DICOT	
Rhagodia latifolia subsp. *latifolia*	DICOT	
Rhagodia latifolia subsp. *latifolia / latifolia* subsp. *recta*	DICOT	
Rhagodia latifolia subsp. *recta*	DICOT	
Rhagodia preissii	DICOT	
Rhagodia preissii subsp. *obovata*	DICOT	
Rhagodia preissii subsp. *preissii*	DICOT	
Rhodanthe battii	DICOT	
Rhodanthe chlorocephala subsp. *rosea*	DICOT	
Rhodanthe citrina	DICOT	
Rhodanthe condensata	DICOT	
Rhodanthe humboldtiana	DICOT	
Rhodanthe laevis	DICOT	
Rhodanthe manglesii	DICOT	
Rhodanthe maryonii	DICOT	
Rhodanthe oppositifolia	DICOT	
Rhodanthe oppositifolia subsp. *oppositifolia*	DICOT	
Rhodanthe polycephala	DICOT	
Rhodanthe pygmaea	DICOT	
Rhodanthe sp.	DICOT	
Rhodanthe spicata	DICOT	
Rhodanthe stricta	DICOT	
Rhyncharrhena linearis	DICOT	
Ricinocarpos muricatus	DICOT	
Ricinocarpos sp.	DICOT	
Roebuckiella cheilocarpa	DICOT	
Roebuckiella cheilocarpa var. *integra*	DICOT	
Roebuckiella chinnockii	DICOT	
Roebuckiella ciliocarpa	DICOT	
Roebuckiella nerrenensis	DICOT	
Roepera fruticulosa	DICOT	
Roepera similis	DICOT	
Rostraria cristata	MONOCOT	
Rostraria pumila	MONOCOT	
Rosulabryum albolimbatum	MOSS	
Rosulabryum billarderii	MOSS	
Rulingia craurophylla	DICOT	
Rulingia malvifolia var. *borealis*	DICOT	
Rumex hypogaeus	DICOT	
Rumex vesicarius	DICOT	
Ruppia megacarpa	MONOCOT	
Ruppia sp.	MONOCOT	
Rytidosperma sp.	MONOCOT	
Rytidosperma caespitosum	MONOCOT	
Sagina apetala	DICOT	
Sagina maritima	DICOT	
Salicornia quinqueflora	DICOT	
Salsola australis	DICOT	
Samolus junceus	DICOT	
Samolus repens	DICOT	

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Taxon	Clade	Status
Santalum acuminatum	DICOT	
Santalum sp.	DICOT	
Santalum spicatum	DICOT	
Sarcostemma viminale subsp. *australe*	DICOT	
Sarojusticia kempeana	DICOT	
Sauropus crassifolius	DICOT	
Scaevola anchusifolia	DICOT	
Scaevola canescens	DICOT	
Scaevola chrysopogon	DICOT	P2
Scaevola crassifolia	DICOT	
Scaevola globulifera	DICOT	
Scaevola hamiltonii	DICOT	
Scaevola kallophylla	DICOT	P4
Scaevola lanceolata	DICOT	
Scaevola nitida	DICOT	
Scaevola oldfieldii	DICOT	P3
Scaevola phlebopetala	DICOT	
Scaevola porocarya	DICOT	
Scaevola restiacea	DICOT	
Scaevola sericophylla	DICOT	
Scaevola sp. Golden hairs (D. & B. Bellairs 1450 A)	DICOT	P1
Scaevola spinescens	DICOT	
Scaevola thesioides subsp. *thesioides*	DICOT	
Scaevola tomentosa	DICOT	
Scaevola virgata	DICOT	
Schenkia australis	DICOT	
Schinus terebinthifolia	DICOT	
Schismus barbatus	MONOCOT	
Schoenia cassiniana	DICOT	
Schoenoplectus subulatus	MONOCOT	
Schoenus andrewsii	MONOCOT	
Schoenus armeria	MONOCOT	
Schoenus clandestinus	MONOCOT	
Schoenus curvifolius	MONOCOT	
Schoenus grandiflorus	MONOCOT	
Schoenus humilis	MONOCOT	
Schoenus latitans	MONOCOT	
Schoenus nanus	MONOCOT	
Schoenus pleiostemoneus	MONOCOT	
Schoenus sp.	MONOCOT	
Schoenus sp. G Broad Sheath (K.L. Wilson 2633)	MONOCOT	
Schoenus sp. Kalbarri (K.R. Newbey 9352)	MONOCOT	P2
Schoenus sp. Murchison (K.L. Wilson 2647)	MONOCOT	
Schoenus sp. Wongan (E.A. Griffin 3841)	MONOCOT	
Schoenus unispiculatus	MONOCOT	
Schoenus variicellae	MONOCOT	
Scholtzia bellairsiorum	DICOT	P3
Scholtzia capitata	DICOT	
Scholtzia cordata	DICOT	P2
Scholtzia corrugata	DICOT	P2
Scholtzia denticulata	DICOT	
Scholtzia laxiflora	DICOT	

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Taxon	Clade	Status
Scholtzia longipedata	DICOT	
Scholtzia longipedata subsp. *longipedata*	DICOT	
Scholtzia obovata	DICOT	
Scholtzia oleosa	DICOT	P3
Scholtzia oligandra	DICOT	
Scholtzia peltigera	DICOT	P1
Scholtzia sp.	DICOT	
Scholtzia sp. Eradu (R.D. Royce 8016)	DICOT	
Scholtzia sp. Eurardy (J.S. Beard 6886)	DICOT	
Scholtzia sp. Folly Hill (M.E. Trudgen 12097)	DICOT	P2
Scholtzia sp. Folly Hill (ME Trudgen 12097)	DICOT	
Scholtzia sp. indet	DICOT	
Scholtzia sp. Murchison (M.E. Trudgen 1685)	DICOT	
Scholtzia sp. Ross Graham Lookout (S. Maley 6)	DICOT	
Scholtzia spathulata	DICOT	
Scholtzia spatulata	DICOT	
Scholtzia tenuissima	DICOT	P2
Scholtzia truncata	DICOT	P2
Scholtzia uberiflora	DICOT	
Scholtzia umbellifera	DICOT	
Sclerolaena densiflora	DICOT	
Sclerolaena diacantha	DICOT	
Sclerolaena sp.	DICOT	
Sclerolaena uniflora	DICOT	
Selaginella gracillima	FERN	
Senecio glossanthus	DICOT	
Senecio pinnatifolius	DICOT	
Senecio pinnatifolius var. *latilobus*	DICOT	
Senecio pinnatifolius var. *pinnatifolius*	DICOT	
Senna artemisioides	DICOT	
Senna artemisioides subsp. *filifolia*	DICOT	
Senna charlesiana	DICOT	
Senna glutinosa	DICOT	
Senna glutinosa subsp. *chatelainiana*	DICOT	
Senna pleurocarpa var. *pleurocarpa*	DICOT	
Senna sp.	DICOT	
Senna sp. Austin (A. Strid 20210)	DICOT	
Seringia hermanniifolia	DICOT	
Seringia saxatilis	DICOT	P2
Seringia velutina	DICOT	
Setaria dielsii	MONOCOT	
Setaria sp.	MONOCOT	
Sida calyxhymenia	DICOT	
Sida sp. dark green fruits (S. van Leeuwen 2260)	DICOT	
Silene gallica	DICOT	
Silene nocturna	DICOT	
Siloxerus filifolius	DICOT	
Siloxerus humifusus	DICOT	
Siloxerus multiflorus	DICOT	
Sisymbrium erysimoides	DICOT	
Sisymbrium irio	DICOT	
Sisymbrium orientale	DICOT	

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Taxon	Clade	Status
Solanum americanum	DICOT	
Solanum cleistogamum	DICOT	
Solanum hesperium	DICOT	
Solanum lasiophyllum	DICOT	
Solanum nigrum	DICOT	
Solanum nummularium	DICOT	
Solanum oldfieldii	DICOT	
Solanum orbiculatum	DICOT	
Solanum orbiculatum subsp. *orbiculatum*	DICOT	
Solanum symonii	DICOT	
Sonchus oleraceus	DICOT	
Sonchus sp.	DICOT	
Sowerbaea laxiflora	MONOCOT	
Spergula arvensis	DICOT	
Spergularia marina	DICOT	
Spergularia rubra	DICOT	
Sphaerolobium gracile	DICOT	
Spiculaea ciliata	MONOCOT	
Spinifex longifolius	MONOCOT	
Sporobolus virginicus	MONOCOT	
Spyridium sp. indet	DICOT	
Stachystemon axillaris	DICOT	
Stachystemon intricatus	DICOT	
Stachystemon nematophorus	DICOT	P4
Stackhousia dielsii	DICOT	
Stackhousia muricata	DICOT	
Stackhousia pubescens	DICOT	
Stackhousia sp.	DICOT	
Stackhousia sp. Hairy fruited (E.N.S. Jackson 1387)	DICOT	
Stackhousia sp. Mid west coastal (D. & B. Bellairs 6561)	DICOT	
Stellaria media	DICOT	
Stemodia florulenta	DICOT	
Stemodia viscosa	DICOT	
Stenanthemum complicatum	DICOT	
Stenanthemum divaricatum	DICOT	P3
Stenanthemum intricatum	DICOT	
Stenanthemum notiale subsp. *notiale*	DICOT	
Stenanthemum pomaderroides	DICOT	
Stenopetalum anfractum	DICOT	
Stenopetalum filifolium	DICOT	
Stenopetalum gracile	DICOT	
Stenopetalum pedicellare	DICOT	
Stipa crinita	MONOCOT	
Stipa elegantissima	MONOCOT	
Stipa nitida	MONOCOT	
Stipa sp.	MONOCOT	
Stirlingia latifolia	DICOT	
Stylidium androsaceum	DICOT	
Stylidium burbidgeanum	DICOT	
Stylidium calcaratum	DICOT	
Stylidium dispermum	DICOT	
Stylidium elongatum	DICOT	

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Taxon	Clade	Status
Stylidium kalbarriense	DICOT	
Stylidium limbatum	DICOT	
Stylidium macrocarpum	DICOT	
Stylidium petiolare	DICOT	
Stylidium ponticulus	DICOT	
Stylidium purpureum	DICOT	
Stylidium repens	DICOT	
Stylidium septentrionale	DICOT	
Stylidium udusicola	DICOT	
Stylobasium australe	DICOT	
Stylobasium spathulatum	DICOT	
Stypandra glauca	MONOCOT	
Swainsona affinis	DICOT	
Swainsona canescens	DICOT	
Swainsona gracilis	DICOT	
Synaphea spinulosa subsp. *spinulosa*	DICOT	
Synaptantha tillaeacea	DICOT	
Tecticornia indica subsp. bidens	DICOT	
Templetonia retusa	DICOT	
Tersonia cyathiflora	DICOT	
Tetragonia diptera	DICOT	
Tetragonia implexicoma	DICOT	
Tetraria microcarpa	MONOCOT	
Teucrium teucriiflorum	DICOT	
Thelymitra antennifera	MONOCOT	
Thelymitra campanulata	MONOCOT	
Thelymitra campanulata x *spiralis*	MONOCOT	
Thelymitra flexuosa	MONOCOT	
Thelymitra petrophila	MONOCOT	
Thelymitra sargentii	MONOCOT	
Thelymitra sp. Murchison (A.S. George 9542)	MONOCOT	
Themeda triandra	MONOCOT	
Thomasia cognata	DICOT	
Thomasia grandiflora	DICOT	
Thomasia sp.	DICOT	
Threlkeldia diffusa	DICOT	
Thryptomene baeckeacea	DICOT	
Thryptomene caduca	DICOT	P3
Thryptomene calcicola	DICOT	P2
Thryptomene denticulata	DICOT	
Thryptomene globifera	DICOT	
Thryptomene johnsonii	DICOT	P2
Thryptomene pinifolia	DICOT	P2
Thryptomene podantha	DICOT	
Thryptomene sp. Carrarang (Trudgen 7420)	DICOT	
Thryptomene sp.	DICOT	
Thryptomene sp. Carrarang (M.E. Trudgen 7420)	DICOT	P1
Thryptomene sp. Eagle Gorge (A.G. Gunness 2360)	DICOT	P2
Thryptomene sp. indet	DICOT	
Thryptomene sp. Red Bluff (A.G. Gunness 2358)	DICOT	
Thryptomene sp. Wandana (M.E. Trudgen MET 22016)	DICOT	P3
Thryptomene sp. Kalbarri (A.Gunness 2378)	DICOT	

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Taxon	Clade	Status
Thryptomene striata	DICOT	P2
Thryptomene strongylophylla	DICOT	
Thyridia repens	DICOT	
Thyridolepis multiculmis	MONOCOT	
Thyridolepis sp.	MONOCOT	
Thysanotus dichotomus	MONOCOT	
Thysanotus exfimbriatus	MONOCOT	
Thysanotus fragrans	MONOCOT	P2
Thysanotus manglesianus	MONOCOT	
Thysanotus patersonii	MONOCOT	
Thysanotus ramulosus	MONOCOT	
Thysanotus sp. Kalbarri (D. & B. Bellairs 1523 A)	MONOCOT	
Thysanotus sp. Twining Wheatbelt (N.H. Brittan 81/29)	MONOCOT	
Thysanotus sparteus	MONOCOT	
Thysanotus speckii	MONOCOT	
Thysanotus teretifolius	MONOCOT	
Thysanotus thyrsoideus	MONOCOT	
Trachymene ceratocarpa	DICOT	
Trachymene coerulea	DICOT	
Trachymene coerulea subsp. *leucopetala*	DICOT	
Trachymene cyanopetala	DICOT	
Trachymene elachocarpa	DICOT	
Trachymene ornata	DICOT	
Trachymene pilosa	DICOT	
Trichanthodium exilis	DICOT	
Trichanthodium skirrophorum	DICOT	
Trichodesma zeylanicum	DICOT	
Tricoryne aff. *corynothecoides* (GJK & NG 1274)	MONOCOT	
Tricoryne arenicola	MONOCOT	
Tricoryne elatior	MONOCOT	
Tricoryne sp.	MONOCOT	
Tricoryne sp. Mullewa (G.J. Keighery 12080)	MONOCOT	
Trifolium campestre	DICOT	
Trifolium hirtum	DICOT	
Trifolium tomentosum var. *tomentosum*	DICOT	
Triglochin calcitrapum	MONOCOT	
Triglochin isingiana	MONOCOT	
Triglochin longicarpa	MONOCOT	
Triglochin mucronata	MONOCOT	
Triglochin nana	MONOCOT	
Triglochin sp.	MONOCOT	
Triglochin sp. A Flora of Australia (G.J. Keighery 2477)	MONOCOT	
Triodia bromoides	MONOCOT	P4
Triodia danthonioides	MONOCOT	
Triodia dielsii	MONOCOT	P3
Tripogonella loliiformis	MONOCOT	
Tripterococcus brunonis	DICOT	
Triquetrella papillata	MOSS	
Uldinia ceratocarpa	DICOT	
Urodon dasyphyllus	DICOT	
Urodon sp. Galena (G.J. Keighery 14733)	DICOT	
Urospermum picroides	DICOT	

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Taxon	Clade	Status
Ursinia anthemoides subsp. *anthemoides*	DICOT	
Utricularia tenella	DICOT	
Velleia cycnopotamica	DICOT	
Velleia discophora	DICOT	
Velleia hispida	DICOT	
Velleia reinwardtii	DICOT	
Vellereophyton dealbatum	DICOT	
Verreauxia reinwardtii	DICOT	
Verticordia capillaris	DICOT	P4
Verticordia chrysantha	DICOT	
Verticordia chrysostachys var. *chrysostachys*	DICOT	
Verticordia cooloomia	DICOT	P3
Verticordia dasystylis subsp. *kalbarriensis*	DICOT	P2
Verticordia densiflora var. *cespitosa*	DICOT	
Verticordia densiflora var. *roseostella*	DICOT	P3
Verticordia densiflora var. *stelluligera*	DICOT	
Verticordia dichroma var. *dichroma*	DICOT	P3
Verticordia dichroma var. *spicata*	DICOT	
Verticordia dichroma var. *syntoma*	DICOT	P3
Verticordia eriocephala	DICOT	
Verticordia etheliana var. *etheliana*	DICOT	
Verticordia etheliana var. *formosa*	DICOT	
Verticordia etheliana x *oculata*	DICOT	
Verticordia galeata	DICOT	P2
Verticordia inclusa x *roei*	DICOT	
Verticordia lepidophylla	DICOT	
Verticordia lepidophylla var. *lepidophylla*	DICOT	
Verticordia lepidophylla var. *quantula*	DICOT	P1
Verticordia monadelpha	DICOT	
Verticordia monadelpha var. *callitricha*	DICOT	
Verticordia nobilis	DICOT	
Verticordia oculata	DICOT	
Verticordia pennigera	DICOT	
Verticordia pholidophylla	DICOT	
Verticordia picta	DICOT	
Verticordia polytricha	DICOT	P4
Verticordia sp.	DICOT	
Verticordia sp. indet	DICOT	
Verticordia spicata	DICOT	
Verticordia spicata subsp. *spicata*	DICOT	
Verticordia x *eurardyensis*	DICOT	P1
Viminaria juncea	DICOT	
Vincetoxicum lineare	DICOT	
Vittadinia humerata	DICOT	
Vittadinia sp.	DICOT	
Vulpia myuros	MONOCOT	
Vulpia myuros forma *myuros*	MONOCOT	
Vulpia sp.	MONOCOT	
Wahlenbergia capensis	DICOT	
Wahlenbergia capillaris	DICOT	
Wahlenbergia preissii	DICOT	
Wahlenbergia tumidifructa	DICOT	

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Taxon	Clade	Status
Waitzia acuminata	DICOT	
Waitzia acuminata / corymbosa intermediate	DICOT	
Waitzia acuminata var. *acuminata*	DICOT	
Waitzia acuminata var. *albicans*	DICOT	
Waitzia aurea	DICOT	
Waitzia corymbosa	DICOT	
Waitzia nitida	DICOT	
Waitzia podolepis	DICOT	
Waitzia suaveolens	DICOT	
Westringia aff. *dampieri carn* (GJK & NG 798)	DICOT	
Westringia dampieri	DICOT	
Wilsonia backhousei	DICOT	
Wurmbea densiflora	MONOCOT	
Wurmbea dilatata	MONOCOT	
Wurmbea dioica	MONOCOT	
Wurmbea dioica subsp. *alba*	MONOCOT	
Wurmbea inframediana	MONOCOT	
Wurmbea monantha	MONOCOT	
Wurmbea murchisoniana	MONOCOT	P4
Wurmbea pygmaea	MONOCOT	
Wurmbea sp. indet	MONOCOT	
Wurmbea tenella	MONOCOT	
Xanthorrhoea drummondii	MONOCOT	
Xerolirion divaricata	MONOCOT	
Xylomelum angustifolium	DICOT	
Zygophyllum ammophilum	DICOT	
Zygophyllum apiculatum	DICOT	
Zygophyllum fruticulosum	DICOT	

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Appendix D

Flora data

Flora species list

Flora matrix by vegetation type

Statistical analysis outputs (dendrogram and two dimensional MDS scatter plot)

Quadrat data

Significant flora locations

Flora likelihood of occurrence assessment

Flora species list

Family	Species	Status
Aizoaceae	*Carpobrotus ?modestus*	R.E
Aizoaceae	*Carpobrotus* sp. Thevenard Island (M. White 050)	P3
Aizoaceae	*Mesembryanthemum nodiflorum*	*
Aizoaceae	*Tetragonia diptera*	
Aizoaceae	*Tetragonia implexicoma*	
Amaranthaceae	*Ptilotus alexandri*	P2, R.E
Amaranthaceae	*Ptilotus divaricatus*	
Amaranthaceae	*Ptilotus eremita*	
Amaranthaceae	*Ptilotus eriotrichus*	
Amaranthaceae	*Ptilotus exaltatus*	
Amaranthaceae	*Ptilotus exiliflorus*	R.E
Amaranthaceae	*Ptilotus grandiflorus*	
Amaranthaceae	*Ptilotus obovatus*	
Amaranthaceae	*Ptilotus polystachyus*	
Amaranthaceae	*Ptilotus* sp. (insufficient material)	
Aphanopetalaceae	*Aphanopetalum clematideum*	
Apiaceae	*Daucus glochidiatus*	
Apiaceae	*Platysace trachymenioides*	
Apocynaceae	*Alyxia buxifolia*	
Araliaceae	*Hydrocotyle hispidula*	
Araliaceae	*Hydrocotyle intertexta*	
Araliaceae	*Trachymene ornata*	
Araliaceae	*Trachymene pilosa*	
Asparagaceae	*Acanthocarpus parviflorus*	P3
Asparagaceae	*Acanthocarpus preissii*	
Asparagaceae	*Acanthocarpus robustus*	
Asparagaceae	*Acanthocarpus* sp. Ajana (C.A. Gardner 8596)	
Asparagaceae	*Acanthocarpus* sp. Cooloomia (S.D. Hopper 3301)	
Asparagaceae	*Acanthocarpus verticillatus*	
Asparagaceae	*Acanthocarpus humilis*	
Asparagaceae	*Arthropodium dyeri*	
Asparagaceae	*Lomandra maritima*	
Asparagaceae	*Thysanotus exfimbriatus*	
Asparagaceae	*Thysanotus fragrans*	P2
Asparagaceae	*Thysanotus manglesianus*	

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Family	Species	Status
Asparagaceae	*Thysanotus patersonii*	
Asparagaceae	*Thysanotus* sp. (insufficient material)	
Asparagaceae	*Thysanotus sparteus*	
Asphodelaceae	*Bulbine semibarbata*	
Asteraceae	*Actinobole condensatum*	
Asteraceae	*Actinobole uliginosum*	
Asteraceae	*Angianthus* aff. *milnei*	R.E
Asteraceae	*Angianthus milnei*	R.E
Asteraceae	*Arctotheca calendula*	*
Asteraceae	*Asteraceae* sp. (insufficient material)	
Asteraceae	*Bidens bipinnata*	*
Asteraceae	*Bidens subalternans* var. *araneosa*	*
Asteraceae	*Blennospora drummondii*	
Asteraceae	*Brachyscome ciliaris*	
Asteraceae	*Brachyscome iberidifolia*	
Asteraceae	*Brachyscome perpusilla*	
Asteraceae	*Calocephalus francisii*	
Asteraceae	*Calocephalus multiflorus*	
Asteraceae	*Calotis hispidula*	
Asteraceae	*Centaurea melitensis*	*
Asteraceae	*Cephalipterum drummondii*	
Asteraceae	*Chthonocephalus tomentellus*	P2
Asteraceae	*Cotula cotuloides*	
Asteraceae	*Dittrichia graveolens*	*
Asteraceae	*Gnephosis brevifolia*	
Asteraceae	*Gnephosis* sp. (insufficient material)	
Asteraceae	*Gnephosis tenuissima*	
Asteraceae	*Hyalochlamys globifera*	R.E
Asteraceae	*Hyalosperma cotula*	
Asteraceae	*Hyalosperma demissum*	
Asteraceae	*Hypochaeris glabra*	*
Asteraceae	*Lactuca saligna*	*
Asteraceae	*Lawrencella davenportii*	
Asteraceae	*Leontodon rhagadioloides*	
Asteraceae	*Olearia axillaris*	
Asteraceae	*Olearia* sp. Kennedy Range (G. Byrne 66)	
Asteraceae	*Panaetia lessonii*	
Asteraceae	*Podolepis aristata* subsp. *aristata*	

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Family	Species	Status
Asteraceae	*Podolepis aristata* subsp. *affinis*	
Asteraceae	*Podotheca angustifolia*	
Asteraceae	*Reichardia tingitana*	*
Asteraceae	*Rhodanthe citrina*	
Asteraceae	*Rhodanthe condensata*	
Asteraceae	*Rhodanthe humboldtiana*	R.E
Asteraceae	*Rhodanthe laevis*	
Asteraceae	*Rhodanthe maryonii*	
Asteraceae	*Rhodanthe oppositifolia* subsp. *oppositifolia*	
Asteraceae	*Rhodanthe polycephala*	
Asteraceae	*Rhodanthe maryonii*	
Asteraceae	*Roebuckiella cheilocarpa*	
Asteraceae	*Siemssenia capillaris*	
Asteraceae	*Sonchus oleraceus*	*
Asteraceae	*Urospermum picroides*	*
Asteraceae	*Vittadinia humerata*	
Asteraceae	*Waitzia acuminata* var. *acuminata*	
Asteraceae	*Waitzia acuminata* var. *albicans*	
Asteraceae	*Waitzia corymbosa*	
Asteraceae	*Waitzia podolepis*	
Asteraceae	*Waitzia* sp. (insufficient material)	
Boraginaceae	*Echium plantagineum*	* DP
Boraginaceae	*Halgania gustafsenii* var. Mid West (G Perry 370)	
Boraginaceae	*Omphalolappula concava*	
Brassicaceae	*Brassica tournefortii*	*
Brassicaceae	*Lepidium biplicatum*	P3
Brassicaceae	*Phlegmatospermum drummondii*	
Brassicaceae	*Sisymbrium orientale*	*
Brassicaceae	*Sisymbrium erysimoides*	*
Campanulaceae	*Isotoma hypocrateriformis*	
Campanulaceae	*Lobelia heterophylla* subsp. *heterophylla*	
Campanulaceae	*Wahlenbergia capensis*	*
Campanulaceae	*Wahlenbergia preissii*	
Campanulaceae	*Wahlenbergia gracilenta*	
Caryophyllaceae	*Petrorhagia dubia*	*
Caryophyllaceae	*Polycarpon tetraphyllum*	*
Caryophyllaceae	*Silene nocturna*	*
Caryophyllaceae	*Spergula pentandra*	*

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Family	Species	Status
Caryophyllaceae	*Stellaria ? media (*or *S. pallida)*	*
Casuarinaceae	*Allocasuarina acutivalvis* subsp. *acutivalvis*	
Casuarinaceae	*Allocasuarina campestris*	
Casuarinaceae	*Allocasuarina humilis*	
Casuarinaceae	*Casuarina obesa*	
Centrolepidaceae	*Centrolepis aristata*	
Centrolepidaceae	*Centrolepis pilosa*	R.E
Centrolepidaceae	*Centrolepis polygyna*	
Centrolepidaceae	*Centrolepis drummondiana*	
Chenopodiaceae	*Atriplex bunburyana*	
Chenopodiaceae	*Atriplex codonocarpa*	
Chenopodiaceae	*Atriplex isatidea*	
Chenopodiaceae	*Atriplex semilunaris*	
Chenopodiaceae	*Atriplex* sp. (insufficient material)	
Chenopodiaceae	*Chenopodium murale*	*
Chenopodiaceae	*Dysphania plantaginella*	
Chenopodiaceae	*Enchylaena tomentosa* var. *tomentosa*	
Chenopodiaceae	*Eremophea spinosa*	
Chenopodiaceae	*Eremophea aggregata*	
Chenopodiaceae	*Maireana planifolia*	R.E
Chenopodiaceae	*Maireana* sp. (insufficient material)	
Chenopodiaceae	*Maireana tomentosa*	
Chenopodiaceae	*Rhagodia drummondii*	
Chenopodiaceae	*Rhagodia eremaea*	
Chenopodiaceae	*Rhagodia latifolia*	
Chenopodiaceae	*Rhagodia preissii* subsp. *obovata*	
Chenopodiaceae	*Rhagodia* sp. (insufficient material)	
Chenopodiaceae	*Rhagodia latifolia* subsp. *latifolia*	
Chenopodiaceae	*Rhagodia preissii* subsp. *obovata*	
Chenopodiaceae	*Salsola australis*	
Chenopodiaceae	*Sclerolaena diacantha*	
Chenopodiaceae	*Sclerolaena fusiformis*	R.E
Chenopodiaceae	*Tecticornia indica*	
Chenopodiaceae	*Threlkeldia diffusa*	
Colchicaceae	*Burchardia rosea*	
Colchicaceae	*Wurmbea dilatata*	
Convolvulaceae	*Bonamia rosea*	
Convolvulaceae	*Cuscuta epithymum*	*

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Family	Species	Status
Convolvulaceae	*Duperreya sericea*	
Crassulaceae	*Crassula closiana*	
Crassulaceae	*Crassula colorata* var. *colorata*	
Crassulaceae	*Crassula* sp. (insufficient material)	
Cupressaceae	*Callitris arenaria*	
Cyperaceae	*Ammothryon grandiflorum*	
Cyperaceae	*Isolepis marginata*	
Cyperaceae	*Lepidosperma* aff. *scabrum*	
Cyperaceae	*Lepidosperma* sp. (insufficient material)	
Cyperaceae	*Lepidosperma* sp. Zuytdorp (G.J. Keighery & N. Gibson 1710)	
Cyperaceae	*Lepidosperma tenue*	R.E
Cyperaceae	*Mesomelaena preissii*	
Cyperaceae	*Mesomelaena pseudostygia*	
Cyperaceae	*Morelotia microcarpa*	
Cyperaceae	*Schoenia cassiniana*	
Cyperaceae	*Schoenus badius*	P2, R.E
Cyperaceae	*Schoenus clandestinus*	
Cyperaceae	*Schoenus nanus*	
Cyperaceae	*Schoenus* sp. Murchison (K.L. Wilson 2647)	R.E
Cyperaceae	*Schoenus latitans*	
Cyperaceae	*Schoenus pleiostemoneus*	
Dilleniaceae	*Hibbertia acerosa*	R.E
Dilleniaceae	*Hibbertia conspicua*	
Dilleniaceae	*Hibbertia racemosa*	
Dilleniaceae	*Hibbertia spicata*	
Dioscoreaceae	*Dioscorea hastifolia*	
Droseraceae	*Drosera humilis*	
Droseraceae	*Drosera neesii*	
Droseraceae	*Drosera omissa*	
Droseraceae	*Drosera prostrata*	
Droseraceae	*Drosera* sp. (insufficient material)	
Droseraceae	*Drosera aff eremaea*	P3, R.E
Droseraceae	*Drosera glanduligera*	
Droseraceae	*Drosera thysanosepala*	
Ecdeiocoleaceae	*Ecdeiocolea monostachya*	
Emblingiaceae	*Emblingia calceoliflora*	
Ericaceae	*Conostephium laeve*	

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Family	Species	Status
Ericaceae	*Leucopogon* sp. Murchison (R.J. Cranfield 9224)	
Ericaceae	*Lysinema pentapetalum*	
Ericaceae	*Styphelia cordifolia*	
Ericaceae	*Styphelia serratifolia*	R.E
Ericaceae	*Styphelia strongylophylla*	
Euphorbiaceae	*Beyeria cinerea* subsp. *cinerea*	
Euphorbiaceae	*Beyeria cinerea* subsp. *borealis*	
Euphorbiaceae	*Euphorbia ? porcata*	
Euphorbiaceae	*Euphorbia boophthona*	
Euphorbiaceae	*Euphorbia drummondii*	
Euphorbiaceae	*Euphorbia sharkoensis*	
Euphorbiaceae	*Monotaxis bracteata*	
Euphorbiaceae	*Ricinocarpos muricatus*	
Fabaceae	*Acacia ? andrewsii*	
Fabaceae	*Acacia acuminata*	
Fabaceae	*Acacia andrewsii*	
Fabaceae	*Acacia blakelyi*	
Fabaceae	*Acacia cavealis*	
Fabaceae	*Acacia chartacea*	
Fabaceae	*Acacia cochlearis*	
Fabaceae	*Acacia hopperiana*	R.E
Fabaceae	*Acacia idiomorpha*	
Fabaceae	*Acacia leptospermoides ?* subsp. *leptospermoides*	
Fabaceae	*Acacia lineolata* subsp. *lineolata*	R.E
Fabaceae	*Acacia longispinea*	
Fabaceae	*Acacia neurophylla* subsp. *erugata*	
Fabaceae	*Acacia plautella*	P3, R.E
Fabaceae	*Acacia ramulosa*	
Fabaceae	*Acacia restiacea*	
Fabaceae	*Acacia rhodophloia*	
Fabaceae	*Acacia rostellifera*	
Fabaceae	*Acacia sessilis*	R.E
Fabaceae	*Acacia signata*	
Fabaceae	*Acacia spathulifolia*	
Fabaceae	*Acacia stereophylla* var. *cylindrata*	P2, R.E
Fabaceae	*Acacia tetragonophylla*	
Fabaceae	*Acacia xanthina*	
Fabaceae	*Acacia bidentata*	

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Family	Species	Status
Fabaceae	*Acacia? nigripilosa* subsp. *nigripilosa*	
Fabaceae	*Aotus phylicoides*	
Fabaceae	*Bossiaea calcicola*	P3
Fabaceae	*Bossiaea eriocarpa*	
Fabaceae	*Bossiaea spinescens*	
Fabaceae	*Chorizema racemosum*	
Fabaceae	*Cristonia stenophylla*	R.E
Fabaceae	*Daviesia benthamii*	
Fabaceae	*Daviesia hakeoides* subsp. *hakeoides*	
Fabaceae	*Daviesia ramosissima*	
Fabaceae	*Gompholobium tomentosum*	
Fabaceae	*Indigofera ? chamaecladus* subsp. *pubens*	
Fabaceae	*Indigofera occidentalis*	
Fabaceae	*Isotropis* sp. Shark Bay (M. E. Trudgen 7170)	
Fabaceae	*Jacksonia arenicola*	
Fabaceae	*Jacksonia dendrospinosa*	P4, R.E
Fabaceae	*Jacksonia hakeoides*	
Fabaceae	*Jacksonia velutina*	R.E
Fabaceae	*Jacksonia rigida*	
Fabaceae	*Labichea teretifolia* subsp. *teretifolia*	
Fabaceae	*Leptosema aphyllum*	
Fabaceae	*Leptosema tomentosum*	
Fabaceae	*Lotus australis*	
Fabaceae	*Medicago polymorpha*	*
Fabaceae	*Mirbelia ? spinosa*	
Fabaceae	*Mirbelia balsiformis*	
Fabaceae	*Mirbelia corallina*	P3
Fabaceae	*Mirbelia ramulosa*	
Fabaceae	*Senna artemisioides* subsp. *filifolia*	
Fabaceae	*Senna glutinosa* subsp. *chatelainiana*	
Fabaceae	*Sphaerolobium gracile*	
Fabaceae	*Swainsona canescens*	
Fabaceae	*Swainsona leeana*	
Fabaceae	*Trifolium arvense*	*
Frankeniaceae	*Frankenia confusa*	
Frankeniaceae	*Frankenia pauciflora*	
Geraniaceae	*Erodium cicutarium*	*
Geraniaceae	*Erodium cygnorum*	

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Family	Species	Status
Geraniaceae	*Pelargonium littorale*	
Goodeniaceae	*Brunonia australis*	
Goodeniaceae	*Dampiera altissima*	
Goodeniaceae	*Dampiera oligophylla*	
Goodeniaceae	*Dampiera altissima*	
Goodeniaceae	*Dampiera incana* var. *fuscescens*	
Goodeniaceae	*Goodenia berardiana*	
Goodeniaceae	*Goodenia* sp. (insufficient material)	
Goodeniaceae	*Lechenaultia hirsuta*	
Goodeniaceae	*Lechenaultia linarioides*	
Goodeniaceae	*Scaevola canescens*	
Goodeniaceae	*Scaevola crassifolia*	
Goodeniaceae	*Scaevola porocarya*	
Goodeniaceae	*Scaevola spinescens*	
Goodeniaceae	*Scaevola thesioides* subsp. *thesioides*	R.E
Goodeniaceae	*Scaevola tomentosa*	
Goodeniaceae	*Scaevola chrysopogon*	P2
Goodeniaceae	*Scaevola* sp.? Golden hairs (D. & B. Bellairs 1450)	P1
Haemodoraceae	*Anigozanthos manglesii* subsp. *quadrans*	
Haemodoraceae	*Conostylis aculeata* subsp. *echinissima*	
Haemodoraceae	*Conostylis androstemma*	
Haemodoraceae	*Conostylis candicans* subsp. *flaviflolia*	
Haemodoraceae	*Conostylis prolifera*	
Haemodoraceae	*Conostylis stylidioides*	
Haemodoraceae	*Conostylis aculeata* subsp. *septentrionora*	
Haemodoraceae	*Haemodorum discolor*	
Haloragaceae	*Glischrocaryon aureum*	
Haloragaceae	*Glischrocaryon angustifolium*	
Haloragaceae	*Haloragis trigonocarpa*	
Hemerocallidaceae	*Corynotheca* aff. *dichotoma*	FOI
Hemerocallidaceae	*Corynotheca micrantha*	
Hemerocallidaceae	*Corynotheca* sp. (insufficient material)	
Hemerocallidaceae	*Dianella revoluta var. divaricata*	
Hemerocallidaceae	*Tricoryne elatior*	
Iridaceae	*Patersonia graminea*	
Iridaceae	*Patersonia occidentalis* var. *occidentalis*	
Juncaceae	*Juncus capitatus*	*
Juncaginaceae	*Triglochin isingiana*	

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Family	Species	Status
Juncaginaceae	*Triglochin nana*	
Juncaginaceae	*Triglochin trichophora*	
Lamiaceae	*Dasymalla glutinosa*	P3
Lamiaceae	*Dicrastylis micrantha*	P3, R.E
Lamiaceae	*Hemiandra* sp. Kalbarri (D. Bellairs 1505)	P2
Lamiaceae	*Hemigenia drummondii*	R.E
Lamiaceae	*Hemigenia saligna*	P3
Lamiaceae	*Lachnostachys eriobotrya*	
Lamiaceae	*Physopsis chrysophylla*	P3
Lamiaceae	*Pityrodia hemigenioides*	
Lamiaceae	*Quoya atriplicina*	
Lamiaceae	*Quoya cuneata*	
Lamiaceae	*Quoya loxocarpa*	
Lamiaceae	*Westringia dampieri*	
Lauraceae	*Cassytha aurea* var. *hirta*	
Lauraceae	*Cassytha flava*	
Lauraceae	*Cassytha aurea* var. *aurea*	
Lentibulariaceae	*Utricularia tenella*	
Loganiaceae	*Orianthera ? spermacocea*	
Loranthaceae	*Amyema linophylla* subsp. *linophylla*	
Loranthaceae	*Amyema miraculosa* subsp. *miraculosa*	
Loranthaceae	*Nuytsia floribunda*	R.E
Macarthuriaceae	*Macarthuria intricata*	P3
Malvaceae	*Abutilon oxycarpum* subsp. Prostrate (A.A. Mitchell PRP 1266)	P2
Malvaceae	*Alyogyne hakeifolia*	
Malvaceae	*Alyogyne pinoniana*	
Malvaceae	*Alyogyne* sp. 1	FOI
Malvaceae	*Alyogyne* sp. 2	FOI
Malvaceae	*Androcalva gaudichaudii*	P2
Malvaceae	*Commersonia borealis*	
Malvaceae	*Commersonia densiflora*	
Malvaceae	*Guichenotia ? basiviridis*	P2
Malvaceae	*Guichenotia intermedia*	P2
Malvaceae	*Hannafordia quadrivalvis*	P2
Malvaceae	*Hibiscus drummondii*	P2
Malvaceae	*Lasiopetalum angustifolium*	P2
Malvaceae	*Lasiopetalum oppositifolium*	P2

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Family	Species	Status
Malvaceae	*Seringia hermanniifolia*	
Malvaceae	*Seringia integrifolia*	
Malvaceae	*Sida* sp. dark green fruits (S. van Leeuwen 2260)	
Montiaceae	*Calandrinia baccata*	
Montiaceae	*Calandrinia corrigioloides*	
Montiaceae	*Calandrinia flava*	
Montiaceae	*Calandrinia granulifera*	
Montiaceae	*Calandrinia liniflora*	
Montiaceae	*Calandrinia polyandra*	
Montiaceae	*Calandrinia polypetala*	
Montiaceae	*Calandrinia remota*	
Montiaceae	*Calandrinia* sp. (insufficient material)	
Montiaceae	*Calandrinia* sp. Shark Bay (A. Markey 1405)	
Montiaceae	*Calandrinia translucens*	
Myrtaceae	*Baeckea* sp. East Nabawa (M.E. Trudgen MET 21623)	
Myrtaceae	*Baeckea* sp. Eurardy Station (Wildflower Society of W.A. EURA 15)	
Myrtaceae	*Baeckea* sp. Murchison River (M.E Trudgen 12009)	
Myrtaceae	*Beaufortia aestiva*	
Myrtaceae	*Beaufortia sprengelioides*	
Myrtaceae	*Calothamnus blepharospermus*	
Myrtaceae	*Calothamnus chrysanthereus*	
Myrtaceae	*Calothamnus oldfieldii*	
Myrtaceae	*Calothamnus phellosus*	R.E
Myrtaceae	*Calothamnus quadrifidus* subsp. *obtusus*	
Myrtaceae	*Calytrix brevifolia*	
Myrtaceae	*Calytrix harvestiana*	P2
Myrtaceae	*Calytrix* sp. (insufficient material)	
Myrtaceae	*Calytrix strigosa*	
Myrtaceae	*Chamelaucium* sp. Coolcalalaya (A.H. Burbidge 4233)	P1
Myrtaceae	*Eremaea dendroidea*	
Myrtaceae	*Eremaea ebracteata* var. *ebracteata*	R.E
Myrtaceae	*Eucalyptus dolichocera*	
Myrtaceae	*Eucalyptus erythrocorys*	
Myrtaceae	*Eucalyptus eudesmioides*	
Myrtaceae	*Eucalyptus jucunda*	
Myrtaceae	*Eucalyptus loxophleba* subsp. *supralaevis*	
Myrtaceae	*Eucalyptus pallida*	

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Family	Species	Status
Myrtaceae	*Eucalyptus rigidula*	
Myrtaceae	*Eucalyptus roycei*	
Myrtaceae	*Eucalyptus zopherophloia*	P4
Myrtaceae	*Eucalyptus camaldulensis*	
Myrtaceae	*Eucalyptus gittinsii* subsp. *gittinsii*	
Myrtaceae	*Lamarchea hakeifolia* var. *brevifolia*	
Myrtaceae	*Malleostemon hursthousei*	
Myrtaceae	*Malleostemon microphyllus*	P2, R.E
Myrtaceae	*Melaleuca ? bisulcata*	
Myrtaceae	*Melaleuca ? leuropoma*	
Myrtaceae	*Melaleuca calothamnoides*	
Myrtaceae	*Melaleuca campanae*	
Myrtaceae	*Melaleuca cardiophylla*	
Myrtaceae	*Melaleuca concreta*	
Myrtaceae	*Melaleuca conothamnoides*	
Myrtaceae	*Melaleuca eleuterostachya*	
Myrtaceae	*Melaleuca filifolia*	
Myrtaceae	*Melaleuca lara*	
Myrtaceae	*Melaleuca leiopyxis*	
Myrtaceae	*Melaleuca megacephala*	
Myrtaceae	*Melaleuca psammophila*	
Myrtaceae	*Melaleuca radula*	
Myrtaceae	*Melaleuca* sp. (aff. *sclerophylla)*	FOI
Myrtaceae	*Melaleuca uncinata*	
Myrtaceae	*Melaleuca atroviridis*	
Myrtaceae	*Melaleuca keigheryi*	R.E
Myrtaceae	*Melaleuca leiocarpa*	
Myrtaceae	*Melaleuca venusta*	FOI
Myrtaceae	*Phymatocarpus porphyrocephalus*	
Myrtaceae	*Pileanthus aurantiacus*	P1
Myrtaceae	*Pileanthus peduncularis ?* subsp. *peduncularis*	
Myrtaceae	*Pileanthus peduncularis* subsp. *pilifer*	
Myrtaceae	*Pileanthus vernicosus*	
Myrtaceae	*Scholtzia oleosa*	P3
Myrtaceae	*Scholtzia oligandra*	R.E
Myrtaceae	*Scholtzia* sp. (insufficient material)	
Myrtaceae	*Scholtzia* sp. Folly Hill (M.E. Trudgen 12.9097)	P2
Myrtaceae	*Scholtzia umbellifera*	

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Family	Species	Status
Myrtaceae	*Scholtzia obovata*	
Myrtaceae	*Thryptomene caduca*	P3, R.E
Myrtaceae	*Thryptomene calcicola*	P2
Myrtaceae	*Thryptomene denticulata*	
Myrtaceae	*Thryptomene globifera*	
Myrtaceae	*Thryptomene johnsonii*	P2, R.E
Myrtaceae	*Thryptomene* sp. (insufficient material)	
Myrtaceae	*Thryptomene* sp. Carrarang (M.E Trudgen 7420)	P1, R.E
Myrtaceae	*Thryptomene* sp. Eagle Gorge (A.G. Gunness 2360)	P2
Myrtaceae	*Thryptomene strongylophylla*	
Myrtaceae	*Verticordia capillaris*	P4
Myrtaceae	*Verticordia cooloomia*	P3
Myrtaceae	*Verticordia dichroma* var. *dichroma*	P3
Myrtaceae	*Verticordia dichroma* var. *syntoma*	P3
Myrtaceae	*Verticordia lepidophylla* var. *quantula*	P1
Myrtaceae	*Verticordia monadelpha* var. *callitricha*	R.E
Myrtaceae	*Verticordia oculata*	
Myrtaceae	*Verticordia* sp. (insufficient material)	
Myrtaceae	*Verticordia spicata* subsp. *spicata*	
Orchidaceae	*Caladenia ? varians/nobilis*	
Orchidaceae	*Caladenia barbarella*	T
Orchidaceae	*Caladenia flava* subsp. *maculata*	
Orchidaceae	*Caladenia longicauda* subsp. *borealis*	
Orchidaceae	*Caladenia* sp. (insufficient material)	
Orchidaceae	*Caladenia varians*	
Orchidaceae	*Diuris carectum*	
Orchidaceae	*Diuris segregata*	R.E
Orchidaceae	*Orchidaceae* sp. (basal leaves only)	
Orchidaceae	*Prasophyllum drummondii*	
Orchidaceae	*Pterostylis macrocalymma*	P1, R.E
Orchidaceae	*Pterostylis setulosa*	
Orchidaceae	*Pterostylis* sp. (insufficient material)	
Orchidaceae	*Pyrorchis nigricans*	
Orchidaceae	*Thelymitra antennifera*	
Oxalidaceae	*Oxalis perennans*	
Oxalidaceae	*Oxalis* sp. (insufficient material)	*
Phyllanthaceae	*Dendrophyllanthus erwinii*	
Phyllanthaceae	*Lysiandra calycina*	

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Family	Species	Status
Phyllanthaceae	*Lysiandra scabra*	
Phyllanthaceae	*Poranthera drummondii*	
Pittosporaceae	*Bursaria occidentalis*	
Pittosporaceae	*Pittosporum phillyreoides*	
Plantaginaceae	*Plantago debilis*	
Poaceae	*Aira cupaniana*	* R.E
Poaceae	*Amphipogon caricinus* var. *caricinus*	R.E
Poaceae	*Aristida contorta*	
Poaceae	*Austrostipa crinita*	
Poaceae	*Austrostipa elegantissima*	
Poaceae	*Austrostipa hemipogon*	R.E
Poaceae	*Austrostipa macalpinei*	
Poaceae	*Austrostipa nodosa*	
Poaceae	*Austrostipa scabra*	
Poaceae	*Austrostipa* sp. (insufficient material)	
Poaceae	*Austrostipa variabilis*	
Poaceae	*Avena barbata*	*
Poaceae	*Bromus rubens*	*
Poaceae	*Ehrharta brevifolia* var. *cuspidata*	*
Poaceae	*Ehrharta longiflora*	*
Poaceae	*Eragrostis barrelieri*	
Poaceae	*Eragrostis dielsii*	
Poaceae	*Hordeum leporinum*	*
Poaceae	*Lamarckia aurea*	*
Poaceae	*Monachather paradoxus*	
Poaceae	*Neurachne alopecuroidea*	
Poaceae	*Paractaenum novae-hollandiae* subsp. *novae-hollandiae*	
Poaceae	*Paspalidium clementii*	
Poaceae	*Pentameris airoides* subsp. *airoides*	*
Poaceae	*Pentameris pallida*	*, R.E
Poaceae	*Phalaris minor*	*
Poaceae	*Poaceae* sp. (insufficient material)	
Poaceae	*Rostraria cristata*	*
Poaceae	*Rostraria pumila*	*
Poaceae	*Rytidosperma setaceum*	
Poaceae	*Rytidosperma* sp. (insufficient material)	
Poaceae	*Schismus barbatus*	
Poaceae	*Spinifex longifolius*	

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Family	Species	Status
Poaceae	*Triodia aff dielsii*	FOI
Poaceae	*Triodia bromoides*	P4
Poaceae	*Triodia danthonioides*	
Poaceae	*Triodia* sp. (insufficient material)	
Poaceae	*Vulpia ? muralis*	*, R.E
Poaceae	*Vulpia myuros*	*
Poaceae	*Vulpia* sp. (insufficient material)	*
Polygalaceae	*Comesperma integerrimum*	
Polygalaceae	*Comesperma scoparium*	
Polygalaceae	*Comesperma volubile*	
Polygalaceae	*Rumex hypogaeus*	* DP
Polygonaceae	*Muehlenbeckia adpressa*	
Primulaceae	*Lysimachia arvensis*	*
Proteaceae	*Banksia ashbyi*	
Proteaceae	*Banksia attenuata*	
Proteaceae	*Banksia fraseri* var. *ashbyi*	
Proteaceae	*Banksia menziesii*	R.E
Proteaceae	*Banksia prionotes*	
Proteaceae	*Banksia sceptrum*	
Proteaceae	*Conospermum microflorum*	
Proteaceae	*Grevillea annulifera*	
Proteaceae	*Grevillea argyrophylla*	
Proteaceae	*Grevillea candelabroides*	
Proteaceae	*Grevillea didymobotrya* subsp. *didymobotrya*	
Proteaceae	*Grevillea eriostachya*	
Proteaceae	*Grevillea excelsior*	
Proteaceae	*Grevillea gordoniana*	
Proteaceae	*Grevillea* sp. (insufficient material)	
Proteaceae	*Grevillea stenomera*	P2
Proteaceae	*Hakea bucculenta*	
Proteaceae	*Hakea candolleana*	
Proteaceae	*Hakea circumalata*	
Proteaceae	*Hakea lissocarpha*	
Proteaceae	*Hakea* sp. (insufficient material)	
Proteaceae	*Hakea stenophylla* subsp. *notialis*	
Proteaceae	*Hakea trifurcata*	
Proteaceae	*Hakea erinacea*	
Proteaceae	*Hakea recurva* subsp. *recurva*	

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Family	Species	Status
Proteaceae	*Persoonia acicularis*	
Proteaceae	*Petrophile macrostachya*	
Proteaceae	*Petrophile pilostyla* subsp. *pilostyla*	
Proteaceae	*Petrophile semifurcata*	
Proteaceae	*Synaphea spinulosa subsp. spinulosa*	
Proteaceae	*Xylomelum angustifolium*	
Pteridaceae	*Cheilanthes adiantoides*	
Ranunculaceae	*Clematis linearifolia*	
Restionaceae	*Desmocladus asper*	
Restionaceae	*Desmocladus ferruginipes*	P1
Restionaceae	*Lepidobolus ? eurardyensis*	P1, R.E
Restionaceae	*Lepidobolus preissianus* ? subsp. *volubilis*	
Restionaceae	*Lepidobolus preissianus* subsp. *preissianus*	
Rhamnaceae	*Cryptandra arbutiflora* var. *borealis*	
Rhamnaceae	*Cryptandra mutila*	
Rhamnaceae	*Cryptandra multispina*	
Rhamnaceae	*Stenanthemum complicatum*	
Rhamnaceae	*Stenanthemum divaricatum*	P3
Rhamnaceae	*Stenanthemum notiale* subsp. *notiale*	
Rhamnaceae	*Stenanthemum pomaderroides*	
Rubiaceae	*Galium murale*	*, R.E
Rubiaceae	*Opercularia spermacocea*	
Rutaceae	*Boronia purdieana* subsp. *calcicola*	
Rutaceae	*Cyanothamnus coerulescens* subsp. *spicatus*	
Rutaceae	*Cyanothamnus coerulescens* subsp. *spinescens*	
Rutaceae	*Diplolaena mollis*	
Rutaceae	*Diplolaena grandiflora*	
Rutaceae	*Geleznowia ? amabilis*	P2, R.E
Rutaceae	*Geleznowia verrucosa*	
Santalaceae	*Exocarpos aphyllus*	
Santalaceae	*Exocarpos sparteus*	
Santalaceae	*Santalum spicatum*	
Santalaceae	*Santalum acuminatum*	
Sapindaceae	*Alectryon oleifolius* subsp. *oleifolius*	
Sapindaceae	*Diplopeltis intermedia* var. *incana*	
Sapindaceae	*Diplopeltis intermedia* var. *intermedia*	
Sapindaceae	*Diplopeltis petiolaris*	
Sapindaceae	*Dodonaea inaequifolia*	

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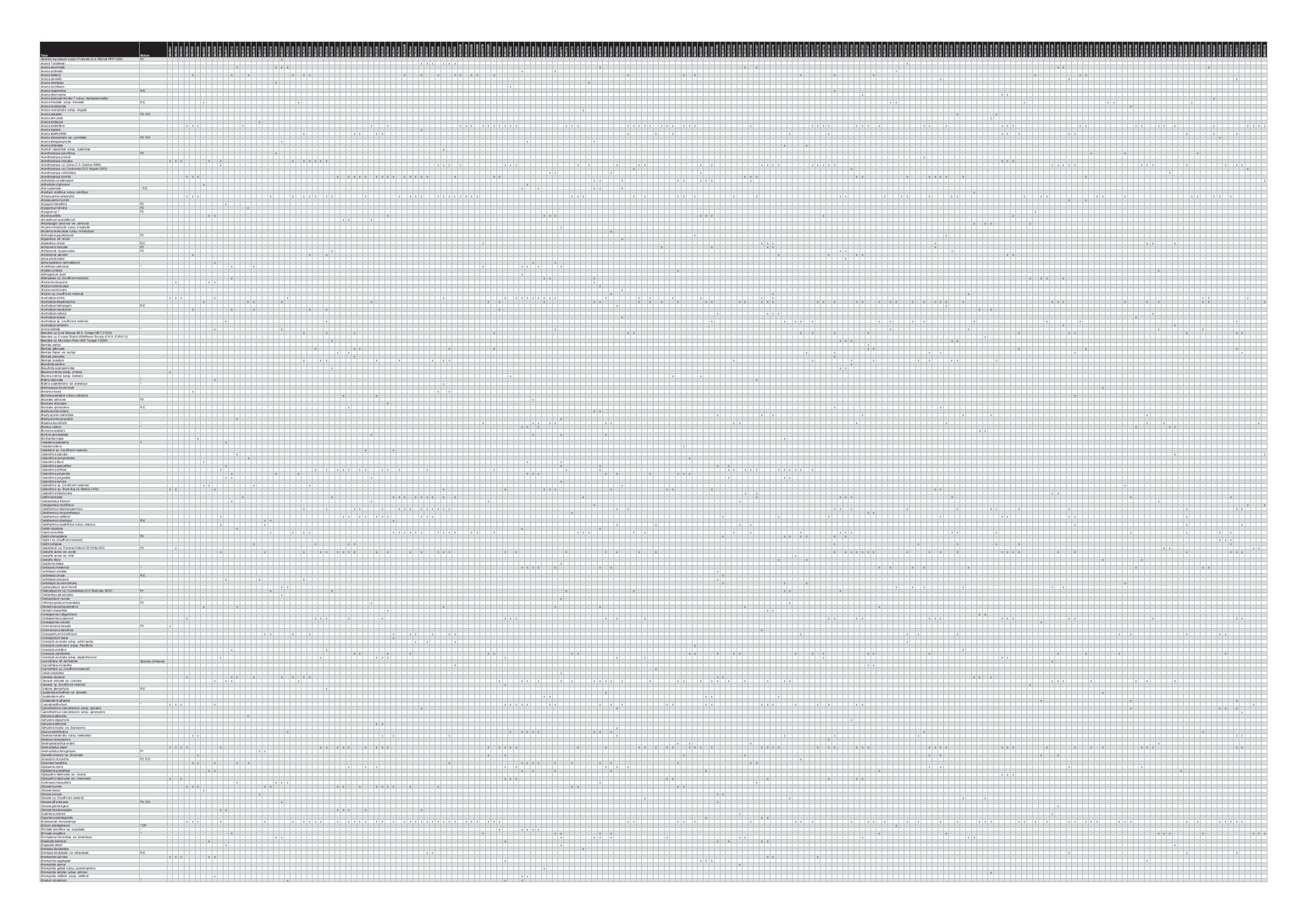
Family	Species	Status
Scrophulariaceae	*Eremophila clarkei*	
Scrophulariaceae	*Eremophila glabra* subsp. *psammophera*	
Scrophulariaceae	*Eremophila latrobei* subsp. *latrobei*	
Scrophulariaceae	*Eremophila oldfieldii* subsp. *oldfieldii*	
Solanaceae	*Anthocercis intricata*	P3
Solanaceae	*Anthotroche myoporoides*	P3
Solanaceae	*Anthotroche walcottii*	
Solanaceae	*Nicotiana occidentalis*	
Solanaceae	*Solanum hesperium*	
Solanaceae	*Solanum nigrum*	*
Solanaceae	*Solanum oldfieldii*	
Solanaceae	*Solanum orbiculatum* subsp. *orbiculatum*	
Solanaceae	*Solanum* sp. (insufficient material)	
Stylidiaceae	*Levenhookia ? stipitata*	
Stylidiaceae	*Levenhookia* sp. (insufficient material)	
Stylidiaceae	*Stylidium androsaceum*	
Stylidiaceae	*Stylidium elongatum*	
Stylidiaceae	*Stylidium kalbarriense*	
Stylidiaceae	*Stylidium repens*	
Surianaceae	*Stylobasium australe*	
Surianaceae	*Stylobasium spathulatum*	
Tamaricaceae	*Tamarix aphylla*	* (planted)
Thymelaeaceae	*Pimelea gilgiana*	
Thymelaeaceae	*Pimelea leucantha*	
Thymelaeaceae	*Pimelea microcephala* subsp. *microcephala*	
Urticaceae	*Parietaria cardiostegia*	
Violaceae	*Hybanthus calycinus*	
Violaceae	*Hybanthus floribundus* subsp. *floribundus*	
Vitaceae	*Clematicissus angustissima*	
Zygophyllaceae	*Roepera apiculata*	
Zygophyllaceae	*Roepera fruticulosa*	
Zygophyllaceae	*Roepera lobulata*	

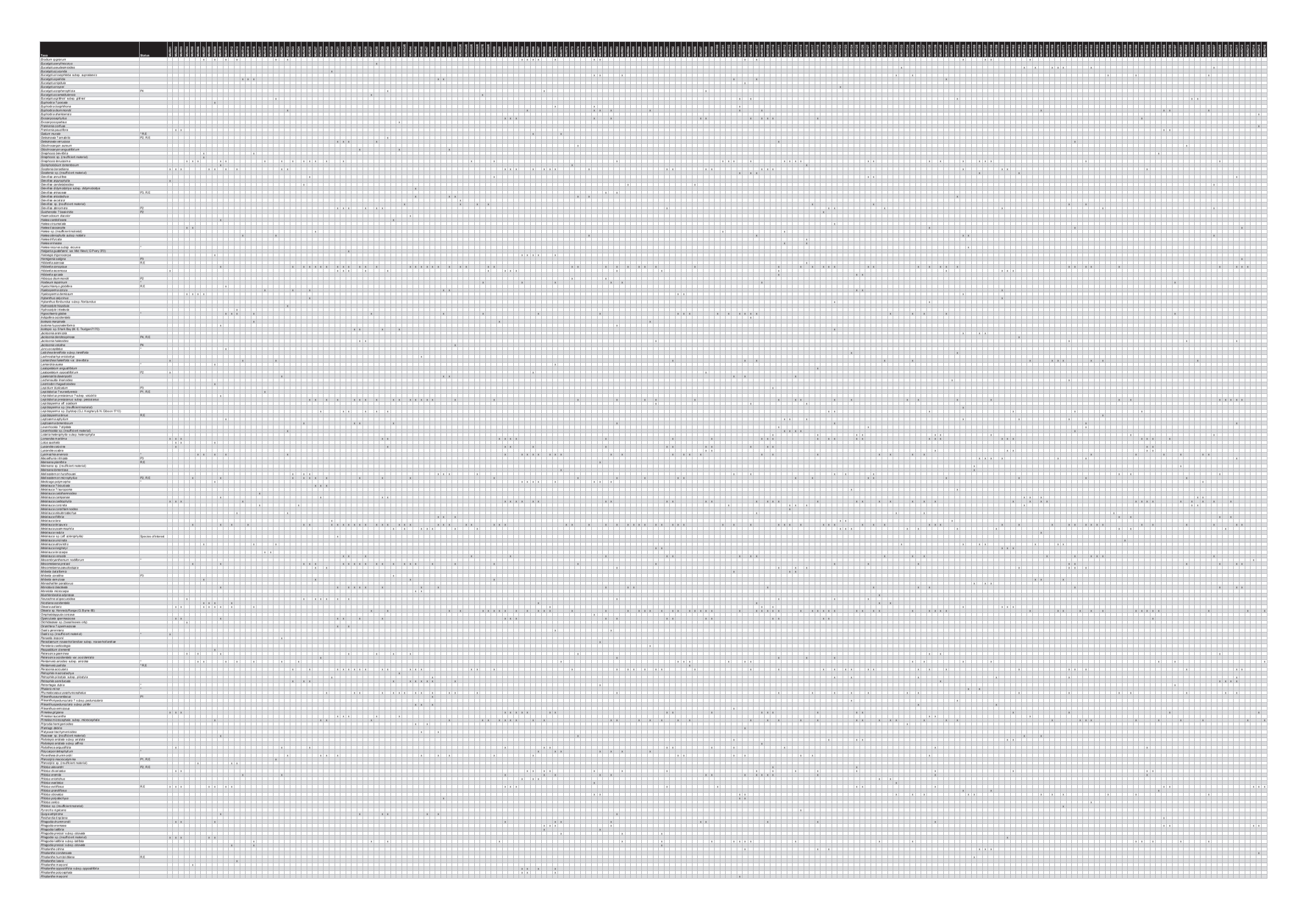
RE-Range Extension

* Denotes a weed

Site matrix

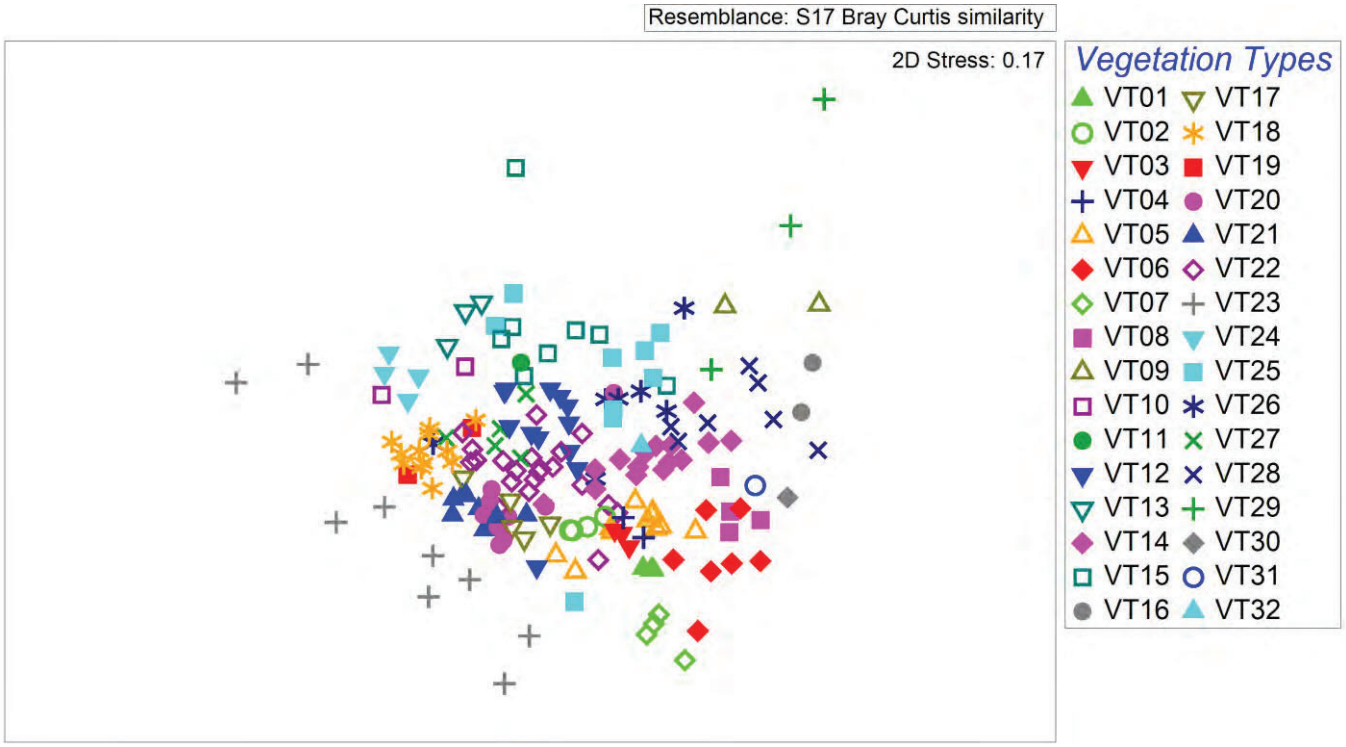
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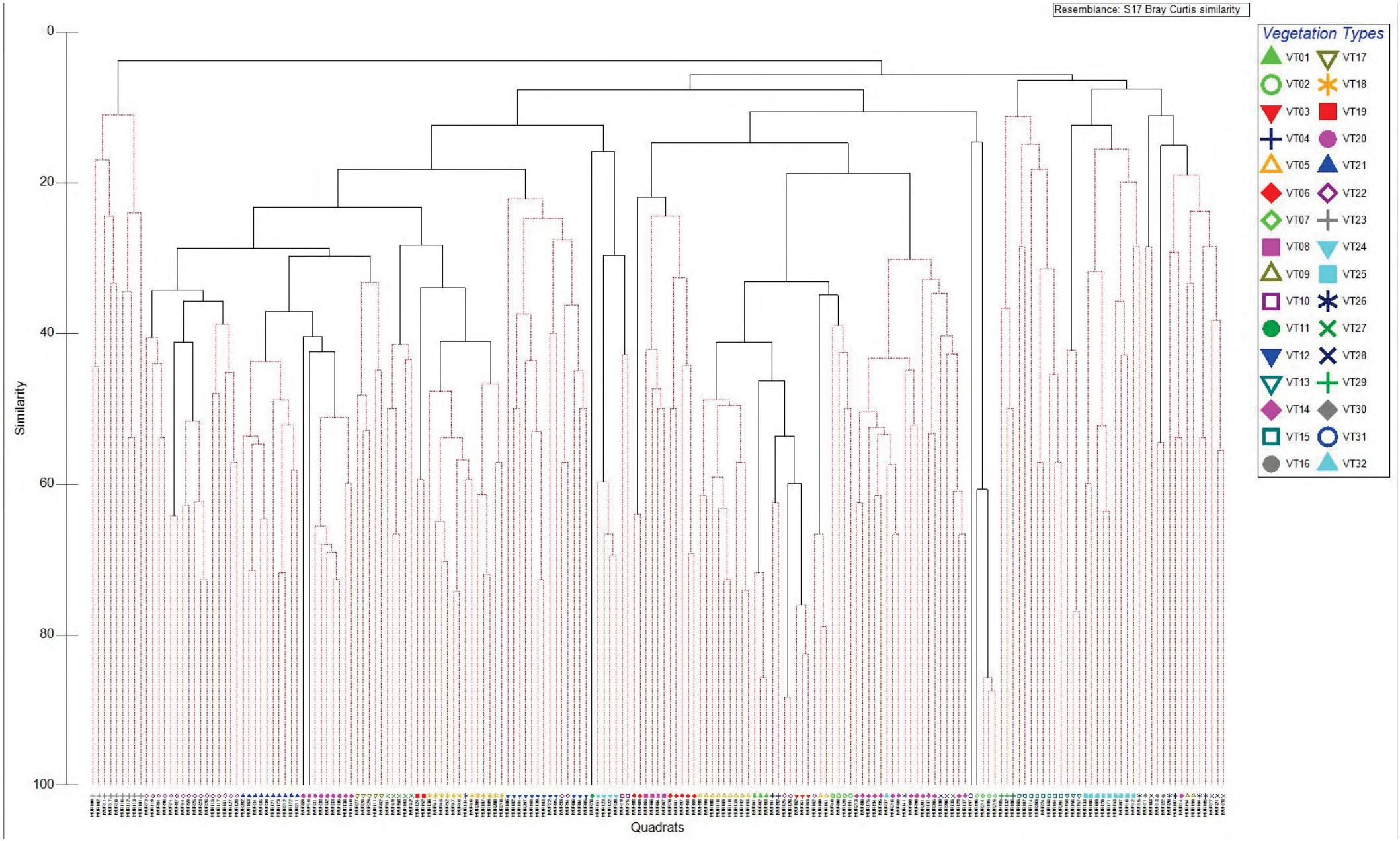




Statistical analysis outputs (two dimensional MDS scatter plot)



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Resemblance: S17 Bray Curtis similarity
Vegetation Types
VT01
VT02
VT03
VT04
VT05
VT06
VT07
VT08
VT09
VT10
VT11
VT12
VT13
VT14
VT15
VT16
VT17
VT18
VT19
VT20
VT21
VT22
VT23
VT24
VT25
VT26
VT27
VT28
VT29
VT30
VT31
VT32
Similarity
0
20
40
60
80
100
Quadrats

Raw sample site data

Site ID:	MUR01	VT01 – (McOaRdSo)
Type:	Quadrat	Size: 10 x 10 m
Date:	06/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	213877.6589	6955781.369
Landform:	Coastal cliffs	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus robustus		1	0.1	Heath shrub (M)	Vegetative
Austrostipa crinita		1	0.25	Other grass (G)	Fruit
Beyeria cinerea subsp. *cinerea*		1	0.1	Heath shrub (M)	Vegetative
Calandrinia sp. Shark Bay (A. Markey 1405)		1	0.1	Forb (G)	Flower
Commersonia borealis		1	0.25	Heath shrub (M)	Flowerbud
Cuscuta epithymum	*	1	0.1	Forb (G)	Flower
Desmocladus asper		5	0.1	Sedge (G)	Fruit
Diplopeltis intermedia var. *intermedia*		1	0.1	Heath shrub (M)	Vegetative
Eremophea spinosa		1	0.1	Chenopod shrub (M)	Fruit
Goodenia berardiana		1	0.1	Forb (G)	Flower
Grevillea argyrophylla		1	0.25	Heath shrub (M)	Flower
Hibbertia racemosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Lamarchea hakeifolia var. *brevifolia*		1	0.25	Heath shrub (M)	Flowerbud
Lasiopetalum oppositifolium	P3	5	0.25	Heath shrub (M)	Vegetative
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca cardiophylla		10	0.25	Heath shrub (M)	Fruit
Oxalis sp. (insufficient material)	*	1	0.1	Forb (G)	Vegetative
Pimelea gilgiana		1	0.25	Heath shrub (M)	Flower
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia sp. (insufficient material)		1	0.1	Chenopod shrub (M)	Vegetative
Scholtzia oligandra	R.E	1	0.25	Heath shrub (M)	Flower

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Site ID:	MUR02	VT01 – (McOaRdSo)
Type:	Quadrat	Size: 10 x 10 m
Date:	06/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	213844.8296	6955362.824
Landform:	Coastal heathland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus robustus		1	0.1	Heath shrub (M)	Vegetative
Atriplex bunburyana		2	0.25	Chenopod shrub (M)	Fruit
Austrostipa crinita		1	0.25	Other grass (G)	Fruit
Calandrinia sp. *Shark Bay* (A. Markey 1405)		1	0.1	Forb (G)	Flower
Carpobrotus sp. *Thevenard Island* (M. White 050)	P3	1	0.1	Chenopod shrub (M)	Flower
Cuscuta epithymum	*	1	0.1	Forb (G)	Flower
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Eremophea spinosa		1	0.25	Chenopod shrub (M)	Immature fruit
Frankenia pauciflora		1	0.5	Shrub, cycad, grass-tree (M)	Flowerbud
Goodenia berardiana		1	0.1	Forb (G)	Flower
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Lotus australis		1	0.1	Forb (G)	Flower
Lysiandra calycina		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca cardiophylla		3	0.5	Mallee shrub (M)	Fruit
Olearia axillaris		5	0.75	Heath shrub (M)	Vegetative
Opercularia spermacocea		1	0.1	Forb (G)	Fruit
Pimelea gilgiana		1	0.25	Heath shrub (M)	Flowerbud
Podotheca angustifolia		1	0.1	Forb (G)	Flower
Ptilotus divaricatus		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia drummondii		1	0.25	Chenopod shrub (M)	Immature fruit
Rhagodia sp. (insufficient material)		1	0.25	Chenopod shrub (M)	Vegetative
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Scholtzia oligandra	R.E	1	0.25	Heath shrub (M)	Flower
Solanum oldfieldii		1	0.1	Heath shrub (M)	Flower
Stylobasium spathulatum		1	0.25	Heath shrub (M)	Vegetative
Trachymene pilosa		1	0.1	Forb (G)	Flower
Tricoryne elatior		1	0.5	Forb (G)	Flower
Wurmbea dilatata		1	0.1	Forb (G)	Fruit



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Site ID:	MUR03	VT01 – (McOaRdSo)
Type:	Quadrat	Size: 10 x 10 m
Date:	06/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	213682.2328	6955794.341
Landform:	Coastal heathland	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus robustus		1	0.1	Heath shrub (M)	Vegetative
Austrostipa crinita		1	0.25	Other grass (G)	Fruit
Cuscuta epithymum	*	1	0.1	Forb (G)	Flower
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Diplopeltis intermedia var. *intermedia*		1	0.1	Heath shrub (M)	Vegetative
Eremophea spinosa		1	0.1	Chenopod shrub (M)	Immature fruit
Frankenia pauciflora		1	0.5	Heath shrub (M)	Vegetative
Goodenia berardiana		1	0.1	Forb (G)	Vegetative
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Lotus australis		1	0.1	Forb (G)	Flower
Melaleuca cardiophylla		1	0.5	Heath shrub (M)	Vegetative
Olearia axillaris		5	0.75	Heath shrub (M)	Vegetative
Opercularia spermacocea		1	0.1	Forb (G)	Vegetative
Pimelea gilgiana		1	0.25	Heath shrub (M)	Vegetative
Ptilotus divaricatus		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia drummondii		1	0.1	Chenopod shrub (M)	Flowerbud
Rhagodia sp. (insufficient material)		1	0.25	Chenopod shrub (M)	Flower
Roepera fruticulosa		1	0.25	Forb (G)	Fruit
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit
Scholtzia oligandra	R.E	4	0.25	Heath shrub (M)	Flower
Solanum oldfieldii		1	0.1	Heath shrub (M)	Flower
Thryptomene calcicola	P2	1	0.25	Heath shrub (M)	Dehisced fruit
Trachymene pilosa		1	0.1	Forb (G)	Flower
Tricoryne elatior		1	1	Forb (G)	Flower

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Site ID:	MUR04	VT12 – (AcArAb)
Type:	Quadrat	Size: 10 x 10 m
Date:	06/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	219250.3744	6960450.091
Landform:	Allocasuarina woodland	
Bare ground:	2-10%	
Litter cover:	31-70%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		3	2	Mallee shrub (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Vegetative
Allocasuarina campestris		70	2	Shrub, cycad, grass-tree (M)	Fruit
Comesperma scoparium		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Crassula closiana		1	0.1	Forb (G)	Flowerbud
Desmocladus asper		1	0.1	Sedge (G)	Immature fruit
Drosera humilis		1	0.1	Forb (G)	Vegetative
Ecdeiocolea monostachya		3	0.75	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Vegetative
Hakea lissocarpha		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Hyalosperma demissum		1	0.1	Forb (G)	Flowerbud
Neurachne alopecuroidea		1	0.25	Other grass (G)	Fruit
Orchidaceae sp. (basal leaves only)		1	0.1	Forb (G)	Vegetative
Patersonia graminea		1	0.25	Forb (G)	Flowerbud
Schoenus latitans		2	0.1	Sedge (G)	Vegetative
Seringia integrifolia		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Thysanotus exfimbriatus		1	0.5	Forb (G)	Flowerbud
Trachymene pilosa		1	0.1	Forb (G)	Flower
Triodia bromoides	P4	1	0.1	Hummock grass (G)	Fruit

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Site ID:	MUR05	VT12 – (AcArAb)
Type:	Quadrat	Size: 10 x 10 m
Date:	07/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	219724.2957	6960338.409
Landform:	Allocasuarina sandplain	
Bare ground:	31-70%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		2	2	Shrub, cycad, grass-tree (M)	Flower
Acacia rostellifera		3	2.75	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.1	Sedge (G)	Vegetative
Allocasuarina campestris		35	2	Heath shrub (M)	Fruit
Anthotroche walcottii		1	0.25	Heath shrub (M)	Vegetative
Austrostipa macalpinei		1	0.1	Other grass (G)	Fruit
Bonamia rosea		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Daviesia hakeoides subsp. *hakeoides*		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Dioscorea hastifolia		1	0.5	Vine (G)	Vegetative
Drosera humilis		1	0.1	Forb (G)	Vegetative
Ecdeiocolea monostachya		20	0.75	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Vegetative
Hakea lissocarpha		1	1	Shrub, cycad, grass-tree (M)	Fruit
Hyalosperma demissum		1	0.1	Forb (G)	Flowerbud
Malleostemon microphyllus	P2, R.E	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Mesomelaena preissii		1	0.5	Sedge (G)	Dehisced fruit
Rhodanthe maryonii		1	1.25	Forb (G)	Fruit
Schoenus latitans		1	0.1	Sedge (G)	Vegetative
Wahlenbergia gracilenta		1	0.1	Forb (G)	Flowerbud
Wurmbea dilatata		2	0.1	Forb (G)	Fruit

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Site ID:	MUR06	VT12 – (AcArAb)
Type:	Quadrat	Size: 10 x 10 m
Date:	07/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	221737.7484	6960042.136
Landform:	Allocasuarina thickets	
Bare ground:	2-10%	
Litter cover:	31-70%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		2	2.25	Heath shrub (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Vegetative
Allocasuarina campestris		60	2	Shrub, cycad, grass-tree (M)	Fruit
Burchardia rosea		1	0.25	Forb (G)	Flowerbud
Daviesia hakeoides subsp. *hakeoides*		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Dianella revoluta var. *divaricata*		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Dioscorea hastifolia		1	0.5	Vine (G)	Vegetative
				Vine (G)	Vegetative
Drosera humilis		1	0.1	Forb (G)	Vegetative
Ecdeiocolea monostachya		10	0.75	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Vegetative
Hyalosperma demissum		1	0.1	Fern (G)	Flowerbud
				Forb (G)	Flowerbud
Lysimachia arvensis	*	1	0.1	Forb (G)	Flower
Patersonia graminea		1	0.1	Sedge (G)	Immature fruit
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Flower
Pterostylis sp. (insufficient material)		1	0.1	Forb (G)	Vegetative
Schoenus nanus		1	0.1	Sedge (G)	Fruit
Seringia hermanniifolia	P2	1	0.25	Heath shrub (M)	Flower
Trachymene pilosa		1	0.1	Forb (G)	Flower
Waitzia acuminata var. *acuminata*		1	0.1	Forb (G)	Flower

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Site ID:	MUR07	VT25 – (EeEp)
Type:	Quadrat	Size: 10 x 10 m
Date:	07/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	222859.996	6957826.25
Landform:	Drainage	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia lineolata subsp. *lineolata*	R.E	1	0.75	Shrub, cycad, grass-tree (M)	Flower
Actinobole uliginosum		1	0.1	Forb (G)	Flower
Austrostipa elegantissima		1	1	Other grass (G)	Fruit
Calandrinia flava		1	0.1	Forb (G)	Flower
Calandrinia sp. (insufficient material)		1	0.1	Forb (G)	Flower
Clematicissus angustissima		1	0.1	Forb (G)	Vegetative
Drosera neesii		1	0.1	Forb (G)	Flower
Erodium cygnorum		1	0.1	Forb (G)	Fruit
Gnephosis brevifolia		2	0.1	Forb (G)	Flowerbud
Gnephosis sp. (insufficient material)		1	0.1	Forb (G)	Dehisced fruit
Hyalosperma demissum		1	0.1	Forb (G)	Flower
Lysimachia arvensis	*	1	0.1	Forb (G)	Flower
Melaleuca atroviridis		25	2.25	Shrub, cycad, grass-tree (M)	Fruit
Mirbelia ramulosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Nicotiana occidentalis		1	0.25	Forb (G)	Flower
Olearia axillaris		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit

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Site ID:	MUR08	VT06 – (AbOaOkTc)
Type:	Quadrat	Size: 10 x 10 m
Date:	08/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	203386.3667	6977529.358
Landform:	Coastal heathland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus robustus		1	0.25	Heath shrub (M)	Vegetative
Alyxia buxifolia		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Atriplex bunburyana		1	1	Chenopod shrub (M)	Fruit
Calandrinia sp. (insufficient material)		1	0.1	Forb (G)	Flower
Diplolaena grandiflora		1	0.5	Heath shrub (M)	Flower
Eragrostis barrelieri		1	0.1	Other grass (G)	Fruit
Eremophea spinosa		1	0.25	Chenopod shrub (M)	Immature fruit
Goodenia berardiana		1	0.1	Forb (G)	Flower
Nicotiana occidentalis		1	0.25	Forb (G)	Flowerbud
Olearia axillaris		30	1	Shrub, cycad, grass-tree (M)	Vegetative
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia sp. (insufficient material)		2	0.1	Chenopod shrub (M)	Vegetative
Roepera fruticulosa		1	1	Forb (G)	Flower
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit
Scaevola spinescens		1	0.5	Shrub, cycad, grass-tree (M)	Flowerbud
Sonchus oleraceus	*	1	0.1	Forb (G)	Flower
Thryptomene sp. *Carrarang* (M.E Trudgen 7420)	P1, R,E	2	0.75	Shrub, cycad, grass-tree (M)	Flower
Waitzia podolepis		1	0.1	Forb (G)	Flower

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Site ID:	MUR09	VT06 – (AbOaOkTc)
Type:	Quadrat	Size: 10 x 10 m
Date:	08/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	203555.1429	6977527.63
Landform:	Gully	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Loam	
Fire age:	10+ years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Alyxia buxifolia		1	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Aphanopetalum clematideum		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Atriplex bunburyana		4	0.75	Chenopod shrub (M)	Dehisced fruit
Austrostipa crinita		1	0.1	Other grass (G)	Fruit
Avena barbata	*	1	0.25	Other grass (G)	Fruit
Bidens bipinnata	*	1	0.5	Forb (G)	Flowerbud
Calandrinia sp. *Shark Bay* (A. Markey 1405)		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Dioscorea hastifolia		1	0.5	Vine (G)	Vegetative
Diplolaena grandiflora		1	1	Heath shrub (M)	Flower
Eremophea spinosa		1	0.25	Chenopod shrub (M)	Vegetative
Eremophila oldfiedii subsp. *oldfieldii*		1	1.5	Shrub, cycad, grass-tree (M)	Flower
Erodium cygnorum		1	0.1	Forb (G)	Flower
Euphorbia ? porcata		1	0.1	Tree mallee (U)	Fruit
Goodenia berardiana		1	0.1	Forb (G)	Flower
Haloragis trigonocarpa		1	0.1	Forb (G)	Fruit
Lamarckia aurea	*	1	0.1	Other grass (G)	Fruit
Leontodon rhagadioloides		1	0.1	Forb (G)	Flower
Lotus australis		1	0.1	Forb (G)	Flower
Lysimachia arvensis	*	1	0.1	Forb (G)	Flower
Medicago polymorpha	*	2	0.1	Forb (G)	Vegetative
Nicotiana occidentalis		1	0.25	Forb (G)	Flowerbud
Olearia axillaris		3	1	Heath shrub (M)	Vegetative
Paspalidium clementii		1	0.1	Other grass (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Pimelea microcephala subsp. *microcephala*		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia drummondii		1	0.25	Chenopod shrub (M)	Fruit
Rhagodia sp. (insufficient material)		1	0.25	Chenopod shrub (M)	Vegetative
Sonchus oleraceus	*	5	0.1	Forb (G)	Flower
Thryptomene sp. *Carrarang* (M.E Trudgen 7420)	P1, R,E	10	2	Heath shrub (M)	Flower
Thysanotus manglesianus		1	0.1	Forb (G)	Flowerbud
Wahlenbergia gracilenta		1	0.1	Forb (G)	Dehisced fruit

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Site ID:	MUR10	VT20 – (BsCoSuHc)
Type:	Quadrat	Size: 10 x 10 m
Date:	08/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	204926.069	6978748.036
Landform:	Coastal heathland	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus robustus		1	0.1	Sedge (G)	Vegetative
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calothamnus oldfieldii		1	0.5	Heath shrub (M)	Flower
Calothamnus quadrifidus subsp. *obtusus*		5	1	Heath shrub (M)	Flower
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Conostylis aculeata subsp. *septentrionora*		1	0.25	Forb (G)	Flower
Desmocladus asper		1	0.1	Rush (G)	Fruit
Drosera thysanosepala		1	0.1	Forb (G)	Vegetative
Ecdeiocolea monostachya		25	0.75	Rush (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flowerbud
Gompholobium tomentosum		1	0.1	Heath shrub (M)	Flowerbud
Hakea candolleana		1	0.5	Heath shrub (M)	Fruit
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Dehisced fruit
Isotoma hypocrateriformis		1	0.1	Forb (G)	Flowerbud
*Lepidobolus preissianus ?*subsp. *volubilis*		1	0.25	Sedge (G)	Vegetative
Malleostemon microphyllus	P2, R.E	1	0.25	Heath shrub (M)	Flower
Melaleuca campanae		1	0.1	Heath shrub (M)	Fruit
Melaleuca leiopyxis		5	1	Heath shrub (M)	Flower
Mesomelaena preissii		1	0.1	Sedge (G)	Fruit
Monotaxis bracteata		1	0.1	Forb (G)	Flower
Olearia axillaris		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Opercularia spermacocea		1	0.1	Forb (G)	Fruit
Patersonia graminea		1	0.25	Forb (G)	Flower
Poaceae sp. (insufficient material)		1	0.1	Other grass (G)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Quoya atriplicina		1	0.5	Heath shrub (M)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Stylidium repens		1	0.1	Forb (G)	Vegetative
Styphelia cordifolia		1	0.1	Shrub, cycad, grass-tree (M)	Immature fruit
Trachymene pilosa		1	0.1	Forb (G)	Flower
Tricoryne elatior		1	0.1	Forb (G)	Flower
Triodia bromoides	P4	1	0.75	Hummock grass (G)	Fruit



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Site ID:	MUR11	VT23 – (McChSo)
Type:	Quadrat	Size: 10 x 10 m
Date:	09/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	225694.629	6973483.316
Landform:	Claypan	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Alyogyne hakeifolia		1	2.5	Shrub, cycad, grass-tree (M)	Vegetative
Austrostipa sp. (insufficient material)		1	0.1	Other grass (G)	Vegetative
Caladenia barbarella	T	1	0.1	Forb (G)	Flower
Calandrinia granulifera		1	0.1	Forb (G)	Flower
Calandrinia polypetala		1	0.1	Forb (G)	Flower
Centrolepis polygyna		1	0.1	Forb (G)	Fruit
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Drosera thysanosepala		1	0.1	Forb (G)	Flower
Eragrostis dielsii		1	0.1	Other grass (G)	Fruit
Erodium cygnorum		1	0.1	Forb (G)	Flower
Gnephosis tenuissima		1	0.25	Forb (G)	Vegetative
Goodenia berardiana		1	0.1	Forb (G)	Flowerbud
Hyalochlamys globifera	R.E	1	0.1	Forb (G)	Flowerbud
Hypochaeris glabra	*	1	0.1	Forb (G)	Flower
Juncus capitatus	*	1	0.1	Forb (G)	Flower
Leptosema aphyllum		2	0.75	Shrub, cycad, grass-tree (M)	Flower
Lysimachia arvensis	*	1	0.1	Forb (G)	Flower
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Scholtzia oleosa	P3	20	1.5	Heath shrub (M)	Flower
Sonchus oleraceus	*	1	0.1	Forb (G)	Flowerbud
Thelymitra antennifera		1	0.1	Forb (G)	Fruit
Thysanotus manglesianus		1	0.1	Forb (G)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Trachymene pilosa		1	0.1	Forb (G)	Flower
Vulpia myuros	*	1	0.1	Other grass (G)	Fruit
Wurmbea dilatata		1	0.1	Forb (G)	Fruit



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Site ID:	MUR12	VT25 – (EeEp)
Type:	Quadrat	Size: 10 x 10 m
Date:	09/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	225560.8839	6973226.373
Landform:	Melaleuca on claypan edge	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		1	2	Shrub, cycad, grass-tree (M)	Flower
Arctotheca calendula	*	1	0.1	Forb (G)	Vegetative
Asteraceae sp. (insufficient material)		1	0.1	Forb (G)	Vegetative
Austrostipa macalpinei		1	0.1	Other grass (G)	Fruit
Calandrinia polyandra		1	0.1	Forb (G)	Flower
Calandrinia polypetala		1	0.1	Forb (G)	Flower
Calocephalus francisii		1	0.1	Forb (G)	Flower
Conostylis prolifera		1	0.1	Forb (G)	Flower
Crassula closiana		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Ehrharta longiflora	*	1	0.25	Other grass (G)	Fruit
Hypochaeris glabra	*	1	0.1	Forb (G)	Flowerbud
Melaleuca leiopyxis		35	2	Shrub, cycad, grass-tree (M)	Flower
Nicotiana occidentalis		1	0.1	Forb (G)	Flower
Olearia axillaris		1	1.5	Heath shrub (M)	Vegetative
Pterostylis sp. (insufficient material)		1	0.1	Forb (G)	Vegetative
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia preissii subsp. *obovata*		1	2.5	Chenopod shrub (M)	Vegetative
Siemssenia capillaris		1	0.1	Forb (G)	Flower
Tetragonia diptera		1	0.1	Chenopod shrub (M)	Fruit
Thysanotus exfimbriatus		1	0.5	Forb (G)	Flower
Trachymene pilosa	0	1	0.1	Forb (G)	Flower
Triglochin isingiana	0	1	0.1	Forb (G)	Flower

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Site ID:	MUR13	VT16 – (AaMeDi)
Type:	Quadrat	Size: 10 x 10 m
Date:	09/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	230668.5468	6972151.149
Landform:	Mulga woodland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Clay	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia acuminata		20	3	Shrub, cycad, grass-tree (M)	Vegetative
Brachyscome perpusilla		1	0.1	Forb (G)	Flower
Calandrinia baccata		1	0.1	Forb (G)	Flower
Calotis hispidula		1	0.1	Forb (G)	Fruit
Clematicissus angustissima		1	0.1	Forb (G)	Vegetative
Crassula closiana		1	0.1	Forb (G)	Flower
Dioscorea hastifolia		2	1	Vine (G)	Fruit
Dodonaea inaequifolia		2	3	Shrub, cycad, grass-tree (M)	Fruit
Erodium cygnorum		1	0.1	Forb (G)	Flower
Goodenia berardiana		1	0.1	Forb (G)	Flower
Hydrocotyle intertexta		1	0.1	Forb (G)	Flower
Hypochaeris glabra	*	1	0.1	Forb (G)	Flowerbud
Melaleuca eleuterostachya		1	3	Shrub, cycad, grass-tree (M)	Fruit
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Pterostylis sp. (insufficient material)		1	0.1	Forb (G)	Vegetative
Rhodanthe laevis		1	0.1	Forb (G)	Flowerbud
Tetragonia diptera		1	0.1	Shrub, cycad, grass-tree (M)	Fruit
Thysanotus exfimbriatus		1	0.1	Forb (G)	Flowerbud
Trachymene ornata		1	0.1	Forb (G)	Fruit
Waitzia corymbosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR14R	VT26 – (EpErEg)
Type:	Relevé	
Date:	09/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	230426.6982	6971958.527
Landform:	Mallee woodland	
Bare ground:	31-70%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		1	2.75	Shrub, cycad, grass-tree (M)	Flower
Callitris arenaria		1	2	Heath shrub (M)	Fruit
Eucalyptus pallida		3	3	Tree mallee (U)	Fruit
Hakea stenophylla subsp. *notialis*		1	2	Shrub, cycad, grass-tree (M)	Fruit
Lamarchea hakeifolia var. *brevifolia*		2	1.5	Shrub, cycad, grass-tree (M)	Flowerbud
Melaleuca cardiophylla		1	3	Shrub, cycad, grass-tree (M)	Fruit
Ptilotus eremita		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Santalum acuminatum		2	3.25	Tree (U)	Flower
Stylobasium spathulatum		1	0.5	Heath shrub (M)	Vegetative
Triodia bromoides	P4	1	1.75	Hummock grass (G)	Fruit

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Site ID:	MUR15	VT25 – (EeEp)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	223068.4009	6982057.032
Landform:	Mulga woodland	
Bare ground:	<2%	
Litter cover:	31-70%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		40	3.25	Shrub, cycad, grass-tree (M)	Flower
Alyogyne pinoniana		1	1.25	Shrub, cycad, grass-tree (M)	Flowerbud
Austrostipa elegantissima		1	0.1	Other grass (G)	Vegetative
Calandrinia corrigioloides		1	0.1	Forb (G)	Flowerbud
Dampiera altissima		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Dioscorea hastifolia		1	0.5	Vine (G)	Vegetative
Eucalyptus pallida		3	3	Tree mallee (U)	Fruit
Melaleuca leiopyxis		1	1.75	Shrub, cycad, grass-tree (M)	Fruit
Solanum oldfieldii		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Stylobasium spathulatum		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Trachymene pilosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR16	VT25 – (EeEp)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	223267.2932	6982070.625
Landform:	*M. uncinata* group on sand	
Bare ground:	31-70%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Arctotheca calendula	*	1	0.1	Forb (G)	Vegetative
Austrostipa elegantissima		1	0.25	Other grass (G)	Fruit
Austrostipa macalpinei		1	0.1	Other grass (G)	Fruit
Calandrinia sp. (insufficient material)		1	0.1	Forb (G)	Flowerbud
Calytrix strigosa		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Crassula closiana		1	0.1	Forb (G)	Flower
Eucalyptus pallida		1	1.75	Tree mallee (U)	Fruit
Gnephosis brevifolia		1	0.1	Forb (G)	Flower
Hypochaeris glabra	*	1	0.1	Forb (G)	Flowerbud
Isolepis marginata		1	0.1	Sedge (G)	Fruit
Melaleuca atroviridis		15	3.25	Shrub, cycad, grass-tree (M)	Fruit
Olearia axillaris		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Rhagodia latifolia subsp. *latifolia*		1	0.1	Chenopod shrub (M)	Vegetative
Rhagodia preissii subsp. *obovata*		1	0.25	Chenopod shrub (M)	Vegetative
Trachymene pilosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR17	VT23 – (McChSo)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	221417.7174	6981937.338
Landform:	Depression of small leaf myrtles	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia restiacea		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Centrolepis polygyna		1	0.1	Forb (G)	Dehisced fruit
Desmocladus ferruginipes	P1	1	0.5	Sedge (G)	Fruit
Drosera omissa		1	0.1	Forb (G)	Flower
Melaleuca calothamnoides		1	1.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca concreta		3	0.75	Heath shrub (M)	Fruit
Scholtzia oleosa	P3	30	1.25	Heath shrub (M)	Flower
Siemssenia capillaris		1	0.1	Forb (G)	Vegetative
Wurmbea dilatata		1	0.1	Forb (G)	Flower

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Site ID:	MUR18	VT23 – (McChSo)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	221296.2104	6981935.283
Landform:	Small valley between Callitris hills	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Calothamnus phellosus	R.E	1	0.75	Heath shrub (M)	Flower
Calothamnus quadrifidus subsp. *obtusus*		1	0.75	Shrub, cycad, grass-tree (M)	Fruit
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Conospermum microflorum		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Desmocladus ferruginipes	P1	1	0.25	Sedge (G)	Fruit
Drosera humilis		1	0.1	Forb (G)	Vegetative
Ecdeiocolea monostachya		1	0.75	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Vegetative
Hyalosperma cotula		1	0.1	Forb (G)	Flower
Lepidobolus ? *eurardyensis*	P1, R.E	1	0.25	Rush (G)	Vegetative
Melaleuca leiocarpa		1	0.75	Shrub, cycad, grass-tree (M)	Fruit
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Scholtzia oleosa	P3	1	0.75	Shrub, cycad, grass-tree (M)	Flower
Thryptomene sp. (insufficient material)		20	1	Shrub, cycad, grass-tree (M)	Vegetative
Thysanotus exfimbriatus		1	0.5	Forb (G)	Flower

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Site ID:	MUR19	VT10 – (AcAaTd)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	224409.4397	6982157.87
Landform:	Mixed *Myrtaceae* on sand hill	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		20	2	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus phellosus	R.E	1	0.75	Shrub, cycad, grass-tree (M)	Flower
Calytrix brevifolia		2	1	Shrub, cycad, grass-tree (M)	Flower
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1	1	Shrub, cycad, grass-tree (M)	Vegetative
Conospermum microflorum		1	1.75	Shrub, cycad, grass-tree (M)	Flower
Drosera humilis		1	0.1	Forb (G)	Vegetative
Melaleuca leiocarpa		1	1	Heath shrub (M)	Fruit
Scholtzia umbellifera		1	1.5	Shrub, cycad, grass-tree (M)	Vegetative
Thryptomene denticulata		1	1.5	Shrub, cycad, grass-tree (M)	Flower
Verticordia lepidophylla var. *quantula*	P1	2	2	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR20	VT26 – (EpErEg)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	240606.3135	6973340.669
Landform:	Mulga woodland	
Bare ground:	2-10%	
Litter cover:	31-70%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia acuminata		20	3	Shrub, cycad, grass-tree (M)	Vegetative
Acacia chartacea		1	1.5	Shrub, cycad, grass-tree (M)	Vegetative
Acanthocarpus parviflorus	P3	1	0.25	Sedge (G)	Vegetative
Amphipogon caricinus var. *caricinus*	R.E	1	0.25	Hummock grass (G)	Fruit
Calandrinia polyandra		1	0.1	Forb (G)	Flower
Dodonaea inaequifolia		1	2	Shrub, cycad, grass-tree (M)	Fruit
Enchylaena tomentosa var. *tomentosa*		1	0.25	Chenopod shrub (M)	Fruit
Erodium cygnorum		1	0.1	Forb (G)	Flower
Eucalyptus gittinsii subsp. *gittinsii*		2	3.5	Tree mallee (U)	Fruit
Hakea stenophylla subsp. *notialis*		1	2.5	Heath shrub (M)	Fruit
Lamarchea hakeifolia var. *brevifolia*		1	1	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca atroviridis		1	2	Shrub, cycad, grass-tree (M)	Fruit
Pterostylis macrocalymma	P1, R.E	1	0.1	Forb (G)	Flower
Stylobasium spathulatum		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Triodia sp. (insufficient material)		1	0.5	Hummock grass (G)	Fruit
Waitzia corymbosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR21	VT28 – (ElAcAt)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	240423.582	6973339.523
Landform:	Mulga woodland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Clay	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Abutilon oxycarpum subsp. Prostrate (A.A. Mitchell PRP 1266)		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Acacia acuminata		15	3	Shrub, cycad, grass-tree (M)	Vegetative
Acacia tetragonophylla		1	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Amphipogon caricinus var. *caricinus*	R.E	1	0.1	Hummock grass (G)	Fruit
Austrostipa elegantissima		1	0.5	Other grass (G)	Fruit
Avena barbata	*	1	0.5	Other grass (G)	Fruit
Cephalipterum drummondii		1	0.1	Forb (G)	Flower
Cheilanthes adiantoides		1	0.1	Fern (G)	Fruit
Crassula closiana		1	0.1	Forb (G)	Flower
Dodonaea inaequifolia		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Drosera aff. *eremaea*	P3, R.E	1	0.1	Forb (G)	Vegetative
Enchylaena tomentosa var. *tomentosa*		1	0.25	Chenopod shrub (M)	Vegetative
Gnephosis tenuissima		1	0.1	Forb (G)	Flowerbud
Goodenia berardiana		1	0.1	Forb (G)	Flower
Lawrencella davenportii		1	0.1	Forb (G)	Flower
Panaetia lessonii		1	0.1	Forb (G)	Flower
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Podotheca angustifolia		1	0.1	Forb (G)	Flower
Ptilotus eremita		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Roebuckiella cheilocarpa		1	0.1	Forb (G)	Flower
Trachymene ornata		1	0.1	Forb (G)	Fruit
Trachymene pilosa		1	0.1	Forb (G)	Flower
Waitzia corymbosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR22	VT16 – (AaMeDi)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	235257.619	6973277.176
Landform:	Mulga woodland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia acuminata		10	3.5	Shrub, cycad, grass-tree (M)	Vegetative
Austrostipa crinita		1	0.1	Other grass (G)	Immature fruit
Cephalipterum drummondii		50	0.1	Forb (G)	Flower
Daucus glochidiatus		1	0.1	Forb (G)	Flower
Dodonaea inaequifolia		1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Erodium cicutarium	*	1	0.1	Forb (G)	Flower
Erodium cygnorum		1	0.1	Forb (G)	Flower
Euphorbia drummondii		1	0.1	Forb (G)	Fruit
Goodenia berardiana		1	0.1	Forb (G)	Flower
Hydrocotyle hispidula		1	0.1	Forb (G)	Flower
Levenhookia sp. (insufficient material)		1	0.1	Forb (G)	Flower
Lysimachia arvensis	*	1	0.1	Forb (G)	Flower
Melaleuca eleuterostachya		1	2.75	Shrub, cycad, grass-tree (M)	Fruit
Poranthera drummondii		1	0.1	Forb (G)	Flower
Roebuckiella cheilocarpa		1	0.1	Forb (G)	Flower
Roepera lobulata		1	0.1	Forb (G)	Fruit
Solanum oldfieldii		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Sonchus oleraceus	*	1	0.1	Forb (G)	Fruit
Swainsona leeana		1	0.1	Shrub, cycad, grass-tree (M)	Fruit
Trachymene ornata		1	0.1	Forb (G)	Fruit
Trachymene pilosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR23	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	12/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	223157.2133	6967285.23
Landform:	Sand plain	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		4	1	Heath shrub (M)	Vegetative
Acanthocarpus robustus		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		2	1.5	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Conospermum microflorum		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Crassula closiana		1	0.1	Forb (G)	Flower
Ecdeiocolea monostachya		5	1	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Hibbertia conspicua		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Hyalosperma cotula		1	0.1	Forb (G)	Flowerbud
Malleostemon hursthousei		10	1	Shrub, cycad, grass-tree (M)	Flower
Malleostemon microphyllus	P2, R.E	1	0.75	Shrub, cycad, grass-tree (M)	Fruit
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Petrophile semifurcata		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Schoenus latitans		1	0.1	Sedge (G)	Vegetative
Thysanotus exfimbriatus		1		Forb (G)	Flower
Triodia danthonioides		1	1.5	Hummock grass (G)	Fruit

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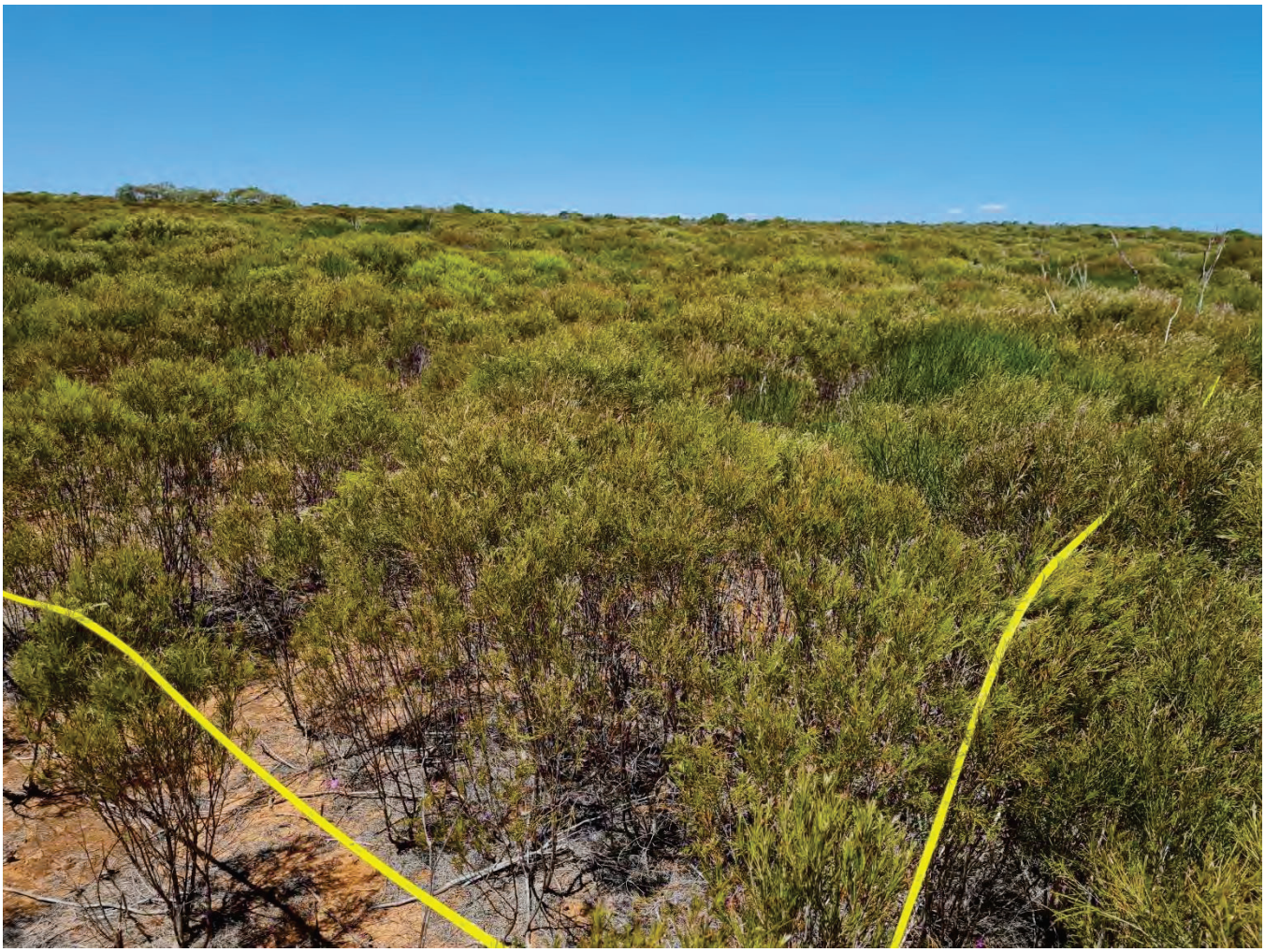


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Site ID:	MUR24	VT15 – (McMcAlAc)
Type:	Quadrat	Size: 10m x 10m
Date:	12/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	222229.0596	6967826.388
Landform:	Low point in undulating plains	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sandy clay loam	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia lineolata subsp. *lineolata*	R.E	5	1	Heath shrub (M)	Dehisced fruit
Calandrinia polyandra		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Melaleuca concreta		30	1.25	Heath shrub (M)	Vegetative
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Thysanotus sp. (insufficient material)		1		Forb (G)	Fruit

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Site ID:	MUR25	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	12/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	220710.338	6966185.821
Landform:	Dunal	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		3	1.5	Shrub, cycad, grass-tree (M)	Flower
Acacia spathulifolia		1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus robustus		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		20	1.75	Shrub, cycad, grass-tree (M)	Fruit
Baeckea aff. sp. East Nabawa (M.E. Trudgen MET 21623)	Species of interest	1	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Banksia sceptrum		1	2.25	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		1	0.75	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. aurea		1		Vine (G)	Fruit
Centrolepis polygyna		1	0.1	Forb (G)	Flower
Crassula closiana		1	0.1	Forb (G)	Flower
Ecdeiocolea monostachya		1	0.75	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Grevillea candelabroides		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Leptosema tomentosum		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Malleostemon hursthousei		1	1	Shrub, cycad, grass-tree (M)	Flower
Malleostemon microphyllus	P2, R.E	1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		1	0.75	Shrub, cycad, grass-tree (M)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Mesomelaena preissii		1	0.25	Sedge (G)	Fruit
Neurachne alopecuroidea		1	0.1	Other grass (G)	Fruit
Petrophile semifurcata		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Schoenus latitans		1	0.1	Sedge (G)	Vegetative
Seringia hermanniifolia		6	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Tricoryne elatior		1	0.25	Forb (G)	Flower
Triodia danthonioides		1	1.25	Hummock grass (G)	Fruit
Verticordia lepidophylla var. quantula	P1	1	1.25	Shrub, cycad, grass-tree (M)	Flower



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Site ID:	MUR26	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	12/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	222689.467	6963383.676
Landform:	Dunal	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus robustus		1	0.1	Sedge (G)	Fruit
Allocasuarina campestris		2	1.5	Shrub, cycad, grass-tree (M)	Fruit
Anthotroche walcottii		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Austrostipa macalpinei		1	0.1	Tussock grass (G)	Fruit
Calandrinia sp. (insufficient material)		<1		Forb (G)	Flower
Calytrix brevifolia		1	1.5	Shrub, cycad, grass-tree (M)	Flower
Conospermum microflorum		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Crassula closiana		1	0.1	Forb (G)	Flower
Ecdeiocolea monostachya		10	1.75	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Grevillea annulifera		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Hyalosperma cotula		1	0.5	Forb (G)	Flowerbud
Hybanthus calycinus		1	0.1	Forb (G)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.1	Sedge (G)	Flower
Malleostemon hursthousei		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Malleostemon microphyllus	P2, R.E	1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Mesomelaena preissii		1	1	Sedge (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Persoonia acicularis		2	1.75	Shrub, cycad, grass-tree (M)	Flower
Petrophile semifurcata		1	0.75	Shrub, cycad, grass-tree (M)	Fruit
Podotheca angustifolia		1	0.1	Forb (G)	Flower
Schoenus latitans		1	0.25	Sedge (G)	Vegetative
Seringia hermanniifolia		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Thryptomene denticulata		1	1	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		3	1	Forb (G)	Flower
Wahlenbergia preissii		1	0.1	Forb (G)	Flower
Waitzia acuminata var. *acuminata*		1	0.75	Forb (G)	Flower

Site ID:	MUR27	VT17 – (BsCbAcHc)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	213685.7871	6978786.602
Landform:	Sand plain	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus robustus		1	0.1	Sedge (G)	Fruit
Allocasuarina campestris		2	1.25	Shrub, cycad, grass-tree (M)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Banksia attenuata		1	1	Shrub, cycad, grass-tree (M)	Flower
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calytrix strigosa		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Comesperma scoparium		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		10	1	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Hakea sp. (insufficient material)		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Malleostemon microphyllus	P2, R.E	1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca ? bisulcata		3	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Mesomelaena preissii		1	0.25	Sedge (G)	Fruit
Mesomelaena pseudostygia		1	0.25	Sedge (G)	Fruit
Mirbelia ramulosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Neurachne alopecuroidea		1	0.1	Other grass (G)	Fruit
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Seringia hermanniifolia		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Stenanthemum notiale subsp. *notiale*		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Stylidium repens		1	0.1	Forb (G)	Vegetative

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Site ID:	MUR28	VT17 – (BsCbAcHc)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	213222.4579	6975170.009
Landform:	Sand plain	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus robustus		1		Sedge (G)	Fruit
Banksia sceptrum		1		Shrub, cycad, grass-tree (M)	Fruit
Cassytha aurea var. *aurea*		1		Vine (G)	Fruit
Comesperma scoparium		1		Shrub, cycad, grass-tree (M)	Flower
Conostylis aculeata subsp. *septentrionora*		1		Forb (G)	Flower
Desmocladus asper		1		Sedge (G)	Fruit
Ecdeiocolea monostachya		10		Sedge (G)	Fruit
Hibbertia conspicua		1		Shrub, cycad, grass-tree (M)	Flower
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		1		Sedge (G)	Flower
Melaleuca ? bisulcata		20		Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca campanae		1		Shrub, cycad, grass-tree (M)	Fruit
Neurachne alopecuroidea		1		Other grass (G)	Fruit
Patersonia occidentalis var. *occidentalis*		1		Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		1		Shrub, cycad, grass-tree (M)	Flower
Poranthera drummondii		1		Forb (G)	Flower
Schoenus clandestinus		1		Sedge (G)	Vegetative
Thysanotus exfimbriatus		1		Forb (G)	Flower

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Site ID:	MUR29	VT17 – (BsCbAcHc)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	210644.3006	6973889.414
Landform:	Sand plain	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus robustus		1		Sedge (G)	Fruit
Allocasuarina campestris		1	1.75	Shrub, cycad, grass-tree (M)	Fruit
Anthotroche walcottii		1		Shrub, cycad, grass-tree (M)	Flower
Austrostipa macalpinei		1		Tussock grass (G)	Fruit
Austrostipa sp. (insufficient material)		1		Other grass (G)	Vegetative
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Banksia sceptrum		5	2.5	Shrub, cycad, grass-tree (M)	Fruit
Calandrinia liniflora		1		Forb (G)	Flower
Calothamnus blepharospermus		2		Shrub, cycad, grass-tree (M)	Fruit
Cassytha aurea var. *aurea*		1		Vine (G)	Fruit
Comesperma scoparium		1	0.75	Shrub, cycad, grass-tree (M)	Flower
Conostylis prolifera		1		Forb (G)	Flower
Cristonia stenophylla	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Desmocladus asper		1		Sedge (G)	Fruit
Gnephosis tenuissima		1		Forb (G)	Flower
Hibbertia conspicua		5		Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.1	Sedge (G)	Flower
Malleostemon microphyllus	P2, R.E	1		Shrub, cycad, grass-tree (M)	Fruit
Melaleuca ? bisulcata		15		Shrub, cycad, grass-tree (M)	Vegetative
Mesomelaena pseudostygia		1	0.25	Sedge (G)	Fruit
Neurachne alopecuroidea		1		Other grass (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Phymatocarpus porphyrocephalus		1	0.75	Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		1		Shrub, cycad, grass-tree (M)	Flower
Poranthera drummondii		1		Forb (G)	Flower
Stenanthemum notiale subsp. *notiale*		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Stylidium kalbarriense		1		Forb (G)	Flower
Thysanotus exfimbriatus		1		Forb (G)	Flower
Trachymene pilosa		1		Forb (G)	Flower



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Site ID:	MUR30	VT24 – (EjEr)
Type:	Quadrat	Size: 10m x 10m
Date:	14/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	226141.89	6997032.863
Landform:	Dunal	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		3	1.5	Shrub, cycad, grass-tree (M)	Fruit
Anthotroche myoporoides	P3	1	1.5	Heath shrub (M)	Flower
Baeckea sp. *Murchison River* (M.E Trudgen 12009)		1	1.5	Shrub, cycad, grass-tree (M)	Flower
Beaufortia sprengelioides		1	1.75	Heath shrub (M)	Flower
Callitris arenaria		1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Chamelaucium sp. *Coolcalalaya* (A.H. Burbidge 4233)	P1	1	1.5	Shrub, cycad, grass-tree (M)	Flowerbud
Eucalyptus jucunda		2	3	Tree mallee (U)	Fruit
Melaleuca lara		1	1.75	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Petrophile pilostyla subsp. *pilostyla*		1	0.75	Shrub, cycad, grass-tree (M)	Fruit
Verticordia cooloomia	P3	15	2	Shrub, cycad, grass-tree (M)	Flower
Verticordia lepidophylla var. *quantula*	P1	1	1.75	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR31	VT20 – (BsCoSuHc)
Type:	Quadrat	Size: 10m x 10m
Date:	06/09/2022	Described by: Joel Collins
Co-ordinates (50K)	214664.209	6956021.597
Landform:	Coastal heathland	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Banksia fraseri var. *ashbyi*		4	1	Shrub, cycad, grass-tree (M)	Flower
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Cassytha aurea var. aurea		2	0.75	Vine (G)	Fruit
Desmocladus asper		2	0.25	Sedge (G)	Vegetative
Drosera humilis		1	0.1	Forb (G)	Fruit
Drosera thysanosepala		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		10	1.25	Sedge (G)	Flower
Geleznowia verrucosa		1	0.25	Forb (G)	Flower
Grevillea stenomera	P2	2	0.5	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Hibbertia racemosa		1	0.1	Forb (G)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Melaleuca leiopyxis		20	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca sp. *(*aff *sclerophylla)*	Species of interest	15	0.75	Shrub, cycad, grass-tree (M)	Flower
Monotaxis bracteata		1	0.25	Forb (G)	Flower
Neurachne alopecuroidea		1	0.1	Other grass (G)	Flower
Opercularia spermacocea		1	0.25	Forb (G)	Flower
Orianthera? spermacocea		1	0.1	Forb (G)	Flower
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Pimelea leucantha		1	0.5	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Poranthera drummondii		1	0.1	Forb (G)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Scholtzia umbellifera		40	1.5	Shrub, cycad, grass-tree (M)	Flower
Stylidium repens		1	0.1	Forb (G)	Vegetative
Styphelia cordifolia		1	0.5	Shrub, cycad, grass-tree (M)	Flowerbud
Triodia bromoides	P4	2	0.75	Hummock grass (G)	Immature fruit



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Site ID:	MUR32	VT20 – (BsCoSuHc)
Type:	Quadrat	Size: 10m x 10m
Date:	06/09/2022	Described by: Joel Collins
Co-ordinates (50K)	214690.1124	6956079.118
Landform:	Coastal heathland	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Ammothryon grandiflorum		1	0.25	Sedge (G)	Flower
Boronia purdieana subsp. *calcicola*		3	0.5	Shrub, cycad, grass-tree (M)	Flower
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calothamnus oldfieldii		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		2	0.75	Vine (G)	Fruit
Desmocladus asper		3	0.25	Sedge (G)	Vegetative
Drosera humilis		1	0.1	Forb (G)	Fruit
Drosera thysanosepala		1	0.1	Forb (G)	Fruit
Geleznowia verrucosa		1	0.25	Forb (G)	Flower
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Grevillea stenomera	P2	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Hibbertia racemosa		1	0.1	Forb (G)	Flower
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		1	0.25	Sedge (G)	Vegetative
Melaleuca leiopyxis		25	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca venusta		15	0.25	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		6	0.25	Sedge (G)	Fruit
Opercularia spermacocea		1	0.25	Forb (G)	Flower
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Pimelea leucantha		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Scholtzia umbellifera		25	1.5	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Styphelia cordifolia		2	0.5	Shrub, cycad, grass-tree (M)	Flowerbud
Triodia bromoides	P4	1	0.75	Hummock grass (G)	Immature fruit



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Site ID:	MUR33	VT20 – (BsCoSuHc)
Type:	Quadrat	Size: 10m x 10m
Date:	06/09/2022	Described by: Joel Collins
Co-ordinates (50K)	214837.6412	6956097.595
Landform:	Coastal heathland	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Ammothryon grandiflorum		1	0.25	Sedge (G)	Flower
Banksia fraseri var. *ashbyi*		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Bossiaea spinescens	R.E	2	0.75	Shrub, cycad, grass-tree (M)	Flower
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calothamnus oldfieldii		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Calytrix strigosa		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		2	0.75	Vine (G)	Fruit
Comesperma scoparium		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Desmocladus asper		3	0.25	Sedge (G)	Vegetative
Diploaena mollis		4	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Drosera thysanosepala		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		10	1.25	Sedge (G)	Flower
Geleznowia verrucosa		1	0.25	Forb (G)	Flower
Grevillea stenomera	P2	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Halgania gustafsenii var. *Mid West* (G Perry 370)		1	0.25	Forb (G)	Flower
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Hibbertia racemosa		3	0.1	Forb (G)	Flower
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		1	0.25	Sedge (G)	Fruit
Melaleuca leiopyxis		15	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca venusta		10	0.25	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		6	0.25	Sedge (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Monotaxis bracteata		1	0.25	Forb (G)	Flower
Neurachne alopecuroidea		1	0.1	Other grass (G)	Flower
Orianthera? spermacocea		1	0.1	Forb (G)	Flower
Patersonia graminea		1	0.25	Forb (G)	Flowerbud
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Pimelea leucantha		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Scholtzia umbellifera		15	1.5	Shrub, cycad, grass-tree (M)	Flower
Stenanthemum notiale subsp. *notiale*		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Stylidium kalbarriense		1	0.1	Forb (G)	Flower
Stylidium repens		1	0.1	Forb (G)	Vegetative
Styphelia cordifolia		2	0.5	Shrub, cycad, grass-tree (M)	Flowerbud

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Site ID:	MUR34	VT21 – (AsMlBa)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Joel Collins
Co-ordinates (50K)	215311.7337	6956078.623
Landform:	Banksia sand plain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia spathulifolia		3	0.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	20	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Banksia attenuata		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Banksia prionotes		20	2	Tree (U)	Fruit
Calothamnus blepharospermus		5	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Calytrix strigosa		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		2	0.75	Vine (G)	Fruit
Conostylis stylidioides		1	0.25	Forb (G)	Flower
Ecdeiocolea monostachya		10	1.25	Sedge (G)	Flower
Isotropis sp. *Shark Bay* (M. E. Trudgen 7170)		1	0.1	Forb (G)	Vegetative
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Leptosema tomentosum		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		3	0.25	Sedge (G)	Fruit
Monotaxis bracteata		1	0.1	Forb (G)	Flower
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Phymatocarpus porphyrocephalus		4	0.5	Shrub, cycad, grass-tree (M)	Fruit

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Site ID:	MUR35	VT21 – (AsMIBa)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Joel Collins
Co-ordinates (50K)	216929.6086	6955430.728
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia spathulifolia		15	0.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Banksia attenuata		5	0.5	Shrub, cycad, grass-tree (M)	Fruit
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calothamnus blepharospermus		15	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Calothamnus oldfieldii		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Conostylis stylidioides		1	0.25	Forb (G)	Flower
Drosera humilis		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		30	1.25	Sedge (G)	Flower
Glischrocaryon angustifolium		1	0.25	Forb (G)	Flower
Hibbertia conspicua		1	0.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Isotropis sp. *Shark Bay* (M. E. Trudgen 7170)		1	0.1	Forb (G)	Vegetative
Jacksonia hakeoides		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Leptosema tomentosum		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Malleostemon microphyllus	P2, R.E	4	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		6	0.25	Sedge (G)	Fruit
Monotaxis bracteata		1	0.1	Forb (G)	Flower
Opercularia spermacocea		1	0.25	Forb (G)	Flower
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Phymatocarpus porphyrocephalus		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Quoya atriplicina		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Scaevola canescens		1	0.1	Forb (G)	Flower
Styphelia strongylophylla		1	0.5	Shrub, cycad, grass-tree (M)	Immature fruit
Trachymene pilosa		1	0.1	Forb (G)	Flower
Triodia bromoides	P4	1	0.75	Hummock grass (G)	Immature fruit



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Site ID:	MUR36	VT20 – (BsCoSuHc)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Joel Collins
Co-ordinates (50K)	218019.7282	6956100.402
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		2	1.25	Shrub, cycad, grass-tree (M)	Fruit
Caladenia sp. (insufficient material)		1	0.1	Forb (G)	Vegetative
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calothamnus oldfieldii		5	1.25	Shrub, cycad, grass-tree (M)	Flower
Desmocladus asper		2	0.25	Sedge (G)	Fruit
Diploaena mollis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Drosera thysanosepala		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		35	1.25	Sedge (G)	Flower
Grevillea stenomera	P2	1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		1	0.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Hibbertia racemosa		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Jacksonia hakeoides		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		2	0.25	Sedge (G)	Flower
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		1	0.25	Sedge (G)	Vegetative
Melaleuca leiopyxis		15	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca venusta		30	1.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		4	0.25	Sedge (G)	Fruit
Monotaxis bracteata		1	0.1	Forb (G)	Flower
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Scholtzia umbellifera		35	1.75	Shrub, cycad, grass-tree (M)	Flower
Styphelia cordifolia		1	0.5	Shrub, cycad, grass-tree (M)	Flowerbud
Thysanotus patersonii		1	0.25	Forb (G)	Fruit



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Site ID:	MUR37	VT32 – (Ec)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Joel Collins
Co-ordinates (50K)	218118.3412	6963180.618
Landform:	Drainage	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Ammothryon grandiflorum		1	0.25	Sedge (G)	Vegetative
Austrostipa elegantissima		1	0.5	Other grass (G)	Immature fruit
Bulbine semibarbata		1	0.1	Forb (G)	Flowerbud
Calandrinia polypetala		1	0.1	Forb (G)	Flower
Calocephalus francisii		1	0.1	Forb (G)	Flower
Chthonocephalus tomentellus	P2	1	0.1	Forb (G)	Fruit
Eucalyptus camaldulensis		30	5	Tree (U)	Flower
Hypochaeris glabra	*	1	0.1	Forb (G)	Vegetative
Olearia sp. *Kennedy Range* (G. Byrne 66)		10	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		4	1.5	Shrub, cycad, grass-tree (M)	Flower
Rhagodia latifolia subsp. *latifolia*		1	0.5	Chenopod shrub (M)	Vegetative
Stylobasium spathulatum		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Trachymene pilosa		1	0.1	Forb (G)	Flower
Triodia bromoides	P4	1	0.5	Hummock grass (G)	Flower

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Site ID:	MUR38	VT20 – (BsCoSuHc)
Type:	Quadrat	Size: 10m x 10m
Date:	08/09/2022	Described by: Joel Collins
Co-ordinates (50K)	206125.1155	6981307.69
Landform:	Banksia sand plain	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia spathulifolia		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Banksia sceptrum		25	1.25	Tree (U)	Fruit
Boronia purdieana subsp. *calcicola*		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Calothamnus oldfieldii		15	1.25	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Conostylis aculeata subsp. *septentrionora*		1	0.25	Forb (G)	Flower
Dampiera altissima		1	0.25	Forb (G)	Flower
Desmocladus asper		3	0.25	Sedge (G)	Fruit
Diploaena mollis		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Drosera humilis		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		1	1.25	Sedge (G)	Flower
Eucalyptus erythrocorys		20	1.25	Tree mallee (U)	Fruit
Geleznowia verrucosa		1	0.25	Forb (G)	Flower
Grevillea stenomera	P2	1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		2	0.25	Shrub, cycad, grass-tree (M)	Dehisced fruit
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		3	0.25	Sedge (G)	Fruit
Melaleuca leiopyxis		40	0.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		3	0.25	Sedge (G)	Fruit
Patersonia graminea		4	0.25	Forb (G)	Flower
Pimelea leucantha		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Schoenus pleiostemoneus		1	0.1	Sedge (G)	Fruit
Stylidium elongatum		1	0.1	Forb (G)	Flower
Stylidium kalbarriense		1	0.1	Forb (G)	Flower
Styphelia cordifolia		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative



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Site ID:	MUR39	VT21 – (AsMIBa)
Type:	Quadrat	Size: 10m x 10m
Date:	08/09/2022	Described by: Joel Collins
Co-ordinates (50K)	204575.9924	6981176.064
Landform:	Coastal heathland	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia spathulifolia		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calothamnus blepharospermus		5	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Calothamnus oldfieldii		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Comesperma scoparium		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Conostylis aculeata subsp. *septentrionora*		1	0.25	Forb (G)	Flower
Dampiera altissima		1	0.25	Forb (G)	Flower
Daviesia hakeoides subsp. *hakeoides*		2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Drosera humilis		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		60	1.25	Sedge (G)	Flower
Grevillea stenomera	P2	1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Isotropis sp. *Shark Bay* (M. E. Trudgen 7170)		1	0.1	Forb (G)	Vegetative
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Malleostemon microphyllus	P2, R.E	3	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca campanae		5	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		2	0.25	Sedge (G)	Fruit
Monotaxis bracteata		1	0.1	Forb (G)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Opercularia spermacocea		1	0.25	Forb (G)	Flower
Persoonia acicularis		3	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Phymatocarpus porphyrocephalus		4	0.5	Shrub, cycad, grass-tree (M)	Fruit
Quoya atriplicina		2	0.25	Forb (G)	Flower
Scaevola canescens		1	0.1	Forb (G)	Vegetative
Stylidium repens		1	0.1	Forb (G)	Flower



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Site ID:	MUR40	VT02 – (ArMcMlOk)
Type:	Quadrat	Size: 10m x 10m
Date:	08/09/2022	Described by: Joel Collins
Co-ordinates (50K)	203644.8948	6981155.661
Landform:	Acacia shrubland near coast	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera	0	10	2	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis	0	1	0.25	Sedge (G)	Fruit
Alyxia buxifolia	0	5	1.25	Shrub, cycad, grass-tree (M)	Flower
Bossiaea eriocarpa	0	1	0.25	Forb (G)	Flower
Calandrinia liniflora	0	1	0.1	Forb (G)	Flower
Calothamnus oldfieldii	0	2	1.25	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*	0	1	0.75	Vine (G)	Fruit
Clematis linearifolia	0	1	0.75	Vine (G)	Fruit
Conostylis stylidioides	0	1	0.1	Forb (G)	Flower
Conostylis aculeata subsp. *septentrionora*	0	1	0.25	Forb (G)	Flower
Desmocladus asper	0	1	0.25	Sedge (G)	Fruit
Drosera humilis	0	1	0.1	Forb (G)	Fruit
Eucalyptus zopherophloia	P4	5	2	Tree mallee (U)	Fruit
Geleznowia ? amabilis	P2, R.E	1	0.1	Forb (G)	Vegetative
Hibbertia racemosa	0	1	0.1	Forb (G)	Flower
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)	0	2	0.25	Sedge (G)	Fruit
Lomandra maritima	0	1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Lysiandra calycina	0	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca campanae	0	7	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis	0	30	1	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)	0	5	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Persoonia acicularis	0	1	0.25	Shrub, cycad, grass-tree (M)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Quoya atriplicina	0	2	0.25	Forb (G)	Vegetative
Rhagodia latifolia subsp. *latifolia*	0	2	0.5	Chenopod shrub (M)	Vegetative
Thryptomene sp. *Eagle Gorge* (A.G. Gunness 2360)	P2	5	0.5	Shrub, cycad, grass-tree (M)	Flower



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Site ID:	MUR41	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	09/09/2022	Described by: Joel Collins
Co-ordinates (50K)	225274.7841	6972189.817
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Caladenia sp. (insufficient material)		1	0.1	Forb (G)	Vegetative
Callitris arenaria		15	2.5	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus phellosus	R.E	2	0.25	Shrub, cycad, grass-tree (M)	Flower
Calytrix brevifolia		5	1	Shrub, cycad, grass-tree (M)	Flower
Conospermum microflorum		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Conostephium laeve		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Daviesia hakeoides subsp. *hakeoides*		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Drosera humilis		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		25	1.25	Sedge (G)	Flower
Hakea candolleana		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Leptosema tomentosum		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca psammophila		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		6	0.25	Sedge (G)	Fruit
Mirbelia corallina	P3	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Patersonia graminea		1	0.25	Forb (G)	Flower
Petrophile semifurcata		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Seringia hermanniifolia		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Stylidium kalbarriense		1	0.1	Forb (G)	Flower
Thryptomene denticulata		35	0.5	Shrub, cycad, grass-tree (M)	Flower
Thryptomene sp. *Eagle Gorge* (A.G. Gunness 2360)	P2	2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Triodia bromoides	P4	1	0.5	Hummock grass (G)	Immature fruit
Verticordia lepidophylla var. *quantula*	P1	4	1.5	Shrub, cycad, grass-tree (M)	Flowerbud



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Site ID:	MUR42	VT27 – (EpBsXa)
Type:	Quadrat	Size: 10m x 10m
Date:	09/09/2022	Described by: Joel Collins
Co-ordinates (50K)	224830.4518	6971802.069
Landform:	Dunal	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		5	1.5	Shrub, cycad, grass-tree (M)	Fruit
Banksia sceptrum		15	2	Tree (U)	Fruit
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Callitris arenaria		25	4.5	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		1	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Calytrix brevifolia		3	1	Shrub, cycad, grass-tree (M)	Flower
Exocarpos sparteus		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Glischrocaryon angustifolium		1	0.25	Forb (G)	Vegetative
Isotropis sp. *Shark Bay* (M. E. Trudgen 7170)		1	0.1	Forb (G)	Vegetative
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Melaleuca leiopyxis		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Petrophile macrostachya		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Phymatocarpus porphyrocephalus		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Pimelea leucantha		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Scholtzia umbellifera		3	0.75	Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	1	0.75	Hummock grass (G)	Immature fruit
Xylomelum angustifolium		5	3	Shrub, cycad, grass-tree (M)	Fruit

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Site ID:	MUR43R	VT22 – (BsArAbAc)
Type:	Relevé	
Date:	09/09/2022	Described by: Joel Collins
Co-ordinates (50K)	224549.6612	6972018.27
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		20	1.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Callitris arenaria		10	1.75	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		1	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Calytrix brevifolia		2	1	Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		1	1.25	Sedge (G)	Flower
Grevillea sp. (insufficient material)		1	2	Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca leiopyxis		1	1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca psammophila		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		1	0.25	Sedge (G)	Fruit
Phymatocarpus porphyrocephalus		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Scholtzia oleosa	P3	2	1.25	Shrub, cycad, grass-tree (M)	Flower
Styphelia strongylophylla		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Thryptomene sp. *Carrarang* (M.E Trudgen 7420)	P1	77	1.25	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR44	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	09/09/2022	Described by: Joel Collins
Co-ordinates (50K)	224361.1701	6969363.763
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus humilis		3	0.25	Sedge (G)	Fruit
Allocasuarina campestris		1	1	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		2	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Calytrix brevifolia		15	1	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Conospermum microflorum		20	0.5	Shrub, cycad, grass-tree (M)	Flower
Conostylis stylidioides		2	0.1	Forb (G)	Flower
Drosera humilis		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		20	1.25	Sedge (G)	Flower
Haemodorum discolor		1	0.5	Forb (G)	Flowerbud
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		2	0.25	Sedge (G)	Flower
Malleostemon microphyllus	P2, R.E	15	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		5	0.25	Sedge (G)	Fruit
Mirbelia ramulosa		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Patersonia graminea		1	0.25	Forb (G)	Flower
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Petrophile semifurcata		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Scaevola canescens		1	0.1	Forb (G)	Vegetative
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Seringia hermanniifolia		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Stylidium kalbarriense		1	0.1	Forb (G)	Flower
Triodia bromoides	P4	1	0.5	Hummock grass (G)	Immature fruit



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Site ID:	MUR45	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Joel Collins
Co-ordinates (50K)	230984.8807	6982223.702
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		5	0.75	Shrub, cycad, grass-tree (M)	Fruit
Callitris arenaria		2	4.5	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		4	1	Shrub, cycad, grass-tree (M)	Flower
Conospermum microflorum		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Conostylis aculeata subsp. *echinissima*		1	0.25	Forb (G)	Flower
Ecdeiocolea monostachya		1	1.25	Sedge (G)	Vegetative
Grevillea didymobotrya subsp. *didymobotrya*		20	1.25	Shrub, cycad, grass-tree (M)	Flower
Grevillea eriostachya		3	2.25	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		3	0.25	Sedge (G)	Flower
Mesomelaena preissii		1	0.25	Sedge (G)	Fruit
Morelotia microcarpa		1	0.25	Sedge (G)	Fruit
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Petrophile semifurcata		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Pileanthus peduncularis subsp. *pilifer*		30	0.5	Shrub, cycad, grass-tree (M)	Fruit
Pityrodia hemigenioides		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Scaevola canescens		1	0.1	Forb (G)	Vegetative
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Thryptomene denticulata		30	0.5	Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	1	0.5	Hummock grass (G)	Immature fruit
Verticordia oculata		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative



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Site ID:	MUR46	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Joel Collins
Co-ordinates (50K)	231032.7268	6981740.948
Landform:	Sand plain	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia ? andrewsii		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Acacia blakelyi		3	1.75	Shrub, cycad, grass-tree (M)	Flower
Acacia signata		1	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		2	0.75	Shrub, cycad, grass-tree (M)	Fruit
Callitris arenaria		35	2.25	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		5	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Calothamnus oldfieldii		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Calytrix brevifolia		5	1	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Cyanothamnus coerulescens subsp. spicatus		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Drosera thysanosepala		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		3	1.25	Sedge (G)	Vegetative
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lachnostachys eriobotrya		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Melaleuca psammophila		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Monotaxis bracteata		1	0.1	Forb (G)	Flower
Morelotia microcarpa		1	0.25	Sedge (G)	Vegetative
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Petrophile semifurcata		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Pileanthus peduncularis subsp. *pilifer*		5	0.5	Shrub, cycad, grass-tree (M)	Fruit
Platysace trachymenioides		2	0.5	Forb (G)	Vegetative
Poranthera drummondii		1	0.1	Forb (G)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Scholtzia capitata		5	1.25	Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	31	0.5	Hummock grass (G)	Immature fruit



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Site ID:	MUR47	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Joel Collins
Co-ordinates (50K)	231052.8179	6981394.012
Landform:	Dunal	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia ? andrewsii		20	0.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Callitris arenaria		1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		4	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Calothamnus oldfieldii		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Conostylis aculeata subsp. *echinissima*		1	0.25	Forb (G)	Flower
Ecdeiocolea monostachya		1	1.25	Sedge (G)	Flower
Eremaea ebracteata var. *ebracteata*	R.E	3	0.75	Shrub, cycad, grass-tree (M)	Fruit
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Melaleuca psammophila		2	1.25	Shrub, cycad, grass-tree (M)	Fruit
Petrophile semifurcata		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Pityrodia hemigenioides		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Quoya atriplicina		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Thryptomene denticulata		3	0.5	Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	1	0.5	Hummock grass (G)	Immature fruit
Verticordia cooloomia	P3	40	2.5	Shrub, cycad, grass-tree (M)	Flowerbud

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Site ID:	MUR48	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Joel Collins
Co-ordinates (50K)	231214.258	6979536.314
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia ? andrewsii		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Banksia sceptrum		35	4	Tree (U)	Fruit
Callitris arenaria		5	2.5	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		1	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Calothamnus oldfieldii		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Conospermum microflorum		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		1	1.25	Sedge (G)	Flower
Eremaea ebracteata var. *ebracteata*	R.E	3	0.75	Shrub, cycad, grass-tree (M)	Fruit
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		2	0.25	Sedge (G)	Flower
Melaleuca psammophila		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		1	0.25	Sedge (G)	Fruit
Petrophile pilostyla subsp. *pilostyla*		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Petrophile semifurcata		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Pileanthus aurantiacus	P1	1	1.25	Shrub, cycad, grass-tree (M)	Flowerbud
Pileanthus peduncularis subsp. *pilifer*		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Thryptomene denticulata		3	0.5	Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	1	0.5	Hummock grass (G)	Immature fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Verticordia cooloomia	P3	30	2.5	Shrub, cycad, grass-tree (M)	Flowerbud



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Site ID:	MUR49	VT27 – (EpBsXa)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Joel Collins
Co-ordinates (50K)	231543.039	6976254.554
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		25	1.75	Shrub, cycad, grass-tree (M)	Immature fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		2	0.25	Sedge (G)	Fruit
Allocasuarina campestris		4	2	Shrub, cycad, grass-tree (M)	Fruit
Bonamia rosea		1	0.25	Forb (G)	Flower
Calothamnus blepharospermus		3	0.75	Shrub, cycad, grass-tree (M)	Flowerbud
Calytrix brevifolia		1	1	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Drosera humilis		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		20	1.25	Sedge (G)	Flower
Eucalyptus pallida		20	5	Tree mallee (U)	Fruit
Hibbertia conspicua		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Malleostemon hursthousei		4	1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca filifolia		4	1.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		3	1.75	Shrub, cycad, grass-tree (M)	Flower
Monotaxis bracteata		1	0.1	Forb (G)	Flower
Platysace trachymenioides		5	1	Forb (G)	Fruit
Poranthera drummondii		1	0.1	Forb (G)	Flower
Quoya atriplicina		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Stylobasium spathulatum		10	1.75	Shrub, cycad, grass-tree (M)	Fruit
Triodia bromoides	P4	1	0.5	Hummock grass (G)	Immature fruit

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Site ID:	MUR50	VT27 – (EpBsXa)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Joel Collins
Co-ordinates (50K)	235709.6743	6973282.421
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia ? andrewsii		1	1	Shrub, cycad, grass-tree (M)	Flower
Acacia? nigripilosa subsp. *nigripilosa*		10	1.75	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		4	2	Shrub, cycad, grass-tree (M)	Fruit
Austrostipa crinita		1	0.1	Other grass (G)	Immature fruit
Banksia sceptrum		40	6	Tree (U)	Fruit
Bidens subalternans var. *araneosa*	*	1	0.1	Forb (G)	Dehisced fruit
Calandrinia sp. *Shark Bay* (A. Markey 1405)		1	0.1	Forb (G)	Flower
Callitris arenaria		10	3.5	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		3	1.25	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		3	1	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Clematicissus angustissima		1	0.1	Vine (G)	Vegetative
Ecdeiocolea monostachya		1	1.25	Sedge (G)	Flower
Eucalyptus pallida		1	7	Tree mallee (U)	Fruit
Hyalosperma cotula		1	0.1	Forb (G)	Flower
Hypochaeris glabra	*	1	0.1	Forb (G)	Flower
Lawrencella davenportii		1	0.1	Forb (G)	Flower
Malleostemon hursthousei		15	1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca filifolia		2	1.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		5	1.75	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Ptilotus polystachyus		1	0.25	Forb (G)	Flowerbud
Scaevola canescens		1	0.1	Forb (G)	Flower
Seringia hermanniifolia		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Stylidium elongatum		1	0.1	Forb (G)	Flower
Waitzia corymbosa		1	0.1	Forb (G)	Flower



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Site ID:	MUR51	VT27 – (EpBsXa)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Joel Collins
Co-ordinates (50K)	234060.4009	6973168.318
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia ? andrewsii		15	1	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		1	2.25	Shrub, cycad, grass-tree (M)	Fruit
Banksia attenuata		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Banksia sceptrum		20	3.75	Tree (U)	Fruit
Bonamia rosea		1	0.1	Forb (G)	Vegetative
Calothamnus blepharospermus		1	1	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		5	1.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Conospermum microflorum		3	1	Shrub, cycad, grass-tree (M)	Flower
Daviesia hakeoides subsp. *hakeoides*		2	0.75	Shrub, cycad, grass-tree (M)	Fruit
Dioscorea hastifolia		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Ecdeiocolea monostachya		2	1.25	Sedge (G)	Flower
Glischrocaryon angustifolium		1	0.25	Forb (G)	Flower
Grevillea eriostachya		3	2	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Hyalosperma cotula		1	0.1	Forb (G)	Flower
Lawrencella davenportii		1	0.1	Forb (G)	Flower
Malleostemon hursthousei		20	1.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		2	1	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	1	Shrub, cycad, grass-tree (M)	Vegetative
Phymatocarpus porphyrocephalus		2	1.25	Shrub, cycad, grass-tree (M)	Fruit
Pimelea microcephala subsp. *microcephala*		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Poranthera drummondii		1	0.1	Forb (G)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Solanum oldfieldii		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Stenanthemum complicatum		2	1	Shrub, cycad, grass-tree (M)	Fruit
Trachymene pilosa		1	0.1	Forb (G)	Flower
Xylomelum angustifolium		40	6	Tree (U)	Fruit



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Site ID:	MUR52	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Joel Collins
Co-ordinates (50K)	229926.8839	6971460.676
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Table 1 [Insert Table Caption]

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia ? andrewsii		1	1	Shrub, cycad, grass-tree (M)	Flower
Acacia blakelyi		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		1	2	Shrub, cycad, grass-tree (M)	Fruit
Callitris arenaria		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Calytrix brevifolia		40	1	Shrub, cycad, grass-tree (M)	Flowerbud
Conospermum microflorum		1	1	Shrub, cycad, grass-tree (M)	Flower
Conostylis aculeata subsp. *echinissima*		1	0.25	Forb (G)	Flower
Corynotheca micrantha		1	0.25	Forb (G)	Vegetative
Ecdeiocolea monostachya		1	1.25	Sedge (G)	Flower
Grevillea eriostachya		2	1.75	Shrub, cycad, grass-tree (M)	Flower
Jacksonia velutina	P4	1	1.5	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		3	0.25	Sedge (G)	Flower
Melaleuca filifolia		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca psammophila		5	1.25	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		2	0.25	Sedge (G)	Fruit
Petrophile semifurcata		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Schoenus clandestinus		5	0.1	Sedge (G)	Vegetative
Stylidium kalbarriense		1	0.25	Forb (G)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Thryptomene denticulata		17	1.5	Shrub, cycad, grass-tree (M)	Vegetative
Thysanotus exfimbriatus		1	0.5	Forb (G)	Flower
Verticordia lepidophylla var. *quantula*	P1	1	1.5	Shrub, cycad, grass-tree (M)	Vegetative



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Site ID:	MUR53R	VT22 – (BsArAbAc)
Type:	Relevé	
Date:	10/10/2022	Described by: Joel Collins
Co-ordinates (50K)	218223.5088	6961794.603
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	3-5 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Acacia rostellifera		20	5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		5	1.5	Shrub, cycad, grass-tree (M)	Fruit
Grevillea excelsior		4	2	Shrub, cycad, grass-tree (M)	Flower
Grevillea sp. (insufficient material)		2	2	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		10	1	Shrub, cycad, grass-tree (M)	Vegetative
Stylobasium spathulatum		1	0.75	Shrub, cycad, grass-tree (M)	Fruit
Triodia bromoides	P4	20	1.25	Hummock grass (G)	Fruit

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Site ID:	MUR54R	VT12 – (AcArAb)
Type:	Relevé	
Date:	10/10/2022	Described by: Joel Collins
Co-ordinates (50K)	220381.3069	6961442.553
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		2	5	Shrub, cycad, grass-tree (M)	Flower
Allocasuarina campestris		5	1.5	Shrub, cycad, grass-tree (M)	Fruit
Ecdeiocolea monostachya		4	0.5	Sedge (G)	Fruit
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		10	1.5	Shrub, cycad, grass-tree (M)	Flower
Scholtzia umbellifera		40	1.75	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR55R	VT12 – (AcArAb)
Type:	Relevé	
Date:	11/10/2022	Described by: Joel Collins
Co-ordinates (50K)	222436.7203	6966422.158
Landform:	Sand plain	
Bare ground:	<2%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		3	1.75	Shrub, cycad, grass-tree (M)	Flower
Acacia rostellifera		3	5	Shrub, cycad, grass-tree (M)	Fruit
Allocasuarina campestris		50	1.75	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		2	0.5	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Melaleuca leiopyxis		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca venusta		4	0.75	Shrub, cycad, grass-tree (M)	Fruit
Persoonia acicularis		5	0.25	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR56R	VT22 – (BsArAbAc)
Type:	Relevé	
Date:	11/10/2022	Described by: Joel Collins
Co-ordinates (50K)	222094.7742	6966996.023
Landform:	Sand plain	
Bare ground:	<2%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		15	1.75	Shrub, cycad, grass-tree (M)	Flower
Allocasuarina campestris		10	1.75	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		5	0.5	Sedge (G)	Fruit
Grevillea sp. (insufficient material)		2	2	Shrub, cycad, grass-tree (M)	Vegetative
Malleostemon hursthousei		4	0.75	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca psammophila		1	1.5	Shrub, cycad, grass-tree (M)	Flower
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Phymatocarpus porphyrocephalus		3	2	Shrub, cycad, grass-tree (M)	Fruit
Scholtzia umbellifera		20	1.25	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR57R	VT32 – (Ec)
Type:	Relevé	
Date:	12/10/2022	Described by: Joel Collins
Co-ordinates (50K)	217325.9096	6964028.005
Landform:	Claypan	
Bare ground:	<2%	
Litter cover:	<2%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Degraded	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		3	5	Shrub, cycad, grass-tree (M)	Flower
Angianthus milnei	R.E	10	0.1	Forb (G)	Flower
Arctotheca calendula	*	5	0.25	Forb (G)	Fruit
Brassica tournefortii	*	2	0.25	Forb (G)	Fruit
Ehrharta longiflora	*	30	0.25	Other grass (G)	Fruit
Eucalyptus camaldulensis		10	9	Tree (U)	Flower
Hordeum leporinum	*	20	0.25	Other grass (G)	Fruit
Hypochaeris glabra	*	2	0.1	Forb (G)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Schismus barbatus	*	45	0.25	Other grass (G)	Fruit
Solanum nigrum	*	1	0.25	Forb (G)	Fruit

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Site ID:	MUR58R	VT32 – (Ec)
Type:	Relevé	
Date:	12/10/2022	Described by: Joel Collins
Co-ordinates (50K)	217163.7799	6964491.111
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		3	5	Shrub, cycad, grass-tree (M)	Flower
Angianthus milnei	R.E	10	0.1	Forb (G)	Flower
Arctotheca calendula	*	5	0.25	Forb (G)	Fruit
Brassica tournefortii	*	2	0.25	Forb (G)	Fruit
Ehrharta longiflora	*	30	0.25	Other grass (G)	Fruit
Eucalyptus camaldulensis		10	9	Tree (U)	Flower
Hordeum leporinum	*	20	0.25	Other grass (G)	Fruit
Hypochaeris glabra	*	2	0.1	Forb (G)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. microcephala		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Schismus barbatus	*	45	0.25	Other grass (G)	Fruit
Solanum nigrum	*	1	0.25	Forb (G)	Fruit

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Site ID:	MUR59	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Joel Collins
Co-ordinates (50K)	213692.736	6979431.518
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		3	1.75	Shrub, cycad, grass-tree (M)	Fruit
Acacia rostellifera		1	3.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	30	1.25	Shrub, cycad, grass-tree (M)	Flower
Banksia attenuata		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calytrix brevifolia		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Conostylis stylidioides		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		10	1.25	Sedge (G)	Flower
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Grevillea annulifera		3	1.25	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		2	0.25	Sedge (G)	Fruit
Malleostemon microphyllus	P2, R.E	30	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		1	0.25	Sedge (G)	Fruit
Mirbelia ramulosa		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Poranthera drummondii		1	0.1	Forb (G)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Seringia hermanniifolia		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Thysanotus patersonii		1	0.25	Forb (G)	Fruit
Wahlenbergia gracilenta		1	0.1	Forb (G)	Fruit



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Site ID:	MUR60	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Joel Collins
Co-ordinates (50K)	213691.6426	6975332.134
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		20	4	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Austrostipa elegantissima		1	0.25	Other grass (G)	Dehisced fruit
Austrostipa macalpinei		1	0.1	Other grass (G)	Fruit
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Ecdeiocolea monostachya		1	1.25	Sedge (G)	Flower
Ehrharta brevifolia var. *cuspidata*	*	1	0.1	Other grass (G)	Fruit
Isolepis marginata		1	0.1	Sedge (G)	Fruit
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		20	1.5	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		5	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Rhagodia latifolia subsp. *latifolia*		2	0.75	Chenopod shrub (M)	Fruit
Trachymene pilosa		2	0.1	Forb (G)	Fruit
Triglochin isingiana		1	0.1	Forb (G)	Flower

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Site ID:	MUR61	VT03 – (ArEaMc)
Type:	Quadrat	Size: 10m x 10m
Date:	06/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	214420.9838	6955866.837
Landform:	Sandy ridges near coast	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		<1	2	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		<1	0.25	Sedge (G)	Fruit
Austrostipa crinita		3	0.25	Tussock grass (G)	Flowerbud
Calandrinia sp. *Shark Bay* (A. Markey 1405)		5	0.25	Forb (G)	Flower
Cassytha aurea var. *aurea*		<1	0.1	Vine (G)	Fruit
Comesperma scoparium		<1	0.5	Shrub, cycad, grass-tree (M)	Flower
Conostylis aculeata subsp. *septentrionora*		<1	0.25	Forb (G)	Flower
Crassula sp. (insufficient material)		<1	0.1	Forb (G)	Flower
Cuscuta epithymum	*	5	0.5	Forb (G)	Fruit
Desmocladus asper		35	0.5	Sedge (G)	Fruit
Dianella revoluta var. *divaricata*		<1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Diploaena mollis		<1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Diplopeltis intermedia var. *intermedia*		<1	0.1	Heath shrub (M)	Vegetative
Eragrostis barrelieri		<1	0.1	Tussock grass (G)	Fruit
Eremophea aggregata		<1	0.25	Chenopod shrub (M)	Vegetative
Erodium cicutarium	*	10	1.75	Forb (G)	Fruit
Exocarpos aphyllus		20	2	Shrub, cycad, grass-tree (M)	Fruit
Goodenia berardiana		3	0.25	Forb (G)	Flower
Hibbertia racemosa		<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lomandra maritima		<1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lysiandra calycina		5	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Lysimachia arvensis	*	<1	0.1	Forb (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Melaleuca cardiophylla		<1	4	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		<1	1	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		<1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Opercularia spermacocea		<1	0.1	Forb (G)	Flower
Pimelea gilgiana		10	1.75	Heath shrub (M)	Flower
Pimelea microcephala subsp. *microcephala*		10	1.5	Shrub, cycad, grass-tree (M)	Flower
Podotheca angustifolia		<1	0.1	Forb (G)	Flower
Ptilotus eremita		<1	0.5	Shrub, cycad, grass-tree (M)	Flower
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia drummondii		20	2	Chenopod shrub (M)	Vegetative
Roepera fruticulosa		10	1.5	Forb (G)	Flower
Rostraria pumila	*	35	0.5	Other grass (G)	Fruit
Rytidosperma setaceum		5	0.1	Other grass (G)	Fruit
Scholtzia oligandra	R.E	2	0.1	Shrub, cycad, grass-tree (M)	Flower
Solanum oldfieldii		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Sonchus oleraceus	*	<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		<1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Trachymene pilosa		5	0.25	Forb (G)	Flower
Urospermum picroides	*	2	0.1	Forb (G)	Fruit
Waitzia podolepis		<1	0.1	Forb (G)	Flower

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Site ID:	MUR62	VT03 – (ArEaMc)
Type:	Quadrat	Size: 10m x 10m
Date:	06/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	213873.6755	6956366.469
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia cochlearis		1	1	Shrub, cycad, grass-tree (M)	Fruit
Acacia rostellifera		10	1	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		2		Sedge (G)	Fruit
Beyeria cinerea subsp. *borealis*		1	0.1	Heath shrub (M)	Vegetative
Comesperma scoparium		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Cuscuta epithymum	*	1	0.5	Forb (G)	Fruit
Daucus glochidiatus		1	0.1	Forb (G)	Flower
Desmocladus asper		10		Sedge (G)	Fruit
Diplopeltis intermedia var. *intermedia*		2	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Exocarpos aphyllus		10	1.5	Shrub, cycad, grass-tree (M)	Fruit
Goodenia berardiana		1	0.1	Forb (G)	Flower
Hibbertia racemosa		1		Shrub, cycad, grass-tree (M)	Flower
Lomandra maritima		5		Shrub, cycad, grass-tree (M)	Fruit
Lysiandra calycina		2		Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca cardiophylla		5		Shrub, cycad, grass-tree (M)	Fruit
Melaleuca venusta		1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Opercularia spermacocea		<1	0.1	Forb (G)	Flower
Pimelea gilgiana		5		Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		10		Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Ptilotus exiliflorus	R.E	1		Shrub, cycad, grass-tree (M)	Flower
Roepera fruticulosa		10	0.5	Forb (G)	Flower
Scholtzia oligandra	R.E	10	0.1	Shrub, cycad, grass-tree (M)	Flower
Solanum oldfieldii		5	0.1	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		3	0.25	Shrub, cycad, grass-tree (M)	Fruit
Trachymene pilosa		1	0.25	Forb (G)	Flower
Waitzia podolepis		3		Forb (G)	Flower



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Site ID:	MUR63	VT03 – (ArEaMc)
Type:	Quadrat	Size: 10m x 10m
Date:	06/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	214224.4281	6955628.403
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		2	1.25	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		2	0.25	Sedge (G)	Fruit
Austrostipa crinita		1	0.25	Tussock grass (G)	Flowerbud
Cassytha aurea var. *aurea*		1	0.1	Vine (G)	Fruit
Comesperma scoparium		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Cuscuta epithymum	*	1	0.5	Forb (G)	Fruit
Desmocladus asper		15	0.25	Sedge (G)	Fruit
Diploaena mollis		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Diplopeltis intermedia var. *intermedia*		1	0.1	Heath shrub (M)	Vegetative
Exocarpos aphyllus		1	1	Shrub, cycad, grass-tree (M)	Fruit
Goodenia berardiana		1	0.25	Forb (G)	Flower
Hibbertia racemosa		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lomandra maritima		5	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca cardiophylla		20	0.75	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		10	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Opercularia spermacocea		5	0.1	Forb (G)	Flower
Pimelea gilgiana		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Roepera fruticulosa		2	0.5	Forb (G)	Flower
Scholtzia oligandra	R.E	10	0.5	Shrub, cycad, grass-tree (M)	Flower
Solanum oldfieldii		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Waitzia podolepis		1	0.1	Forb (G)	Flower



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Site ID:	MUR64	VT08 – (McOkEoPgDg)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	219519.9001	6960950.129
Landform:	Rocky hill	
Bare ground:	<2%	
Litter cover:	<2%	
Soil type:	Loam	
Fire age:	10+ years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia andrewsii		5	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Aira cupaniana	*, R.E	<1	0.1	Other grass (G)	Flower
Arctotheca calendula	*	10	0.25	Forb (G)	Flower
Arthropodium dyeri		<1	0.1	Forb (G)	Vegetative
Austrostipa crinita		<1	0.1	Other grass (G)	Fruit
Bromus rubens	*	<1	0.25	Other grass (G)	Fruit
Calotis hispidula		<1	0.1	Forb (G)	Fruit
Centaurea melitensis	*	<1	0.1	Forb (G)	Fruit
Crassula colorata var. *colorata*		<1	0.1	Forb (G)	Flower
Cuscuta epithymum	*	<1	0.5	Forb (G)	Fruit
Daucus glochidiatus		<1	0.1	Forb (G)	Flower
Dioscorea hastifolia		<1	0.5	Vine (G)	Fruit
Diplolaena grandiflora		3	1	Heath shrub (M)	Flower
Ehrharta brevifolia var. *cuspidata*	*	<1	0.25	Other grass (G)	Fruit
Eremophila oldfiedii subsp. *oldfieldii*		1	3	Shrub, cycad, grass-tree (M)	Flower
Erodium cicutarium	*	<1	0.1	Forb (G)	Flower
Erodium cygnorum		<1	0.1	Forb (G)	Flower
Haloragis trigonocarpa		<1	0.1	Forb (G)	Fruit
Hordeum leporinum	*	<1	0.25	Other grass (G)	Flowerbud
Lysimachia arvensis	*	10	0.1	Forb (G)	Fruit
Medicago polymorpha	*	5	0.25	Forb (G)	Flower
Melaleuca cardiophylla		30	2.5	Shrub, cycad, grass-tree (M)	Fruit
Pimelea gilgiana		10	1	Shrub, cycad, grass-tree (M)	Flower
Ptilotus eriotrichus		<1	0.1	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Rhodanthe oppositifolia subsp. *oppositifolia*		<1	0.1	Forb (G)	Flower
Rhodanthe polycephala		<1	0.1	Forb (G)	Flower
Roepera apiculata		<1	0.25	Forb (G)	Flower
Rostraria pumila	*	<1	0.5	Other grass (G)	Fruit
Senna glutinosa subsp. *chatelainiana*		<1	1.25	Shrub, cycad, grass-tree (M)	Flower
Silene nocturna	*	<1	0.1	Forb (G)	Dehisced fruit
Sonchus oleraceus	*	10	0.1	Shrub, cycad, grass-tree (M)	Flower
Vittadinia humerata		<1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Wahlenbergia gracilenta		<1	0.1	Forb (G)	Flower



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Site ID:	MUR65	VT08 – (McOkEoPgDg)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	221845.871	6959354.832
Landform:	Rocky hill	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Clay	
Fire age:	5-10 years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia tetragonophylla		3	1	Shrub, cycad, grass-tree (M)	Fruit
Actinobole uliginosum		<1	0.1	Forb (G)	Flower
Arctotheca calendula	*	15	0.25	Forb (G)	Flower
Austrostipa crinita		<1	0.1	Other grass (G)	Fruit
Bromus rubens	*	<1	0.25	Other grass (G)	Fruit
Calandrinia flava		<1	0.1	Forb (G)	Flower
Calandrinia polyandra		<1	0.1	Forb (G)	Flower
Centaurea melitensis	*	<1	0.1	Forb (G)	Fruit
Crassula colorata var. *colorata*		<1	0.1	Forb (G)	Flower
Cuscuta epithymum	*	<1	0.5	Forb (G)	Fruit
Daucus glochidiatus		<1	0.1	Forb (G)	Flower
Dioscorea hastifolia		3	0.5	Vine (G)	Fruit
Ehrharta brevifolia var. *cuspidata*	*	<1	0.25	Other grass (G)	Fruit
Eremophila oldfiedii subsp. *oldfieldii*		5	3	Shrub, cycad, grass-tree (M)	Flower
Erodium cygnorum		<1	0.1	Forb (G)	Flower
Euphorbia drummondii		<1	0.1	Forb (G)	Fruit
Haloragis trigonocarpa		<1	0.1	Forb (G)	Fruit
Lysimachia arvensis	*	5	0.1	Forb (G)	Fruit
Medicago polymorpha	*	10	0.25	Forb (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		5	1.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea gilgiana		10	1.5	Shrub, cycad, grass-tree (M)	Flower
Ptilotus divaricatus		<1		Shrub, cycad, grass-tree (M)	Flower
Rhodanthe oppositifolia subsp. *oppositifolia*		<1	0.1	Forb (G)	Flower
Rhodanthe polycephala		<1	0.1	Forb (G)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Roebuckiella cheilocarpa		<1	0.1	Forb (G)	Flower
Rostraria pumila	*	1	0.5	Other grass (G)	Fruit
Silene nocturna	*	<1	0.1	Forb (G)	Dehisced fruit
Sonchus oleraceus	*	5	0.25	Shrub, cycad, grass-tree (M)	Flower
Wahlenbergia gracilenta		<1	0.1	Forb (G)	Flower



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Site ID:	MUR66	VT08 – (McOkEoPgDg)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	221845.871	6959354.832
Landform:	Rocky hill	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Loam	
Fire age:	10+ years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Aphanopetalum clematideum		<1	0.1	Shrub, cycad, grass-tree (M)	Flower
Austrostipa crinita		<1	0.1	Other grass (G)	Fruit
Bossiaea calcicola	P3	<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Brassica tournefortii	*	10	0.25	Forb (G)	Flower
Bulbine semibarbata		<1	0.1	Forb (G)	Flowerbud
Calandrinia polyandra		5	0.1	Forb (G)	Flower
Centaurea melitensis	*	<1	0.1	Forb (G)	Fruit
Daucus glochidiatus		<1	0.1	Forb (G)	Flower
Dioscorea hastifolia		<1	0.5	Vine (G)	Fruit
Diplolaena grandiflora		1	1	Heath shrub (M)	Flower
Ehrharta brevifolia var. *cuspidata*	*	<1	0.25	Other grass (G)	Fruit
Erodium cygnorum		<1	0.1	Forb (G)	Flower
Galium murale	* R.E	<1	0.1	Forb (G)	Vegetative
Goodenia berardiana		<1	0.1	Forb (G)	Flower
Haloragis trigonocarpa		<1	0.1	Forb (G)	Fruit
Lasiopetalum oppositifolium	P3	<1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Lysiandra calycina		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Lysimachia arvensis	*	10	0.1	Forb (G)	Fruit
Medicago polymorpha	*	<1	0.25	Forb (G)	Flower
Melaleuca cardiophylla		30	4	Shrub, cycad, grass-tree (M)	Fruit
Pimelea microcephala subsp. *microcephala*		8	1.5	Shrub, cycad, grass-tree (M)	Flower
Poranthera drummondii		<1	0.1	Forb (G)	Flower
Ptilotus divaricatus		<1		Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Ptilotus eriotrichus		<1	0.1	Shrub, cycad, grass-tree (M)	Flower
Roepera apiculata		<1	0.25	Forb (G)	Flower
Rostraria pumila	*	<1	0.5	Other grass (G)	Fruit
Silene nocturna	*	<1	0.1	Forb (G)	Dehisced fruit
Sonchus oleraceus	*	<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Thryptomene sp. *Carrarang* (M.E Trudgen 7420)	P1, R,E	<1	1.5	Shrub, cycad, grass-tree (M)	Vegetative



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Site ID:	MUR67	VT08 – (McOkEoPgDg)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	221768.9214	6962017.907
Landform:	Rocky hill	
Bare ground:	<2%	
Litter cover:	<2%	
Soil type:	Loam	
Fire age:	5-10 years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Aira cupaniana	*, R.E	<1	0.1	Other grass (G)	Flower
Arctotheca calendula	*	<1	0.25	Forb (G)	Flower
Austrostipa crinita		<1	0.1	Other grass (G)	Fruit
Brassica tournefortii	*	<1	0.25	Forb (G)	Flower
Bromus rubens	*	<1	0.25	Other grass (G)	Fruit
Calandrinia polyandra		10	0.1	Forb (G)	Flower
Centaurea melitensis	*	<1	0.1	Forb (G)	Fruit
Crassula colorata var. *colorata*		<1	0.1	Forb (G)	Flower
Daucus glochidiatus		<1	0.1	Forb (G)	Flower
Dioscorea hastifolia		<1	0.5	Vine (G)	Fruit
Ehrharta brevifolia var. *cuspidata*	*	<1	0.25	Other grass (G)	Fruit
Erodium cygnorum		<1	0.1	Forb (G)	Flower
Haloragis trigonocarpa		<1	0.1	Forb (G)	Fruit
Hypochaeris glabra	*	<1	0.1	Forb (G)	Fruit
Lysimachia arvensis	*	10	0.1	Forb (G)	Fruit
Medicago polymorpha	*	<1	0.25	Forb (G)	Flower
Melaleuca cardiophylla		10	0.5	Shrub, cycad, grass-tree (M)	Fruit
Nicotiana occidentalis		<1	0.1	Forb (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		15	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Polycarpon tetraphyllum	*	<1	0.1	Forb (G)	Flower
Ptilotus eriotrichus		<1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhodanthe oppositifolia subsp. *oppositifolia*		<1	0.1	Forb (G)	Flower
Roepera apiculata		<1	0.25	Forb (G)	Flower
Rostraria pumila	*	<1	0.5	Other grass (G)	Fruit
Solanum orbiculatum subsp. *orbiculatum*		<1	0.5	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Sonchus oleraceus	*	<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		<1	0.1	Forb (G)	Flower



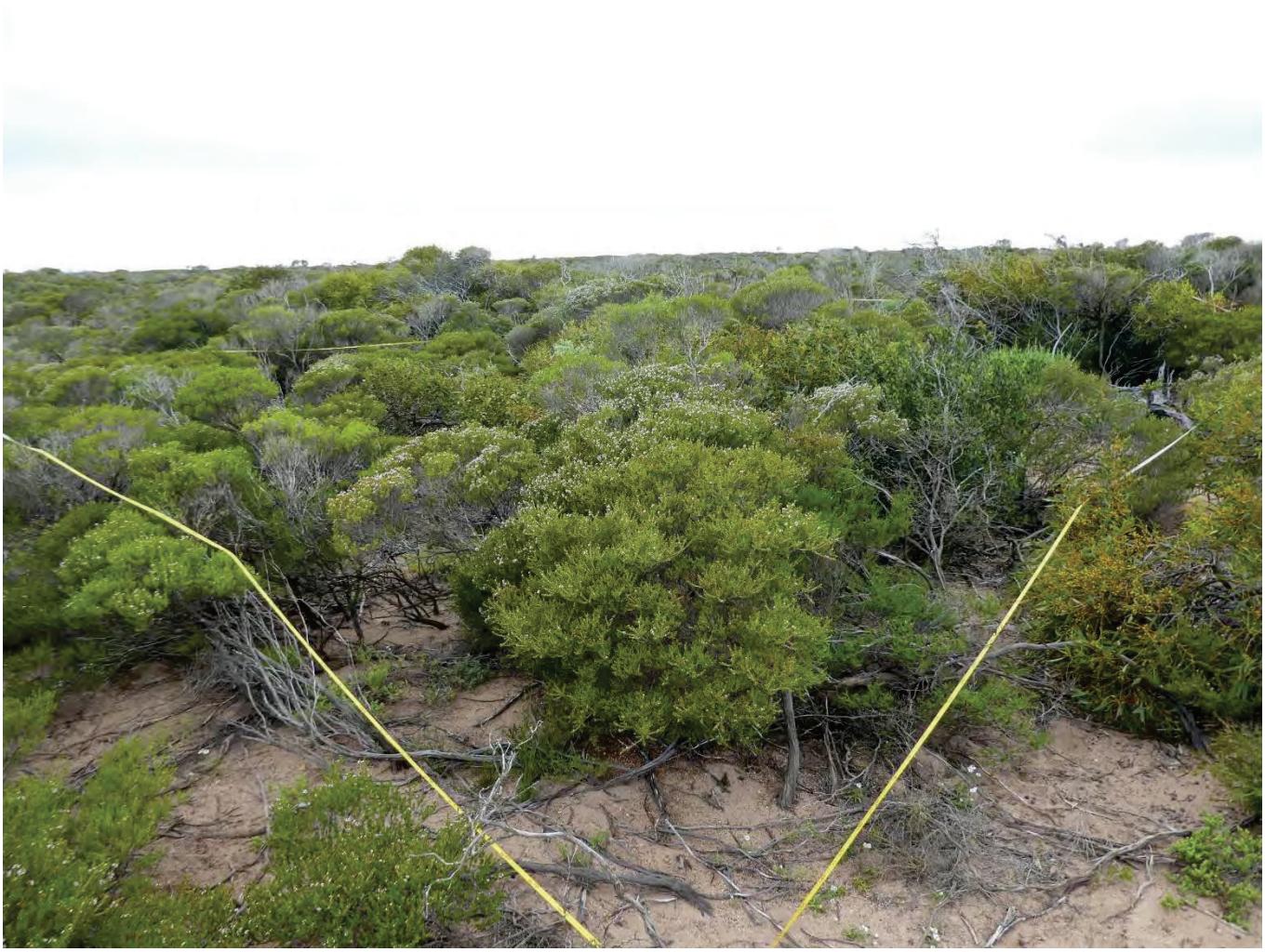
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Site ID:	MUR68	VT06 – (AbOaOkTc)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	204003.722	6978150.133
Landform:	Coastal heathland	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Alyxia buxifolia		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Asteraceae sp. (insufficient material)		<1		Forb (G)	Vegetative
Austrostipa crinita		2	0.25	Tussock grass (G)	Flowerbud
Austrostipa elegantissima		3	0.5	Other grass (G)	Immature fruit
Calandrinia sp. *Shark Bay* (A. Markey 1405)		<1		Forb (G)	Flower
Cryptandra mutila		<1		Shrub, cycad, grass-tree (M)	Flower
Eremophila glabra subsp. *psammophera*		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Eucalyptus zopherophloia	P4	10	1.75	Tree mallee (U)	Fruit
Goodenia berardiana		5	0.1	Forb (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		1	0.5	Shrub, cycad, grass-tree (M)	Flowerbud
Podotheca angustifolia		1	0.1	Forb (G)	Flower
Ptilotus divaricatus		<1		Shrub, cycad, grass-tree (M)	Flower
Ptilotus eremita		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Rhagodia eremaea		<1		Chenopod shrub (M)	Fruit
Rhagodia latifolia		1	0.5	Chenopod shrub (M)	Fruit
Roepera fruticulosa		1	0.5	Forb (G)	Flower
Sonchus oleraceus	*	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Tetragonia implexicoma		<1		Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		5	0.25	Shrub, cycad, grass-tree (M)	Fruit
Thryptomene sp. *Carrarang* (M.E Trudgen 7420)	P1, R,E	40	1.75	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Thysanotus patersonii		1	0.1	Forb (G)	Fruit
Waitzia podolepis		2	0.1	Forb (G)	Flower



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Site ID:	MUR69	VT06 – (AbOaOkTc)
Type:	Quadrat	Size: 10m x 10m
Date:	08/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	203727.8881	6977879.256
Landform:	Coastal heathland	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus verticillatus		1	0.25	Sedge (G)	Vegetative
Alyxia buxifolia		5	1.25	Shrub, cycad, grass-tree (M)	Flower
Asteraceae sp. (insufficient material)		<1	0.1	Forb (G)	Vegetative
Austrostipa crinita		2	0.25	Tussock grass (G)	Flowerbud
Brassica tournefortii	*	1	0.25	Forb (G)	Flower
Calandrinia sp. *Shark Bay* (A. Markey 1405)		1	0.1	Forb (G)	Flower
Cryptandra mutila		<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Cuscuta epithymum	*	1	0.5	Forb (G)	Fruit
Goodenia berardiana		5	0.1	Forb (G)	Flower
Lysimachia arvensis	*	2	0.1	Forb (G)	Fruit
Olearia axillaris		1	1	Shrub, cycad, grass-tree (M)	Vegetative
Olearia sp. *Kennedy Range* (G. Byrne 66)		5	1	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea gilgiana		1	0.1	Heath shrub (M)	Flower
Podotheca angustifolia		1	0.1	Forb (G)	Flower
Ptilotus divaricatus		<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Rhagodia eremaea		2	1	Chenopod shrub (M)	Fruit
Roepera fruticulosa		1	0.5	Forb (G)	Flower
Sonchus oleraceus	*	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Tetragonia implexicoma		<1	0.1	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		5	0.25	Shrub, cycad, grass-tree (M)	Fruit
Thryptomene sp. *Carrarang* (M.E Trudgen 7420)	P1, R,E	90	1.75	Shrub, cycad, grass-tree (M)	Flower
Thysanotus patersonii		<1	0.1	Forb (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Waitzia podolepis		2	0.1	Forb (G)	Flower



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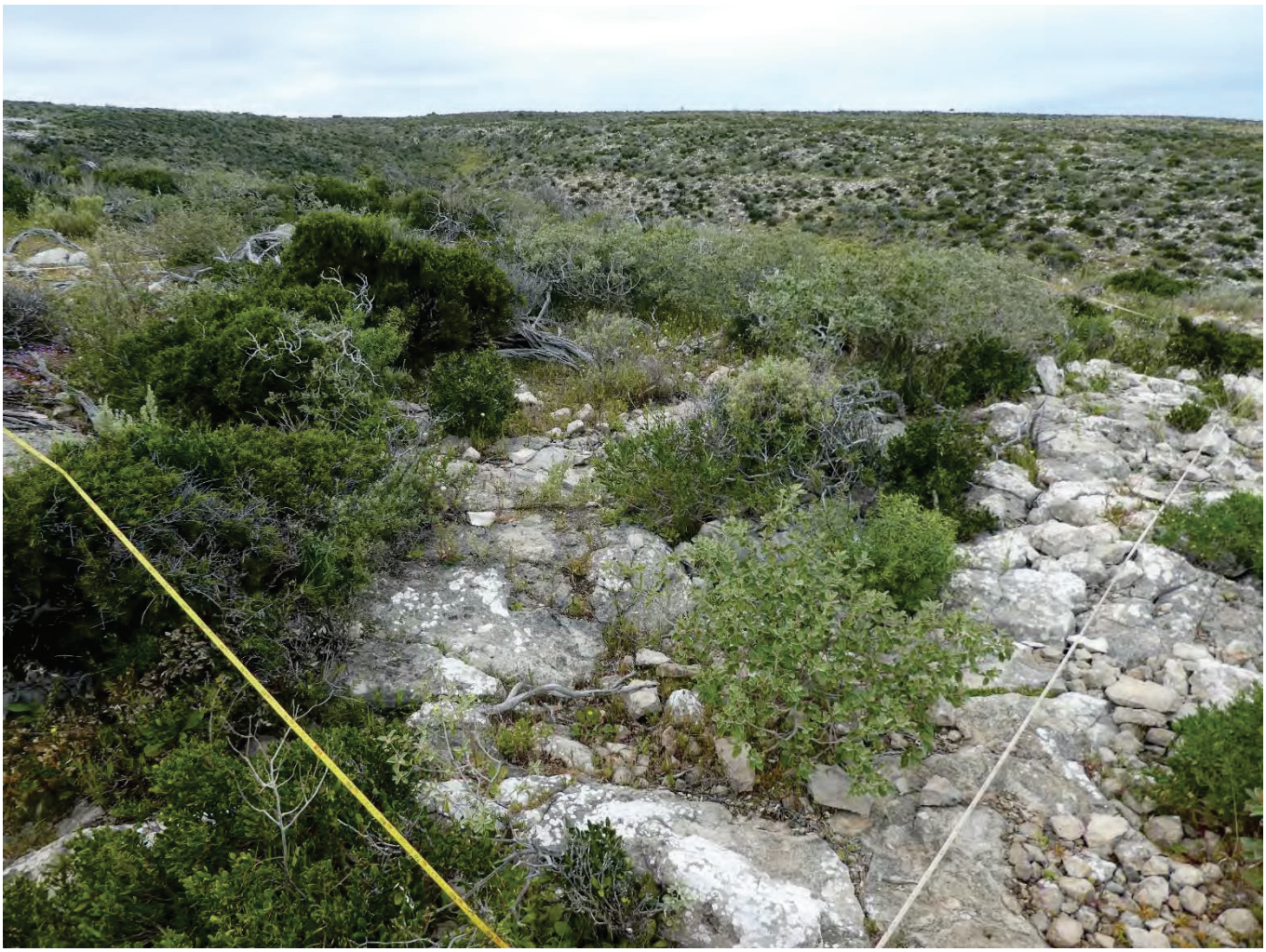
Site ID:	MUR70	VT06 – (AbOaOkTc)
Type:	Quadrat	Size: 10m x 10m
Date:	08/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	203859.6003	6977796.753
Landform:	Rocky hill	
Bare ground:	<2%	
Litter cover:	<2%	
Soil type:	Loam	
Fire age:	10+ years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia andrewsii		10	3.5	Shrub, cycad, grass-tree (M)	Vegetative
Acanthocarpus verticillatus		<1	0.25	Sedge (G)	Vegetative
Alyxia buxifolia		10	1.25	Shrub, cycad, grass-tree (M)	Flower
Aphanopetalum clematideum		<1	0.1	Shrub, cycad, grass-tree (M)	Flower
Austrostipa crinita		<1	0.1	Other grass (G)	Fruit
Avena barbata	*	<1	0.25	Other grass (G)	Fruit
Brassica tournefortii	*	<1	0.25	Forb (G)	Flower
Calandrinia sp. *Shark Bay* (A. Markey 1405)		<1	0.1	Forb (G)	Flower
Centaurea melitensis	*	<1	0.1	Forb (G)	Fruit
Clematicissus angustissima		<1	0.1	Forb (G)	Vegetative
Cuscuta epithymum	*	<1	0.5	Forb (G)	Fruit
Dioscorea hastifolia		<1	0.5	Vine (G)	Fruit
Diplolaena grandiflora		20	0.5	Shrub, cycad, grass-tree (M)	Fruit
Ehrharta longiflora	*	<1	0.5	Other grass (G)	Dehisced fruit
Erodium cygnorum		<1	0.1	Forb (G)	Flower
Euphorbia boophthona		<1	0.1	Forb (G)	Fruit
Goodenia berardiana		<1	0.1	Forb (G)	Flower
Haloragis trigonocarpa		<1	0.1	Forb (G)	Fruit
Hordeum leporinum	*	<1	0.25	Other grass (G)	Flowerbud
Lamarckia aurea	*	<1	0.1	Other grass (G)	Fruit
Lysimachia arvensis	*	<1	0.1	Forb (G)	Fruit
Medicago polymorpha	*	<1	0.25	Forb (G)	Flower
Oxalis perennans		<1	0.1	Forb (G)	Flower
Pimelea gilgiana		5	1.75	Heath shrub (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Polycarpon tetraphyllum	*	<1	0.1	Shrub, cycad, grass-tree (M)	Flower
Ptilotus eremita		<1	0.5	Shrub, cycad, grass-tree (M)	Flower
Rhagodia drummondii		5	0.25	Chenopod shrub (M)	Fruit
Rhagodia eremaea		10	1	Chenopod shrub (M)	Fruit
Rhodanthe oppositifolia subsp. *oppositifolia*		<1	0.1	Forb (G)	Flower
Rhodanthe polycephala		<1	0.1	Forb (G)	Flower
Roepera fruticulosa		<1	0.5	Forb (G)	Flower
Rostraria pumila	*	<1	0.5	Other grass (G)	Fruit
Scaevola tomentosa		<1	0.1	Shrub, cycad, grass-tree (M)	Flower
Silene nocturna	*	<1	0.1	Forb (G)	Dehisced fruit
Sonchus oleraceus	*	<1	0.25	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR71	VT30 – (CoMtRdTiTd)
Type:	Quadrat	Size: 10m x 10m
Date:	09/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	225630.7882	6973174.592
Landform:	Claypan	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Amyema linophylla subsp. *linophylla*		1	0.1	Forb (G)	Flower
Arctotheca calendula	*	2	0.25	Forb (G)	Flower
Brachyscome perpusilla		3	0.1	Forb (G)	Flower
Bulbine semibarbata		1	0.1	Forb (G)	Flowerbud
Calandrinia flava		2	0.1	Forb (G)	Flower
Calandrinia granulifera		5	0.1	Forb (G)	Flower
Calandrinia remota		2	0.1	Forb (G)	Flowerbud
Casuarina obesa		5	8	Shrub, cycad, grass-tree (M)	Fruit
Chenopodium murale	*	1	0.1	Forb (G)	Fruit
Cotula cotuloides		2	0.1	Forb (G)	Flowerbud
Crassula colorata var. *colorata*		5	0.1	Forb (G)	Flower
Ehrharta longiflora	*	1	0.5	Other grass (G)	Dehisced fruit
Enchylaena tomentosa var. *tomentosa*		2	0.5	Chenopod shrub (M)	Fruit
Eragrostis dielsii		1	0.1	Other grass (G)	Fruit
Galium murale	* R.E	2	0.1	Forb (G)	Vegetative
Lysimachia arvensis	*	1	0.1	Forb (G)	Fruit
Maireana tomentosa		5	0.1	Chenopod shrub (M)	Flower
Pentameris airoides subsp. *airoides*	*	<1	0.1	Other grass (G)	Fruit
Polycarpon tetraphyllum	*	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia drummondii		5	0.5	Chenopod shrub (M)	Vegetative
Rhagodia preissii subsp. *obovata*		2	0.5	Chenopod shrub (M)	Fruit
Rostraria pumila	*	<1	0.5	Other grass (G)	Fruit
Siemssenia capillaris		5	0.1	Forb (G)	Vegetative
Sonchus oleraceus	*	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Stellaria ? media (or *S. pallida*)	*	<1	0.1	Forb (G)	Fruit
Tecticornia indica subsp. ?		20	0.25	Chenopod shrub (M)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Tetragonia diptera		1	0.1	Shrub, cycad, grass-tree (M)	Fruit
Threlkeldia diffusa		5	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Triglochin isingiana		1	0.1	Forb (G)	Flower
Triglochin trichophora		<1	0.1	Forb (G)	Flower
Vulpia myuros	*	<1	0.1	Tussock grass (G)	Vegetative
Wahlenbergia gracilenta		<1	0.1	Forb (G)	Flower



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Site ID:	MUR72	VT12 – (AcArAb)
Type:	Quadrat	Size: 10m x 10m
Date:	09/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	223489.6538	6971777.416
Landform:	Sandy flats	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		25	2	Shrub, cycad, grass-tree (M)	Fruit
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Cassytha aurea var. *aurea*		1	0.1	Vine (G)	Fruit
Chamelaucium sp. *Coolcalalaya* (A.H. Burbidge 4233)	P1	15	1.75	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		15	1	Shrub, cycad, grass-tree (M)	Flower
Scholtzia umbellifera		10	1	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR73	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	09/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	222326.3068	6969810.989
Landform:	Sandy flats	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		10	2	Shrub, cycad, grass-tree (M)	Fruit
Allocasuarina campestris		3	2	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus chrysanthereus		5	1	Shrub, cycad, grass-tree (M)	Flower
Conostylis stylidioides		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Dioscorea hastifolia		1	0.5	Vine (G)	Fruit
Drosera humilis		1	0.1	Forb (G)	Fruit
Gompholobium tomentosum		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Hibiscus drummondii		1	0.25	Shrub, cycad, grass-tree (M)	Flowerbud
Melaleuca leiopyxis		35	1.5	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		10	1.5	Shrub, cycad, grass-tree (M)	Vegetative
Persoonia acicularis		5	0.25	Shrub, cycad, grass-tree (M)	Flower
Thryptomene denticulata		10	1	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR74	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	09/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	225908.2899	6967982.665
Landform:	*Acacia* sandy hills	
Bare ground:	2-10%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		15	2	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		30	2	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		10	1.5	Shrub, cycad, grass-tree (M)	Flower
Conostylis stylidioides		1	0.1	Forb (G)	Flower
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Drosera humilis		1	0.1	Forb (G)	Fruit
Glischrocargon aureum		1	0.25	Forb (G)	Flower
Grevillea eriostachya		10	2	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Malleostemon microphyllus	P2, R.E	20	1.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		1	0.25	Sedge (G)	Fruit
Patersonia graminea		2	0.5	Forb (G)	Flower
Poaceae sp. (insufficient material)		1	0.1	Other grass (G)	Vegetative
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative

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Site ID:	MUR75	VT10 – (AcAaTd)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	234106.8437	6982348.323
Landform:	Yellow sand	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia neurophylla subsp. *erugata*		2	2	Shrub, cycad, grass-tree (M)	Flower
Allocasuarina campestris		5	2	Shrub, cycad, grass-tree (M)	Fruit
Callitris arenaria		2	2	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Eremaea dendroidea		5	3	Shrub, cycad, grass-tree (M)	Vegetative
Thryptomene denticulata		75	2	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Waitzia corymbosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR76	VT11 – (GeAcHs)
Type:	Quadrat	Size: 10m x 10m
Date:	010/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	238060.6086	6982368.801
Landform:	Red sand	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia chartacea		1	3	Shrub, cycad, grass-tree (M)	Vegetative
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.5	Sedge (G)	Fruit
Calytrix brevifolia		5	1.5	Shrub, cycad, grass-tree (M)	Flower
Goodenia berardiana		1	0.25	Forb (G)	Flower
Grevillea eriostachya		5	4	Shrub, cycad, grass-tree (M)	Flower
Hakea stenophylla subsp. *notialis*		10	4	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		10	1.75	Shrub, cycad, grass-tree (M)	Flower
Thryptomene denticulata		50	1.75	Shrub, cycad, grass-tree (M)	Flower
Thryptomene strongylophylla		10	1.5	Shrub, cycad, grass-tree (M)	Flower
Waitzia corymbosa		2	0.25	Forb (G)	Flower

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Site ID:	MUR77	VT28 – (ElAcAt)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	246947.6772	6973877.664
Landform:	York gum woodland	
Bare ground:	2-10%	
Litter cover:	11-30%	
Soil type:	Clay	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia tetragonophylla		5	1.75	Shrub, cycad, grass-tree (M)	Fruit
Actinobole condensatum		1	0.1	Forb (G)	Flower
Aira cupaniana	*, R.E	1	0.1	Other grass (G)	Flower
Asteraceae sp. (insufficient material)		1	0.1	Forb (G)	Vegetative
Atriplex bunburyana		35	0.5	Chenopod shrub (M)	Fruit
Austrostipa elegantissima		2	0.5	Other grass (G)	Immature fruit
Brachyscome ciliaris		1	0.1	Forb (G)	Flower
Calocephalus multiflorus		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		<1	0.1	Forb (G)	Flower
Daucus glochidiatus		1	0.25	Forb (G)	Dehisced fruit
Enchylaena tomentosa var. *tomentosa*		5	0.5	Chenopod shrub (M)	Fruit
Erodium cygnorum		1	0.1	Forb (G)	Flower
Eucalyptus loxophleba subsp. *supralaevis*		30	15	Tree (U)	Fruit
Euphorbia boophthona		1	0.1	Forb (G)	Fruit
Euphorbia drummondii		1	0.1	Forb (G)	Fruit
Exocarpos aphyllus		2	1	Shrub, cycad, grass-tree (M)	Fruit
Medicago polymorpha	*	1	0.25	Forb (G)	Flower
Omphalolappula concava		1	0.1	Forb (G)	Fruit
Ptilotus divaricatus		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus exaltatus		5	0.1	Shrub, cycad, grass-tree (M)	Flower
Ptilotus obovatus		3	0.25	Shrub, cycad, grass-tree (M)	Flower
Roepera lobulata		1	0.1	Forb (G)	Fruit
Scaevola spinescens		1	1	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Sclerolaena diacantha		20	0.25	Chenopod shrub (M)	Flower
Silene nocturna	*	1	0.1	Forb (G)	Dehisced fruit
Solanum orbiculatum subsp. *orbiculatum*		2	1	Shrub, cycad, grass-tree (M)	Flower
Swainsona leeana		1	0.1	Shrub, cycad, grass-tree (M)	Fruit
Tetragonia diptera		1	0.1	Shrub, cycad, grass-tree (M)	Fruit
Vittadinia humerata		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative



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Site ID:	MUR78	VT28 – (ElAcAt)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	237199.9535	6973073.415
Landform:	York gum woodland	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Clay	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia acuminata		20	5	Shrub, cycad, grass-tree (M)	Fruit
Actinobole condensatum		1	0.1	Forb (G)	Flower
Aira cupaniana	*, R.E	1	0.1	Other grass (G)	Flower
Atriplex codonocarpa		1	0.25	Chenopod shrub (M)	Fruit
Austrostipa elegantissima		10	0.5	Other grass (G)	Immature fruit
Brachyscome ciliaris		5	0.1	Forb (G)	Flower
Calandrinia granulifera		2	0.1	Forb (G)	Flower
Calandrinia liniflora		2	0.1	Forb (G)	Flower
Calotis hispidula		1	0.1	Forb (G)	Fruit
Centaurea melitensis	*	2	0.1	Forb (G)	Fruit
Clematicissus angustissima		1	0.1	Forb (G)	Vegetative
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Cuscuta epithymum	*	1	0.5	Forb (G)	Fruit
Daucus glochidiatus		1	0.25	Forb (G)	Dehisced fruit
Dioscorea hastifolia		1	0.5	Vine (G)	Fruit
Dodonaea inaequifolia		1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Ehrharta longiflora	*	3	0.5	Other grass (G)	Dehisced fruit
Enchylaena tomentosa var. *tomentosa*		3	0.5	Chenopod shrub (M)	Fruit
Erodium cygnorum		1	0.25	Forb (G)	Fruit
Eucalyptus loxophleba subsp. *supralaevis*		20	15	Tree (U)	Fruit
Euphorbia drummondii		1	0.1	Forb (G)	Fruit
Hypochaeris glabra	*	1	0.1	Forb (G)	Fruit
Maireana planifolia	R.E	5	0.5	Chenopod shrub (M)	Flower
Medicago polymorpha	*	2	0.25	Forb (G)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Paractaenum novae-hollandiae subsp. *novae-hollandiae*		1	0.1	Other grass (G)	Fruit
Petrorhagia dubia	*	1	0.1	Forb (G)	Fruit
Polycarpon tetraphyllum	*	2	0.1	Shrub, cycad, grass-tree (M)	Flower
Ptilotus eremita		5	0.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus obovatus		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Rhagodia latifolia		1	0.5	Chenopod shrub (M)	Fruit
Rostraria pumila	*	1	0.5	Other grass (G)	Fruit
Sclerolaena diacantha		10	0.25	Chenopod shrub (M)	Flower
Sclerolaena fusiformis	R.E	5	0.25	Chenopod shrub (M)	Flower
Sida sp. *dark green fruits* (S. van Leeuwen 2260)		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Siemssenia capillaris		2	0.1	Forb (G)	Vegetative
Sonchus oleraceus	*	5	0.25	Shrub, cycad, grass-tree (M)	Flower
Tetragonia diptera		3	0.1	Shrub, cycad, grass-tree (M)	Fruit
Waitzia corymbosa		3	0.1	Forb (G)	Flower

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Site ID:	MURRA1	VTxx
Type:	Relevé	
Date:	10/09/2022	Described by: Angela Benkovic
Co-ordinates (50K)	234650.9784	6982368.806
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		5	4	Shrub, cycad, grass-tree (M)	Fruit
Calandrinia liniflora		2	0.1	Forb (G)	Flower
Calytrix brevifolia		5	1	Shrub, cycad, grass-tree (M)	Flower
Conospermum microflorum		15	1.5	Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		10	1	Sedge (G)	Flower
Eucalyptus pallida		2	3	Tree mallee (U)	Fruit
Goodenia berardiana		2	0.1	Forb (G)	Flower
Grevillea eriostachya		10	3	Shrub, cycad, grass-tree (M)	Flower
Hyalosperma cotula		2	0.1	Forb (G)	Flower
Seringia hermanniifolia		5	0.5	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR80	VT02 – (ArMcMlOk)
Type:	Quadrat	Size: 10m x 10m
Date:	10/10/2022	Described by: Angela Benkovic
Co-ordinates (50K)	210739.7164	6966625.682
Landform:	Coastal heathland	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Austrostipa crinita		5	1.25	Tussock grass (G)	Flowerbud
Brassica tournefortii	*	1	0.5	Forb (G)	Flower
Bulbine semibarbata		1	0.25	Forb (G)	Flowerbud
Calandrinia polyandra		3	0.1	Forb (G)	Flower
Cassytha aurea var. *aurea*		1	0.1	Vine (G)	Fruit
Comesperma scoparium		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Cryptandra arbutiflora var. *borealis*		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Desmocladus asper		10	0.25	Sedge (G)	Fruit
Diploaena mollis		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Grevillea erinaceae	P3, R.E	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Hibiscus drummondii		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lomandra maritima		5	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lysiandra calycina		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca cardiophylla		1	1	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		25	1.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca venusta		20	1	Shrub, cycad, grass-tree (M)	Flower
Monotaxis bracteata		1	0.25	Forb (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		10	1.25	Shrub, cycad, grass-tree (M)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Opercularia spermacocea		1	0.25	Forb (G)	Flower
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit
Scholtzia oligandra	R.E	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Stellaria ? media (or *S. pallida*)	*	1	0.1	Forb (G)	Fruit
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Waitzia acuminata var. *acuminata*		1	0.1	Forb (G)	Flower



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Site ID:	MUR81	VT06 – (AbOaOkTc)
Type:	Quadrat	Size: 10m x 10m
Date:	11/10/2022	Described by: Angela Benkovic
Co-ordinates (50K)	208458.7422	6969410.078
Landform:	Limestone ridge	
Bare ground:	<2%	
Litter cover:	<2%	
Soil type:	Skeletal	
Fire age:	5-10 years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus verticillatus		1	0.5	Sedge (G)	Fruit
Amyema miraculosa subsp. *miraculosa*		1	3	Forb (G)	Flower
Atriplex sp. (insufficient material)		20	1	Chenopod shrub (M)	Vegetative
Brassica tournefortii	*	5	0.25	Forb (G)	Flower
Calandrinia sp. *Shark Bay* (A. Markey 1405)		10	0.1	Forb (G)	Flower
Centaurea melitensis	*	2	0.1	Forb (G)	Fruit
Crassula colorata var. *colorata*		2	0.1	Forb (G)	Flower
Cuscuta epithymum	*	2	0.1	Forb (G)	Fruit
Daucus glochidiatus		1	0.1	Forb (G)	Dehisced fruit
Dioscorea hastifolia		<1		Vine (G)	Fruit
Diplolaena grandiflora		2	1	Shrub, cycad, grass-tree (M)	Fruit
Ehrharta longiflora	*	5	0.25	Other grass (G)	Dehisced fruit
Enchylaena tomentosa var. *tomentosa*		5	0.5	Chenopod shrub (M)	Fruit
Euphorbia drummondii		1	0.25	Forb (G)	Fruit
Exocarpos aphyllus		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Hordeum leporinum	*	1	0.1	Other grass (G)	Flowerbud
Lysimachia arvensis	*	<1		Forb (G)	Fruit
Medicago polymorpha	*	2	0.1	Forb (G)	Flower
Melaleuca cardiophylla		30	3	Shrub, cycad, grass-tree (M)	Fruit
Oxalis perennans		2	0.1	Forb (G)	Flower
Pimelea microcephala subsp. *microcephala*		2	1	Shrub, cycad, grass-tree (M)	Flowerbud
Polycarpon tetraphyllum	*	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Ptilotus eremita		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Rhagodia drummondii		15	1	Chenopod shrub (M)	Fruit
Rhagodia eremaea		15	1	Chenopod shrub (M)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit
Rytidosperma sp. (insufficient material)		2	0.25	Other grass (G)	Fruit
Sonchus oleraceus	*	10	0.1	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		3	0.25	Shrub, cycad, grass-tree (M)	Vegetative



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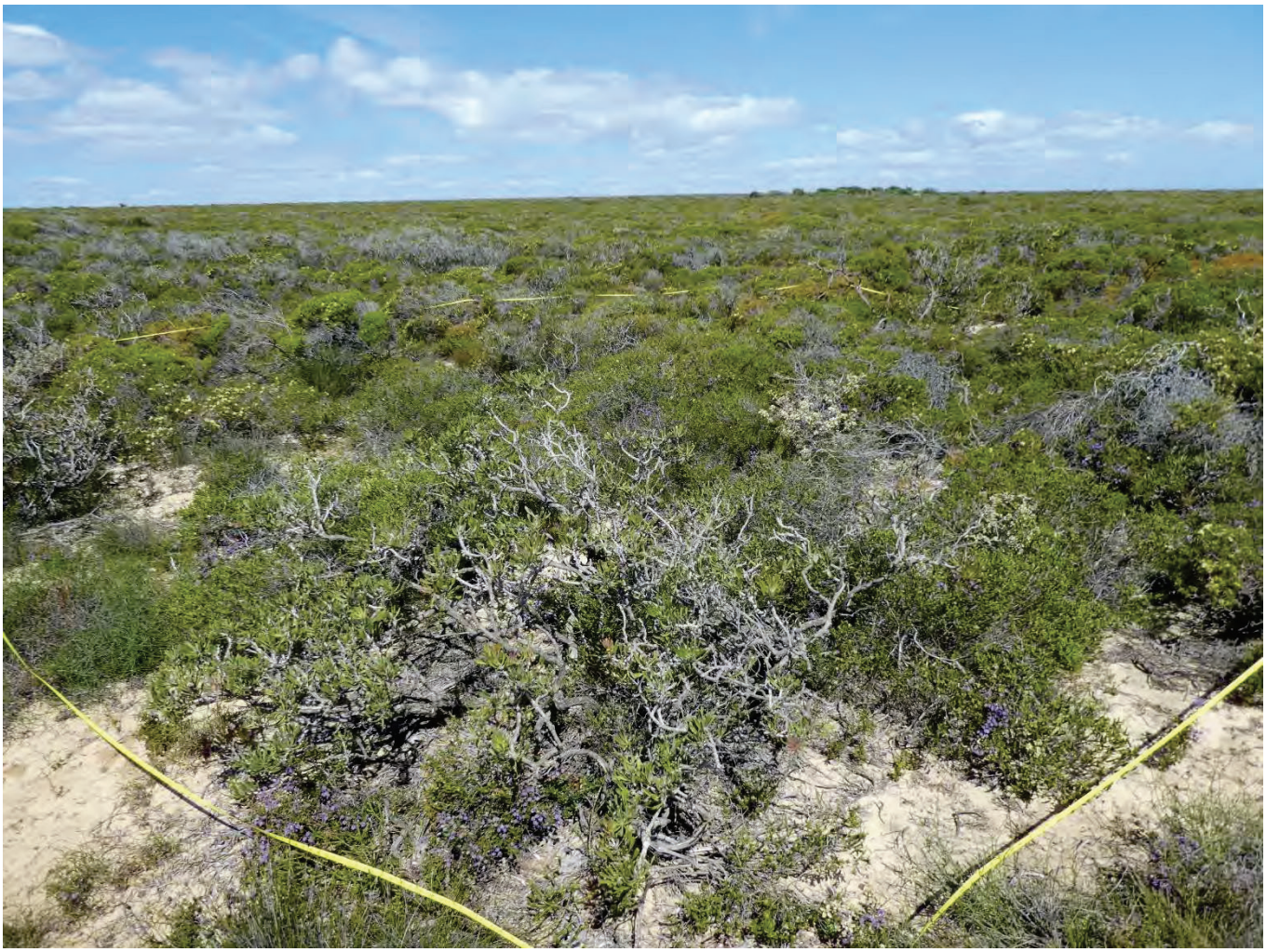
Site ID:	MUR82	VT17 – (BsCbAcHc)
Type:	Quadrat	Size: 10m x 10m
Date:	11/10/2022	Described by: Angela Benkovic
Co-ordinates (50K)	207952.479	6972696.614
Landform:	Coastal heathland	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		<1		Sedge (G)	Fruit
Austrostipa hemipogon	R.E	<1		Other grass (G)	Fruit
Calandrinia polyandra		<1		Forb (G)	Flower
Calothamnus blepharospermus		10		Shrub, cycad, grass-tree (M)	Flower
Calothamnus quadrifidus subsp. *obtusus*		<1		Heath shrub (M)	Fruit
Cassytha aurea var. *aurea*		1		Vine (G)	Fruit
Comesperma scoparium		1		Shrub, cycad, grass-tree (M)	Flower
Conostylis aculeata subsp. *septentrionora*		<1		Forb (G)	Flower
Cyanothamnus coerulescens subsp. *spicatus*		<1		Shrub, cycad, grass-tree (M)	Flower
Dampiera incana var. *fuscescens*		<1		Forb (G)	Flower
Daviesia hakeoides subsp. *hakeoides*		<1		Shrub, cycad, grass-tree (M)	Fruit
Diploaena mollis		5		Shrub, cycad, grass-tree (M)	Fruit
Gnephosis tenuissima		<1		Forb (G)	Flower
Grevillea erinaceae	P3, R.E	1		Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		5		Shrub, cycad, grass-tree (M)	Flower
Hibbertia racemosa		1		Forb (G)	Flower
Isotoma hypocrateriformis		<1		Forb (G)	Flowerbud
Lepidobolus preissianus subsp. *preissianus*		10		Sedge (G)	Flower
Leptosema tomentosum		<1		Shrub, cycad, grass-tree (M)	Vegetative
Malleostemon microphyllus	P2, R.E	<1		Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		20		Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Mesomelaena pseudostygia		15		Sedge (G)	Fruit
Neurachne alopecuroidea		<1		Other grass (G)	Fruit
Opercularia spermacocea		1		Forb (G)	Flower
Patersonia occidentalis var. *occidentalis*		<1		Shrub, cycad, grass-tree (M)	Flower
Persoonia acicularis		1		Shrub, cycad, grass-tree (M)	Flower
Phymatocarpus porphyrocephalus		10		Shrub, cycad, grass-tree (M)	Fruit
Pimelea microcephala subsp. *microcephala*		<1		Shrub, cycad, grass-tree (M)	Flowerbud
Quoya atriplicina		<1		Shrub, cycad, grass-tree (M)	Flower
Scholtzia oligandra	R.E	1		Shrub, cycad, grass-tree (M)	Flower
Seringia hermanniifolia		10		Shrub, cycad, grass-tree (M)	Flower
Stylidium kalbarriense		<1		Shrub, cycad, grass-tree (M)	Flower
Stylidium repens		<1		Shrub, cycad, grass-tree (M)	Flower
Styphelia cordifolia		<1		Shrub, cycad, grass-tree (M)	Fruit
Tricoryne elatior		<1		Forb (G)	Flower
Triodia bromoides	P4	<1		Hummock grass (G)	Fruit

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Site ID:	MUR83	VT28 – (ElAcAt)
Type:	Quadrat	Size: 10m x 10m
Date:	12/10/2022	Described by: Angela Benkovic
Co-ordinates (50K)	222808.1834	6968117.023
Landform:	York gum woodland	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Actinobole condensatum		1		Forb (G)	Flower
Aira cupaniana	*, R.E	1		Other grass (G)	Flower
Angianthus aff. *milnei*		10	0.25	Forb (G)	Flower
Atriplex semilunaris		1	0.25	Chenopod shrub (M)	Fruit
Austrostipa scabra		1		Other grass (G)	Fruit
Calandrinia sp. (insufficient material)		2		Forb (G)	Flower
Crassula colorata var. *colorata*		2		Forb (G)	Flower
Cuscuta epithymum	*	2		Forb (G)	Fruit
Eucalyptus loxophleba subsp. *supralaevis*		20	8	Tree (U)	Fruit
Hordeum leporinum	*	1		Other grass (G)	Flowerbud
Lysimachia arvensis	*	5		Forb (G)	Fruit
Polycarpon tetraphyllum	*	2		Shrub, cycad, grass-tree (M)	Flower
Ptilotus divaricatus		10		Shrub, cycad, grass-tree (M)	Flower
Rhagodia preissii subsp. *obovata*		5	1	Chenopod shrub (M)	Fruit
Rhagodia latifolia subsp. *latifolia*		10	1	Chenopod shrub (M)	Vegetative
Roepera apiculata		10	0.5	Forb (G)	Fruit
Roepera lobulata		2		Forb (G)	Fruit
Sisymbrium orientale	*	1		Forb (G)	Flower
Spergula pentandra	* R.E	2		Forb (G)	Fruit
Tetragonia diptera		1		Shrub, cycad, grass-tree (M)	Fruit

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Site ID:	MUR84	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	12/10/2022	Described by: Angela Benkovic
Co-ordinates (50K)	220363.433	6968877.264
Landform:	Mulga woodland	
Bare ground:	2-10%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		2	2	Shrub, cycad, grass-tree (M)	Fruit
Acacia rostellifera		50	5	Shrub, cycad, grass-tree (M)	Fruit
Acacia spathulifolia		1		Shrub, cycad, grass-tree (M)	Fruit
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	1		Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		1	1	Shrub, cycad, grass-tree (M)	Flower
Diploaena mollis		15	1.5	Shrub, cycad, grass-tree (M)	Fruit
Ecdeiocolea monostachya		2		Sedge (G)	Fruit
Grevillea candelabroides		1		Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		10		Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		10		Shrub, cycad, grass-tree (M)	Flower
Monotaxis bracteata		1		Forb (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		1		Shrub, cycad, grass-tree (M)	Vegetative
Persoonia acicularis		2		Shrub, cycad, grass-tree (M)	Flower
Styphelia cordifolia		2	1	Shrub, cycad, grass-tree (M)	Fruit

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Site ID:	MUR85	VT12 – (AcArAb)
Type:	Quadrat	Size: 10m x 10m
Date:	12/10/2022	Described by: Angela Benkovic
Co-ordinates (50K)	220908.8765	6966166.589
Landform:	Mulga woodland	
Bare ground:	2-10%	
Litter cover:	31-70%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		50	5	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Cooloomia* (S.D. Hopper 3301)		2	0.25	Sedge (G)	Vegetative
Allocasuarina campestris		5	2	Shrub, cycad, grass-tree (M)	Fruit
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	15	1	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		1	1	Shrub, cycad, grass-tree (M)	Flower
Chamelaucium sp. *Coolcalalaya* (A.H. Burbidge 4233)	P1	15	1.5	Shrub, cycad, grass-tree (M)	Fruit
Ecdeiocolea monostachya		10	1	Sedge (G)	Fruit
Melaleuca leiopyxis		5	1.5	Shrub, cycad, grass-tree (M)	Flower
Monotaxis bracteata		1	0.1	Forb (G)	Flower
Persoonia acicularis		5	0.25	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR86	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Angela Benkovic
Co-ordinates (50K)	213740.7208	6980333.225
Landform:	Mulga woodland	
Bare ground:	2-10%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		10	5	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Austrostipa crinita		1	1	Tussock grass (G)	Flowerbud
Austrostipa elegantissima		1	0.1	Other grass (G)	Immature fruit
Cassytha aurea var. *aurea*		1	0.1	Vine (G)	Fruit
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Hibbertia conspicua		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		15	1.5	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		20	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		2	0.5	Shrub, cycad, grass-tree (M)	Flowerbud

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Site ID:	MUR87	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Angela Benkovic
Co-ordinates (50K)	213630.4455	6977067.108
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		2	5	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		2	0.1	Sedge (G)	Fruit
Allocasuarina campestris		10	1.75	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		2	1	Shrub, cycad, grass-tree (M)	Flower
Comesperma scoparium		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Conostylis aculeata subsp. *septentrionora*		1	0.25	Forb (G)	Flower
Desmocladus asper		2	0.25	Sedge (G)	Fruit
Drosera sp. (insufficient material)		1	0.1	Forb (G)	Flower
Hibbertia conspicua		15	0.5	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		5	0.5	Sedge (G)	Flower
Malleostemon microphyllus	P2, R.E	1	0.75	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		30	1.5	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		5	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Seringia hermanniifolia		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Tricoryne elatior		1	0.25	Forb (G)	Flower
Triodia bromoides	P4	10	1.5	Hummock grass (G)	Fruit

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Site ID:	MUR88	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Angela Benkovic
Co-ordinates (50K)	212504.6413	6974016.94
Landform:	Mulga woodland	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		20	5	Shrub, cycad, grass-tree (M)	Fruit
Austrostipa crinita		1	0.5	Other grass (G)	Fruit
Austrostipa elegantissima		1	0.75	Other grass (G)	Immature fruit
Calandrinia polyandra		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Euphorbia drummondii		1	0.1	Forb (G)	Fruit
Isolepis marginata		1	0.1	Sedge (G)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		15	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Parietaria cardiostegia		1	0.1	Forb (G)	Fruit
Pimelea microcephala subsp. *microcephala*		20	1.75	Shrub, cycad, grass-tree (M)	Flowerbud
Polycarpon tetraphyllum	*	3	0.1	Shrub, cycad, grass-tree (M)	Flower
Roepera fruticulosa		5	0.5	Forb (G)	Flower
Schismus barbatus	*	1	0.25	Other grass (G)	Fruit
Tetragonia diptera		1	0.1	Shrub, cycad, grass-tree (M)	Fruit

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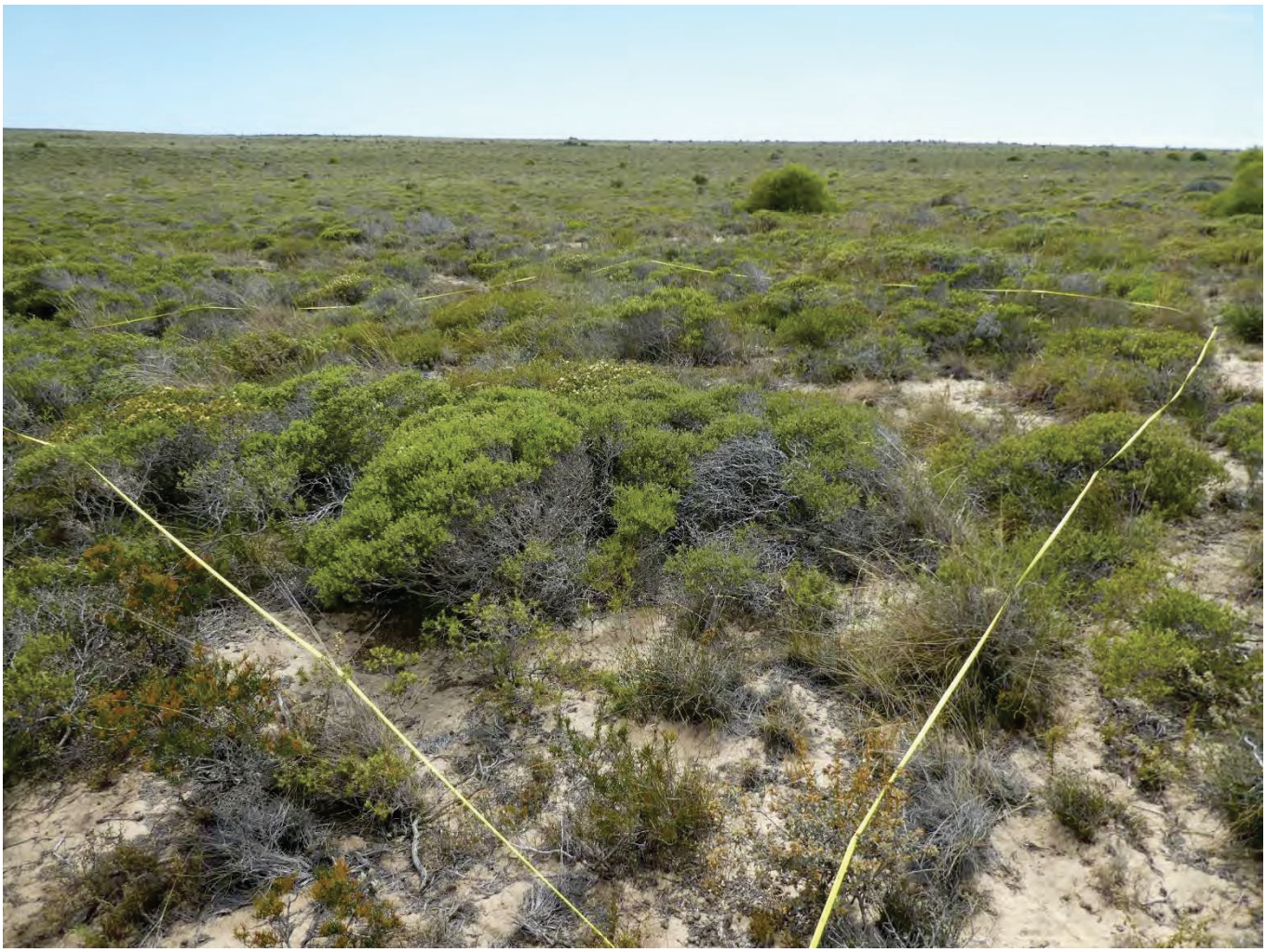


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Site ID:	MUR89	VT20 – (BsCoSuHc)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	218289.289	6945172.862
Landform:	Heath sand	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia spathulifolia		10	0.5	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus quadrifidus subsp. *obtusus*		5	1	Shrub, cycad, grass-tree (M)	Fruit
Cassytha aurea var. *aurea*		1	0.1	Vine (G)	Fruit
Corynotheca sp. (insufficient material)		2	0.5	Forb (G)	Vegetative
Desmocladus asper		10	0.25	Sedge (G)	Vegetative
Hibbertia conspicua		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Jacksonia hakeoides		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		4	0.25	Sedge (G)	Flower
Lepidosperma aff. *scabrum*		2	0.5	Sedge (G)	Flower
Melaleuca leiopyxis		20	1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca keigheryi		5	1	Shrub, cycad, grass-tree (M)	Fruit
Mesomelaena preissii		5	0.25	Sedge (G)	Fruit
Persoonia acicularis		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Scaevola sp.? Golden hairs (D. & B. Bellairs 1450 A)	P1	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Scholtzia oligandra	R.E	2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Seringia hermanniifolia		2	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Solanum orbiculatum subsp. *orbiculatum*		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Styphelia cordifolia		2	1	Shrub, cycad, grass-tree (M)	Fruit
Triodia bromoides	P4	20	1.75	Hummock grass (G)	Fruit

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Site ID:	MUR90	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	217993.9113	6945835.052
Landform:	Mulga woodland	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		5		Shrub, cycad, grass-tree (M)	Fruit
Anthocercis intricata	P3	1		Shrub, cycad, grass-tree (M)	Flower
Austrostipa elegantissima		5		Other grass (G)	Immature fruit
Hibbertia racemosa		<1		Forb (G)	Flower
Melaleuca leiopyxis		1		Shrub, cycad, grass-tree (M)	Flower
Melaleuca keigheryi		<1		Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		20		Shrub, cycad, grass-tree (M)	Vegetative
Persoonia acicularis		1		Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		2		Shrub, cycad, grass-tree (M)	Flowerbud
Rhagodia preissii subsp. *obovata*		2		Chenopod shrub (M)	Fruit
Rhagodia latifolia subsp. *latifolia*		<1		Chenopod shrub (M)	Fruit
Rhagodia preissii subsp. *obovata*		<1		Chenopod shrub (M)	Vegetative
Roepera fruticulosa		5		Forb (G)	Flower

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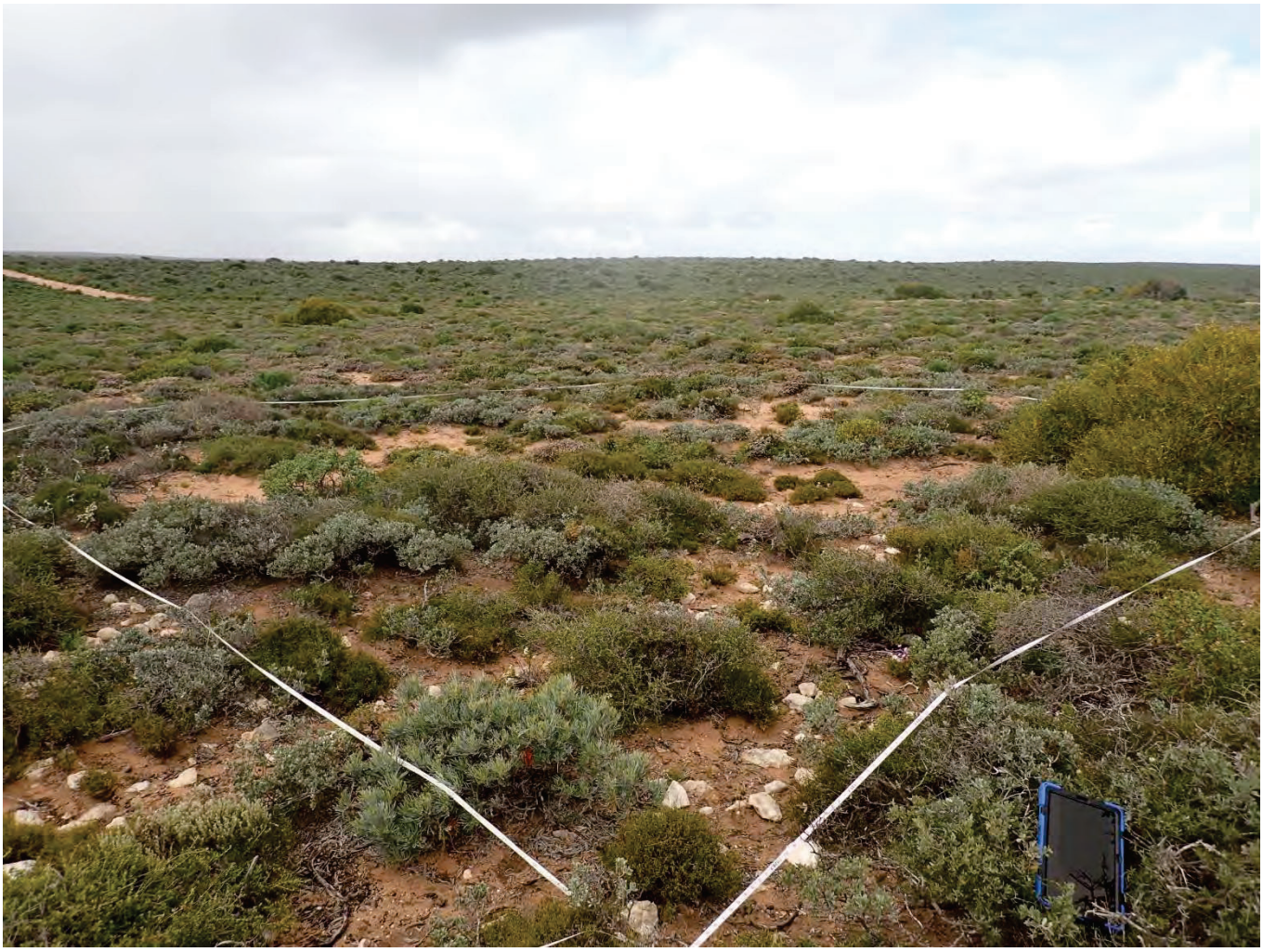


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Site ID:	MUR91	VT04 – (McArSoMv)
Type:	Quadrat	Size: 10m x 10m
Date:	06/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	214124.9706	6956061.222
Landform:	Coastal heathland	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		10	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Calandrinia sp. *Shark Bay* (A. Markey 1405)		<1	0.1	Forb (G)	Flower
Cuscuta epithymum	*	<1	0.1	Forb (G)	Fruit
Desmocladus asper		15	0.25	Sedge (G)	Fruit
Diplopeltis intermedia var. *intermedia*		<1	0.1	Shrub	Vegetative
Enchylaena tomentosa var. *tomentosa*		<1	0.5	Chenopod shrub (M)	Fruit
Goodenia berardiana		<1	0.1	Forb (G)	Flower
Grevillea stenomera	P2	<1	0.5	Heath shrub (M)	Flower
Lysiandra calycina		<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca cardiophylla		20	0.5	Heath shrub (M)	Vegetative
Melaleuca venusta		30	0.5	Heath shrub (M)	Flower
Opercularia spermacocea		<1	0.1	Forb (G)	Flower
Pimelea gilgiana		<1	0.1	Shrub, cycad, grass-tree (M)	Flower
Podotheca angustifolia		<1	0.1	Forb (G)	Flower
Ptilotus divaricatus		<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus exiliflorus	R.E	<1	0.1	Shrub, cycad, grass-tree (M)	Flower
Roepera apiculata		<1	0.1	Forb (G)	Flower
Rostraria pumila	*	<1	0.1	Other grass (G)	Fruit
Scholtzia oligandra	R.E	<1	0.5	Heath shrub (M)	Flower
Solanum oldfieldii		<1	0.1	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		<1	0.1	Forb (G)	Flower
Waitzia podolepis		<1	0.1	Forb (G)	Flower

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Site ID:	MUR92	VT04 – (McArSoMv)
Type:	Quadrat	Size: 10m x 10m
Date:	06/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	214163.7718	6955976.45
Landform:	Coastal heathland	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Acacia spathulifolia		3	0.5	Heath shrub (M)	Flower
Austrostipa crinita		<1	0.25	Tussock grass (G)	Flowerbud
Beyeria cinerea subsp. borealis		<1	0.1	Heath shrub (M)	Vegetative
Calandrinia sp. *Shark Bay* (A. Markey 1405)		<1	0.1	Forb (G)	Flower
Cuscuta epithymum	*	<1	0.1	Forb (G)	Fruit
Desmocladus asper		5	0.25	Sedge (G)	Fruit
Diplopeltis intermedia var. *intermedia*		<1	0.25	Shrub	Fruit
Goodenia berardiana		<1	0.1	Forb (G)	Flower
Lamarchea hakeifolia var. *brevifolia*		<1	1	Heath shrub (M)	Fruit
Lomandra maritima		<1	0.25	Rush (G)	Fruit
Lysiandra calycina		<1	0.5	Shrub, cycad, grass-tree (M)	Flower
Lysimachia arvensis	*	<1	0.1	Forb (G)	Fruit
Melaleuca cardiophylla		20	0.5	Heath shrub (M)	Vegetative
Melaleuca leiopyxis		3	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca venusta		25	0.5	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		<1	0.5	Heath shrub (M)	Vegetative
Opercularia spermacocea		<1	0.25	Forb (G)	Flower
Pimelea gilgiana		<1	0.5	Shrub, cycad, grass-tree (M)	Flower
Podotheca angustifolia		<1	0.1	Forb (G)	Flower
Roepera apiculata		<1	0.5	Forb (G)	Flower
Rostraria pumila	*	<1	0.1	Other grass (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Scholtzia oligandra	R.E	27	0.5	Shrub, cycad, grass-tree (M)	Flower
Solanum oldfieldii		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		<1	0.25	Heath shrub (M)	Fruit
Trachymene pilosa		<1	0.1	Forb (G)	Flower
Triglochin trichophora		<1	0.1	Forb (G)	Flower
Waitzia podolepis		<1	0.1	Forb (G)	Flower



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Site ID:	MUR93	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	06/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	219496.1002	6954835.656
Landform:	Mid slope	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sandy clay loam	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Actinobole condensatum		1	0.1	Forb (G)	Flower
Allocasuarina campestris		70	4	Shrub, cycad, grass-tree (M)	Fruit
Aristida contorta		1	0.25	Tussock grass (G)	Dehisced fruit
Austrostipa elegantissima		1	0.75	Tussock grass (G)	Fruit
Calandrinia polyandra		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Dendrophyllanthus erwinii		1	0.1	Forb (G)	Fruit
Dioscorea hastifolia		1	0.1	Vine (G)	Fruit
Drosera humilis		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		2	1.25	Sedge (G)	Flower
Hyalosperma demissum		1	0.1	Forb (G)	Flower
Hypochaeris glabra	*	1	0.1	Forb (G)	Fruit
Malleostemon microphyllus	P2, R.E	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		7	1.5	Shrub, cycad, grass-tree (M)	Vegetative
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Pimelea microcephala subsp. *microcephala*		4	1.25	Shrub, cycad, grass-tree (M)	Flower
Poranthera drummondii		1	0.1	Forb (G)	Flower
Sonchus oleraceus	*	1	0.1	Forb (G)	Flower
Thysanotus manglesianus		1	0.1	Vine (G)	Flower
Trachymene pilosa		1	0.1	Forb (G)	Flower
Vulpia ? muralis	* R.E?	1	0.1	Tussock grass (G)	Vegetative

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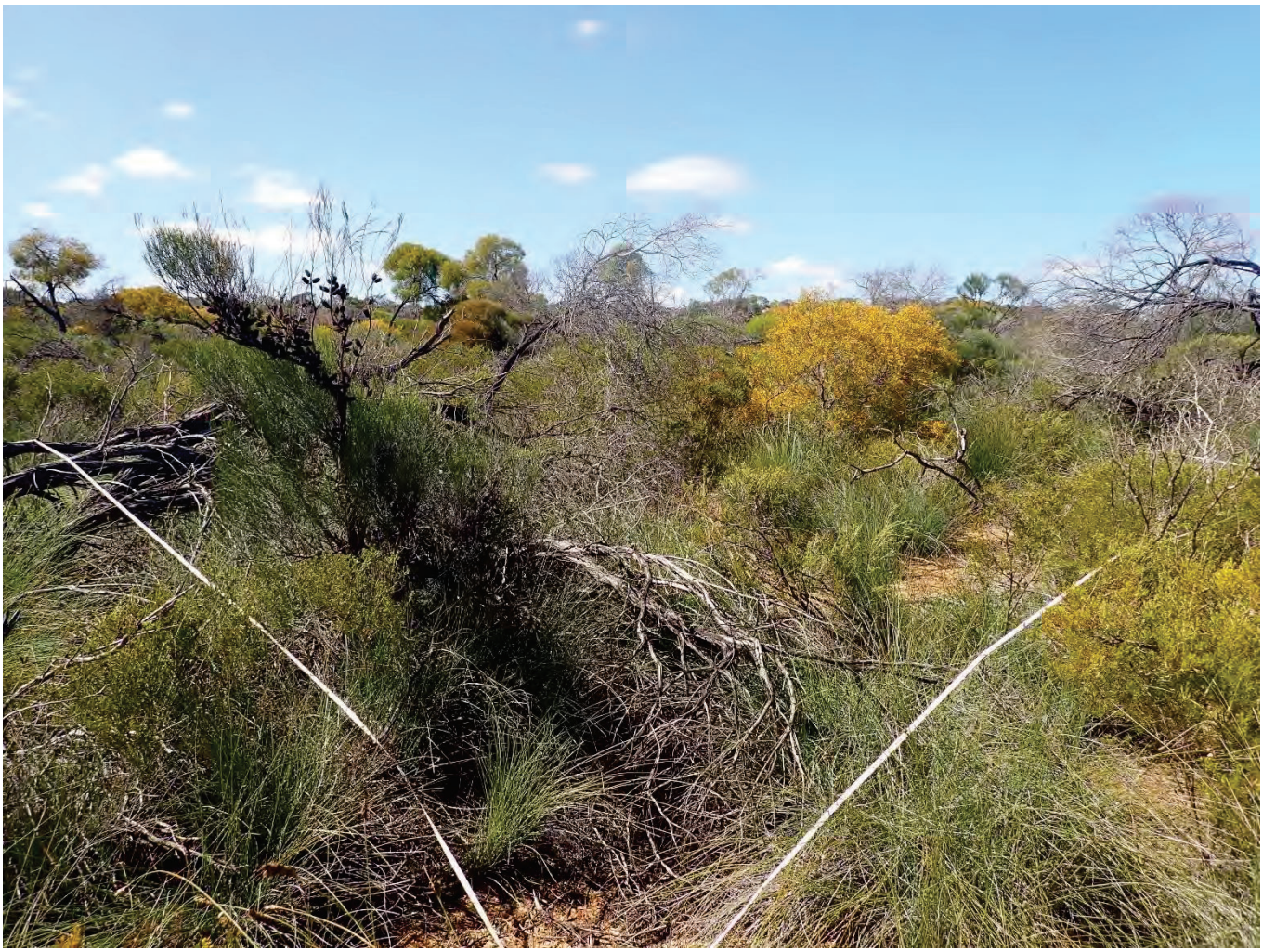


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Site ID:	MUR94	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	06/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	219415.8936	6954700.5
Landform:	Mid slope	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sandy clay loam	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		7	2	Shrub, cycad, grass-tree (M)	Flower
Acacia rostellifera		2	2	Shrub, cycad, grass-tree (M)	Fruit
Actinobole condensatum		1	0.1	Forb (G)	Flower
Allocasuarina campestris		5	2	Shrub, cycad, grass-tree (M)	Fruit
Caladenia flava		1	0.1	Forb (G)	Flower
Calandrinia polyandra		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Dianella revoluta var. *divaricata*		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Drosera humilis		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		110	1.25	Sedge (G)	Flower
Hyalosperma demissum		1	0.1	Forb (G)	Flower
Hypochaeris glabra	*	1	0.1	Forb (G)	Fruit
Lysimachia arvensis	*	1	0.1	Forb (G)	Fruit
Malleostemon microphyllus	P2, R.E	2	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		30	1.5	Shrub, cycad, grass-tree (M)	Flower
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Poranthera drummondii		1	0.1	Forb (G)	Flower
Schoenus nanus		1	0.1	Sedge (G)	Fruit
Sonchus oleraceus	*	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Thysanotus fragrans	P2	1	0.1	Forb (G)	Flower
Thysanotus manglesianus		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Forb (G)	Flower
Wahlenbergia preissii		1	0.1	Forb (G)	Flower

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Site ID:	MUR95	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	217761.8312	6958854.303
Landform:	Flat interdunal	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sandy clay loam	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		25	3	Shrub, cycad, grass-tree (M)	Vegetative
Calandrinia corrigioloides		1	0.1	Forb (G)	Flower
Calandrinia polyandra		1	0.1	Forb (G)	Flower
Conostylis stylidioides		1	0.25	Forb (G)	Flower
Dendrophyllanthus erwinii		1	0.1	Forb (G)	Fruit
Desmocladus asper		1	0.1	Sedge (G)	Fruit
Hypochaeris glabra	*	1	0.1	Forb (G)	Fruit
Lysimachia arvensis	*	1	0.1	Forb (G)	Vegetative
Olearia sp. *Kennedy Range* (G. Byrne 66)		30	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Pentameris pallida	* R.E	1	0.1	Other grass (G)	Fruit
Pimelea microcephala subsp. *microcephala*		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Sonchus oleraceus	*	1	0.1	Forb (G)	Vegetative
Thysanotus patersonii		1	0.1	Forb (G)	Flowerbud
Trachymene pilosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR96	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	07/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	218093.5797	6961612.225
Landform:	Mid low dunes	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		50	2.75	Shrub, cycad, grass-tree (M)	Vegetative
Acacia rostellifera		6	2.5	Shrub, cycad, grass-tree (M)	Vegetative
Allocasuarina campestris		55	2.5	Shrub, cycad, grass-tree (M)	Fruit
Androcalva gaudichaudii		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Conostylis candicans subsp. *flaviflolia*		1	0.1	Forb (G)	Flower
Conostylis stylidioides		1	0.25	Forb (G)	Flower
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Ecdeiocolea monostachya		30	1	Sedge (G)	Flower
Grevillea candelabroides		4	2	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Dehisced fruit
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		5	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Scholtzia oligandra	R.E	2	0.75	Shrub, cycad, grass-tree (M)	Flower
Scholtzia sp. (insufficient material)		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Thysanotus patersonii		1	0.25	Forb (G)	Flowerbud
Triodia bromoides	P4	1	0.5	Hummock grass (G)	Flower
Verticordia sp. (insufficient material)		2	0.25	Shrub, cycad, grass-tree (M)	Vegetative

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Site ID:	MUR97	VT06 – (AbOaOkTc)
Type:	Quadrat	Size: 10m x 10m
Date:	08/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	204169.6287	6978297.651
Landform:	Dunal	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	3-5 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.1	Sedge (G)	Vegetative
Acanthocarpus verticillatus		1	0.1	Sedge (G)	Vegetative
Actinobole condensatum		1	0.1	Forb (G)	Flower
Alyxia buxifolia		65	1.75	Shrub, cycad, grass-tree (M)	Flower
Austrostipa crinita		1	0.5	Tussock grass (G)	Flowerbud
Beyeria cinerea subsp. *borealis*		1	0.1	Forb (G)	Vegetative
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Eremophea aggregata		1	0.25	Chenopod shrub (M)	Vegetative
Exocarpos aphyllus		15	1.75	Shrub, cycad, grass-tree (M)	Flower
Lysimachia arvensis	*	1	0.1	Forb (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		50	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Rhagodia drummondii		2	0.5	Chenopod shrub (M)	Vegetative
Sisymbrium erysimoides	*	1	0.1	Forb (G)	Flower
Tetragonia implexicoma		1	0.1	Vine (G)	Flower
Threlkeldia diffusa		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Waitzia podolepis		1	0.1	Forb (G)	Flower

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Site ID:	MUR98	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	08/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	204254.7141	6978515.646
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Actinobole condensatum		1	0.1	Forb (G)	Flower
Alyxia buxifolia		55	1.75	Shrub, cycad, grass-tree (M)	Flower
Austrostipa elegantissima		1	0.5	Tussock grass (G)	Flower
Cryptandra mutila		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Diplolaena grandiflora		30	1.25	Shrub, cycad, grass-tree (M)	Flower
Dysphania plantaginella		1	0.1	Chenopod shrub (M)	Flower
Eremophea aggregata		1	0.1	Chenopod shrub (M)	Vegetative
Eucalyptus zopherophloia	P4	10	1.75	Tree mallee (U)	Fruit
Exocarpos aphyllus		7	1.5	Shrub, cycad, grass-tree (M)	Flower
Goodenia berardiana		1	0.1	Forb (G)	Flower
Lasiopetalum oppositifolium	P3	1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Lysiandra calycina		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lysiandra scabra		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca cardiophylla		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Olearia sp. *Kennedy Range* (G. Byrne 66)		15	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Opercularia spermacocea		1	0.1	Forb (G)	Flower
Ptilotus eremita		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia drummondii		2	0.5	Chenopod shrub (M)	Vegetative
Scholtzia oligandra	R.E	2	0.25	Shrub, cycad, grass-tree (M)	Flower
Solanum oldfieldii		1	0.1	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Tetragonia implexicoma		1	0.1	Vine (G)	Flower
Threlkeldia diffusa		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Triglochin trichophora		1	0.1	Forb (G)	Flower
Waitzia podolepis		1	0.1	Forb (G)	Flower



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Site ID:	MUR99	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	08/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	204323.1302	6978395.047
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Vegetative
Actinobole condensatum		1	0.1	Forb (G)	Flower
Alyxia buxifolia		70	1.5	Shrub, cycad, grass-tree (M)	Flower
Anthocercis intricata	P3	15	1.25	Shrub, cycad, grass-tree (M)	Flower
Austrostipa elegantissima		<1	0.5	Tussock grass (G)	Flower
Austrostipa sp. (insufficient material)		<1	0.25	Other grass (G)	Vegetative
Calandrinia sp. *Shark Bay* (A. Markey 1405)		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		<1	0.1	Forb (G)	Flower
Cryptandra mutila		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Eremophea aggregata		1	0.25	Chenopod shrub (M)	Vegetative
Goodenia berardiana		1	0.1	Forb (G)	Flower
Lomandra maritima		1	0.1	Rush (G)	Fruit
Lysiandra calycina		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lysiandra scabra		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca cardiophylla		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Olearia sp. *Kennedy Range* (G. Byrne 66)		70	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Opercularia spermacocea		<1	0.25	Forb (G)	Flower
Pimelea gilgiana		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Podotheca angustifolia		<1	0.1	Forb (G)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Ptilotus eremita		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia latifolia subsp. *latifolia*		<1	0.5	Chenopod shrub (M)	Vegetative
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit
Scholtzia oligandra	R.E	<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Sisymbrium erysimoides	*	<1	0.25	Forb (G)	Flower
Solanum oldfieldii	0	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Trachymene pilosa		1	0.1	Forb (G)	Flower
Triglochin trichophora		1	0.1	Forb (G)	Flower
Waitzia podolepis		1	0.1	Forb (G)	Flower
Wurmbea dilatata		<1	0.1	Forb (G)	Fruit

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Site ID:	MUR100	VT23 – (McChSo)
Type:	Quadrat	Size: 10m x 10m
Date:	09/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	225154.9931	6972455.963
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Austrostipa nodosa		1	0.1	Other grass (G)	Fruit
Brachyscome iberidifolia		1	0.1	Forb (G)	Flower
Calandrinia granulifera		1	0.1	Forb (G)	Flower
Centrolepis aristata		1	0.1	Forb (G)	Fruit
Centrolepis polygyna		1	0.1	Forb (G)	Fruit
Conostylis stylidioides		3	0.25	Forb (G)	Flower
Crassula closiana		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Drosera omissa		1	0.1	Forb (G)	Fruit
Drosera aff *eremaea*	P3, R.E	1	0.1	Forb (G)	Flower
Eragrostis barrelieri		1	0.1	Other grass (G)	Fruit
Hypochaeris glabra	*	1	0.1	Forb (G)	Flower
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Scholtzia oleosa	P3	130	1.5	Shrub, cycad, grass-tree (M)	Flower
Siemssenia capillaris		1	0.1	Forb (G)	Flower
Stylidium androsaceum		1	0.1	Forb (G)	Flowerbud
Thelymitra antennifera		1	0.1	Forb (G)	Fruit
Thryptomene johnsonii	P2, R.E	6	0.75	Shrub, cycad, grass-tree (M)	Flower
Triglochin nana		1	0.1	Forb (G)	Flower
Utricularia tenella		1	0.1	Forb (G)	Fruit
Verticordia capillaris	P4	4	0.75	Shrub, cycad, grass-tree (M)	Flower
Wurmbea dilatata		1	0.1	Forb (G)	Flower

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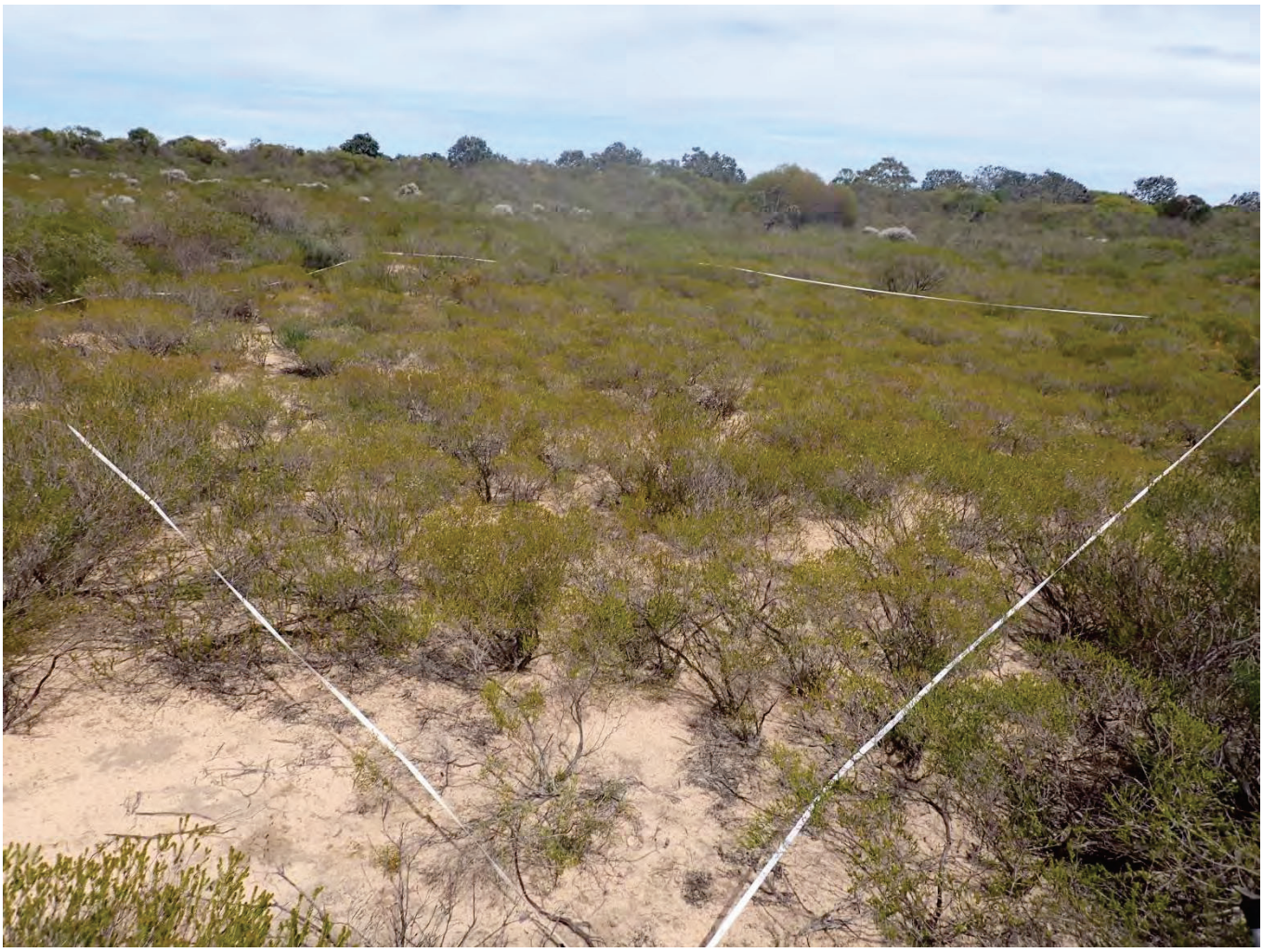


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Site ID:	MUR101	VT23 – (McChSo)
Type:	Quadrat	Size: 10m x 10m
Date:	09/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	223937.6176	6971781.776
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	3-5 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Calothamnus oldfieldii		1	0.1	Shrub, cycad, grass-tree (M)	Fruit
Calytrix harvestiana	P2	5	0.5	Shrub, cycad, grass-tree (M)	Flower
Centrolepis pilosa	R.E	1	0.1	Forb (G)	Fruit
Centrolepis drummondiana		1	0.1	Forb (G)	Fruit
Crassula closiana		1	0.1	Forb (G)	Flower
Drosera omissa		1	0.1	Forb (G)	Flower
Gnephosis tenuissima		1	0.1	Forb (G)	Flowerbud
Hakea sp. (insufficient material)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca leiopyxis		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Schoenus badius	P2, R.E	1	0.1	Sedge (G)	Flower
Thryptomene johnsonii	P2, R.E	130	0.75	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR102	VT23 – (McChSo)
Type:	Quadrat	Size: 10m x 10m
Date:	09/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	223072.7825	6970535.407
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	3-5 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Calandrinia granulifera		1	0.1	Forb (G)	Flower
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calandrinia polypetala		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Eragrostis barrelieri		1	0.1	Tussock grass (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flowerbud
Hypochaeris glabra	*	1	0.1	Forb (G)	Flower
Melaleuca concreta		5	1.25	Shrub, cycad, grass-tree (M)	Fruit
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Siemssenia capillaris		3	0.1	Forb (G)	Flower
Thryptomene johnsonii	P2, R.E	115	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Triglochin nana		1	0.1	Forb (G)	Flower
Wahlenbergia capensis	*	1	0.1	Forb (G)	Flower
Wurmbea dilatata		1	0.1	Forb (G)	Flower

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Site ID:	MUR103	VT27 – (EpBsXa)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	235207.6397	6982353.435
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		2	1.25	Shrub, cycad, grass-tree (M)	Fruit
Banksia sceptrum		20	3	Shrub, cycad, grass-tree (M)	Fruit
Brassica tournefortii	*	1	0.1	Forb (G)	Flower
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calytrix brevifolia		3	1.25	Shrub, cycad, grass-tree (M)	Flower
Conostylis stylidioides		1	0.1	Forb (G)	Flower
Eucalyptus pallida		20	4	Tree mallee (U)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flowerbud
Lawrencella davenportii		1	0.1	Forb (G)	Flower
Malleostemon hursthousei		40	1.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		2	1	Shrub, cycad, grass-tree (M)	Flower
Mirbelia balsiformis		5	1.75	Shrub, cycad, grass-tree (M)	Flower
Pileanthus vernicosus		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Podolepis aristata subsp. *aristata*		2	0.25	Forb (G)	Flower
Podotheca angustifolia		1	0.1	Forb (G)	Flower
Poranthera drummondii		1	0.1	Forb (G)	Flower
Rhagodia latifolia subsp. *latifolia*		1	1	Chenopod shrub (M)	Vegetative
Thysanotus patersonii		1	0.1	Forb (G)	Fruit
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	2	1	Hummock grass (G)	Fruit
Waitzia corymbosa		1	0.25	Forb (G)	Flower

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Site ID:	MUR104	VT26 – (EpErEg)
Type:	Quadrat	Size: 10m x 10m
Date:	10/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	238863.161	6982428.512
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Austrostipa elegantissima		1	0.25	Other grass (G)	Fruit
Brassica tournefortii	*	1	0.25	Forb (G)	Fruit
Calocephalus francisii		1	0.1	Forb (G)	Flower
Calothamnus quadrifidus subsp. *obtusus*		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Conostylis stylidioides		1	0.25	Forb (G)	Flower
Duperreya sericea		1	0.1	Forb (G)	Flower
Enchylaena tomentosa var. *tomentosa*		1	0.5	Chenopod shrub (M)	Fruit
Eremophila clarkei		2	1.75	Shrub, cycad, grass-tree (M)	Flower
Eucalyptus gittinsii subsp. *gittinsii*		25	4	Tree mallee (U)	Fruit
Euphorbia boophthona		1	0.1	Forb (G)	Fruit
Euphorbia drummondii		1	0.1	Forb (G)	Fruit
Goodenia sp. (insufficient material)		2	0.25	Forb (G)	Flower
Hypochaeris glabra	*	1	0.1	Forb (G)	Flower
Melaleuca venusta		25	1.25	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		30	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Ptilotus obovatus		2	0.75	Shrub, cycad, grass-tree (M)	Flower
Ptilotus polystachyus		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Rhagodia latifolia subsp. *latifolia*		2	1	Chenopod shrub (M)	Vegetative
Rhodanthe maryonii		1	1.75	Forb (G)	Flower
Roepera fruticulosa		1	0.5	Forb (G)	Flower
Schoenia cassiniana		1	0.1	Forb (G)	Flowerbud
Senna glutinosa subsp. *chatelainiana*		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Solanum oldfieldii		1	0.25	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Stylobasium spathulatum		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower



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Site ID:	MUR105	VT26 – (EpErEg)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	236919.9388	6973228.292
Landform:	Flat	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sandy clay loam	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia acuminata		35	3.5	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus humilis		1	0.25	Sedge (G)	Vegetative
Austrostipa elegantissima		1	0.5	Other grass (G)	Fruit
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calandrinia translucens		1	0.1	Forb (G)	Flower
Clematicissus angustissima		1	0.1	Forb (G)	Vegetative
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Dianella revoluta var. *divaricata*		1	0.25	Forb (G)	Vegetative
Enchylaena tomentosa var. *tomentosa*		1	0.5	Chenopod shrub (M)	Fruit
Erodium cygnorum		1	0.1	Forb (G)	Flower
Eucalyptus rigidula		25	4	Tree mallee (U)	Fruit
Hypochaeris glabra	*	1	0.1	Forb (G)	Flower
Lamarchea hakeifolia var. *brevifolia*		25	2	Shrub, cycad, grass-tree (M)	Flower
Lawrencella davenportii		1	0.25	Forb (G)	Flower
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Plantago debilis		1	0.1	Forb (G)	Flower
Poranthera drummondii		1	0.1	Forb (G)	Flower
Ptilotus eremita		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus obovatus		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Ptilotus polystachyus		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Rhagodia latifolia subsp. *latifolia*		3	0.75	Chenopod shrub (M)	Vegetative
Rhodanthe citrina		1	0.25	Forb (G)	Flowerbud
Stenanthemum pomaderroides		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Stylidium elongatum		1	0.25	Forb (G)	Flowerbud

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Stylobasium spathulatum		1	0.75	Shrub, cycad, grass-tree (M)	Flower
Thryptomene strongylophylla		4	0.5	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	2	0.75	Hummock grass (G)	Fruit
Waitzia corymbosa		2	0.25	Forb (G)	Flower



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Site ID:	MUR106	VT12 – (AcArAb)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	234782.0342	6973329.697
Landform:	Undulating plain	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sandy clay loam	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Vegetative
Actinobole condensatum		1	0.1	Forb (G)	Flower
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calothamnus quadrifidus subsp. *obtusus*		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Dendrophyllanthus erwinii		1		Shrub, cycad, grass-tree (M)	Flower
Dioscorea hastifolia		1	0.1	Vine (G)	Fruit
Ecdeiocolea monostachya		1	1	Sedge (G)	Flower
Eucalyptus gittinsii subsp. *gittinsii*		20	4	Tree mallee (U)	Fruit
Exocarpos aphyllus		1	1	Shrub, cycad, grass-tree (M)	Flower
Gnephosis tenuissima		1	0.1	Forb (G)	Flowerbud
Goodenia sp. (insufficient material)		1	0.1	Forb (G)	Flower
Hypochaeris glabra	*	1	0.1	Forb (G)	Flower
Indigofera occidentalis		1	0.1	Forb (G)	Flowerbud
Lepidosperma aff. *scabrum*		<1	0.1	Sedge (G)	Fruit
Lysiandra calycina		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Malleostemon hursthousei		30	1.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		1	1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca venusta		5	1.25	Shrub, cycad, grass-tree (M)	Flower
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Persoonia acicularis		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		2	1	Shrub, cycad, grass-tree (M)	Dehisced fruit
Rhagodia latifolia subsp. *latifolia*		1	0.5	Chenopod shrub (M)	Vegetative
Scaevola porocarya		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Solanum oldfieldii		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Solanum orbiculatum subsp. *orbiculatum*		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Stenanthemum divaricatum	P3	1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Stylidium elongatum		1	0.1	Forb (G)	Flowerbud
Thysanotus exfimbriatus		1	0.5	Forb (G)	Flowerbud
Thysanotus patersonii		1	0.1	Forb (G)	Fruit
Triodia bromoides	P4	30	1.25	Hummock grass (G)	Fruit
Wahlenbergia preissii		1	0.1	Forb (G)	Flower
Waitzia corymbosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR107	VT26 – (EpErEg)
Type:	Quadrat	Size: 10m x 10m
Date:	11/09/2022	Described by: Alex Sleep
Co-ordinates (50K)	230460.149	6971866.193
Landform:	Undulating flat	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sandy clay loam	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia acuminata		1	3	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus humilis		1	0.25	Sedge (G)	Vegetative
Allocasuarina campestris		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Bidens bipinnata	*	1	0.1	Forb (G)	Flowerbud
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calandrinia translucens		1	0.1	Forb (G)	Flower
Callitris arenaria		1	2	Shrub, cycad, grass-tree (M)	Fruit
Dioscorea hastifolia		1	0.1	Vine (G)	Fruit
Dodonaea inaequifolia		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Erodium cygnorum		1	0.1	Forb (G)	Flower
Eucalyptus pallida		35	3	Tree mallee (U)	Fruit
Goodenia sp. (insufficient material)		1	0.25	Forb (G)	Flower
Hakea stenophylla subsp. *notialis*		20	2.75	Shrub, cycad, grass-tree (M)	Fruit
Hypochaeris glabra	*	1	0.1	Forb (G)	Flower
Lamarchea hakeifolia var. *brevifolia*		1	1.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca cardiophylla		1	1	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca eleuterostachya		10	1.75	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca venusta		10	1	Shrub, cycad, grass-tree (M)	Flower
Nicotiana occidentalis		1	0.1	Forb (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		10	1.75	Shrub, cycad, grass-tree (M)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Ptilotus divaricatus		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Ptilotus eremita		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	15	0.75	Hummock grass (G)	Fruit



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Site ID:	MUR108	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	11/10/2022	Described by: Alex Sleep
Co-ordinates (50K)	210940.785	6963311.531
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		3	0.25	Sedge (G)	Fruit
Angianthus milnei	R.E	1	0.1	Forb (G)	Flower
Austrostipa crinita		2	0.5	Other grass (G)	Fruit
Austrostipa elegantissima		1	0.5	Tussock grass (G)	Dehisced fruit
Brachyscome iberidifolia		1	0.1	Forb (G)	Flower
Commersonia densiflora		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Dysphania plantaginella		1	0.1	Chenopod shrub (M)	Flower
Eragrostis barrelieri		1	0.25	Tussock grass (G)	Fruit
Euphorbia drummondii		1	0.1	Forb (G)	Fruit
Exocarpos aphyllus		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Goodenia berardiana		1	0.25	Forb (G)	Flower
Hordeum leporinum	*	1	0.1	Other grass (G)	Fruit
Lomandra maritima		2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lysimachia arvensis	*	1	0.1	Forb (G)	Fruit
Olearia axillaris		20	0.5	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		25	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea gilgiana		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Podolepis aristata subsp. *affinis*		<1		Forb (G)	Flower
Ptilotus eremita		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Roepera apiculata		1	0.1	Forb (G)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit
Rytidosperma setaceum		1	0.1	Other grass (G)	Fruit
Sisymbrium erysimoides	*	1	0.25	Forb (G)	Flower
Solanum oldfieldii		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Sonchus oleraceus	*	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Waitzia podolepis		1	0.1	Forb (G)	Flower



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Site ID:	MUR109	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	11/10/2022	Described by: Alex Sleep
Co-ordinates (50K)	209889.123	6966544.005
Landform:	Dunal	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Angianthus milnei	R.E	2	0.1	Forb (G)	Flower
Anthocercis intricata	P3	15	1.25	Shrub, cycad, grass-tree (M)	Flower
Austrostipa elegantissima		1	0.75	Tussock grass (G)	Dehisced fruit
Austrostipa nodosa		1	0.75	Other grass (G)	Fruit
Clematis linearifolia		1	0.1	Vine (G)	Vegetative
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Diplopeltis intermedia var. *intermedia*		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Dysphania plantaginella		1	0.1	Chenopod shrub (M)	Flower
Eragrostis barrelieri		1	0.1	Tussock grass (G)	Fruit
Eremophea spinosa		1	0.25	Chenopod shrub (M)	Vegetative
Exocarpos aphyllus		15	1.75	Shrub, cycad, grass-tree (M)	Flower
Goodenia berardiana		1	0.25	Forb (G)	Flower
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lysiandra calycina		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca cardiophylla		5	0.75	Shrub, cycad, grass-tree (M)	Fruit
Monotaxis bracteata		1	0.25	Forb (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		10	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea gilgiana		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		3	0.75	Shrub, cycad, grass-tree (M)	Dehisced fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Ptilotus eremita		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia drummondii		1	0.5	Chenopod shrub (M)	Vegetative
Roepera apiculata		1	0.1	Forb (G)	Flower
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Scholtzia oligandra	R.E	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Sonchus oleraceus	*	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Triglochin trichophora		1	0.1	Forb (G)	Flower

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Site ID:	MUR110	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	11/10/2022	Described by: Alex Sleep
Co-ordinates (50K)	208364.4975	6969690.468
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		2	0.25	Sedge (G)	Fruit
Angianthus milnei	R.E	1	0.1	Forb (G)	Flower
Anthocercis intricata	P3	2	1.25	Shrub, cycad, grass-tree (M)	Flower
Atriplex sp. (insufficient material)		1	0.25	Chenopod shrub (M)	Vegetative
Austrostipa crinita		5	0.25	Other grass (G)	Fruit
Austrostipa elegantissima		1	1	Tussock grass (G)	Dehisced fruit
Austrostipa nodosa		1	1	Other grass (G)	Fruit
Brachyscome iberidifolia		1	0.1	Forb (G)	Flower
Clematis linearifolia		1	0.1	Vine (G)	Vegetative
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Eremophea spinosa		1	0.25	Chenopod shrub (M)	Vegetative
Exocarpos aphyllus		10	1.25	Shrub, cycad, grass-tree (M)	Flower
Goodenia berardiana		1	0.1	Forb (G)	Flower
Lepidium biplicatum	P3	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Lobelia heterophylla subsp. *heterophylla*		1	0.25	Forb (G)	Flower
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lysiandra calycina		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Lysimachia arvensis	*	1	0.1	Forb (G)	Fruit
Melaleuca cardiophylla		10	0.75	Shrub, cycad, grass-tree (M)	Fruit
Olearia axillaris		5	0.75	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		30	0.75	Shrub, cycad, grass-tree (M)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Opercularia spermacocea		<1		Forb (G)	Fruit
Pimelea gilgiana		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Ptilotus alexandri	P2, R.E	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus divaricatus		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus eremita		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Roepera apiculata		1	0.1	Forb (G)	Flower
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Scholtzia oligandra	R.E	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Sonchus oleraceus	*	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Waitzia podolepis		1	0.1	Forb (G)	Flower

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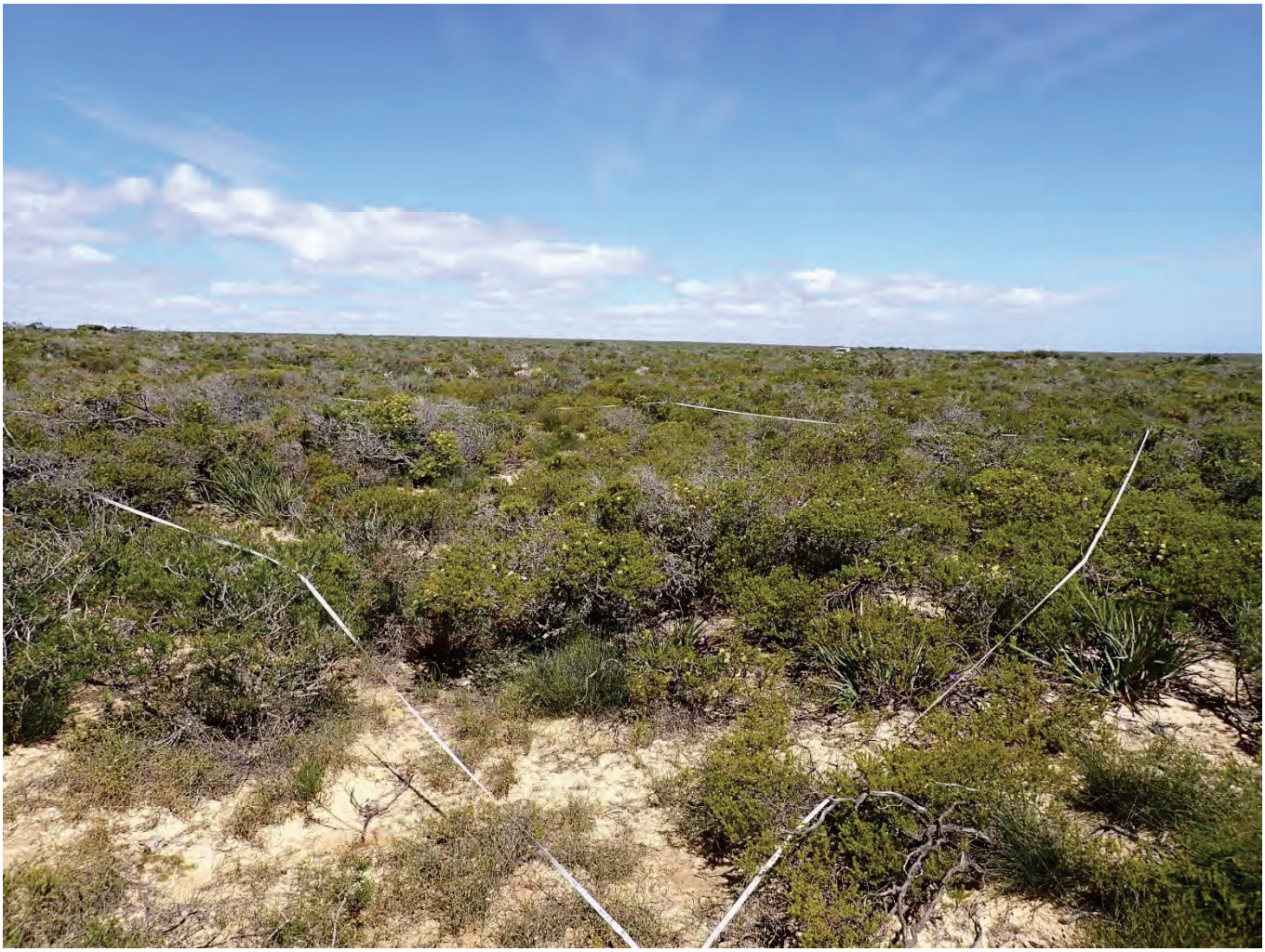
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Site ID:	MUR111	VT17 – (BsCbAcHc)
Type:	Quadrat	Size: 10m x 10m
Date:	11/10/2022	Described by: Alex Sleep
Co-ordinates (50K)	207884.5176	6972899.546
Landform:	Coastal heathland	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Anthotroche walcottii		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Austrostipa nodosa		2	0.5	Other grass (G)	Fruit
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calothamnus oldfieldii		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Cassytha flava		1	0.25	Vine (G)	Fruit
Cryptandra mutila		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Geleznowia verrucosa		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia racemosa		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Hibbertia spicata		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		3	0.1	Sedge (G)	Vegetative
Levenhookia ? stipitata		1	0.1	Forb (G)	Fruit
Melaleuca cardiophylla		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		70	0.75	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena pseudostygia		10	0.25	Sedge (G)	Fruit
Neurachne alopecuroidea		1	0.25	Other grass (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Opercularia spermacocea		1	0.1	Forb (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Patersonia occidentalis var. *occidentalis*		3	0.25	Shrub, cycad, grass-tree (M)	Flower
Persoonia acicularis		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Phymatocarpus porphyrocephalus		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Stylidium repens		1	0.1	Shrub, cycad, grass-tree (M)	Flower



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Site ID:	MUR112	VT23 – (McChSo)
Type:	Quadrat	Size: 10m x 10m
Date:	12/10/2022	Described by: Alex Sleep
Co-ordinates (50K)	22185.4247	6967969.207
Landform:	Depression	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia bidentata		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Austrostipa sp. (insufficient material)		1	0.5	Other grass (G)	Vegetative
Burchardia rosea		1	0.5	Forb (G)	Flowerbud
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calandrinia polypetala		1	0.1	Forb (G)	Flower
Calytrix harvestiana	P2	5	0.75	Shrub, cycad, grass-tree (M)	Flower
Centrolepis drummondiana		1	0.1	Forb (G)	Flower
Chamelaucium sp. *Coolcalalaya* (A.H. Burbidge 4233)	P1	30	1	Shrub, cycad, grass-tree (M)	Fruit
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Daviesia hakeoides subsp. *hakeoides*		5	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Gnephosis tenuissima		1	0.1	Forb (G)	Fruit
Hakea sp. (insufficient material)		3	1	Shrub, cycad, grass-tree (M)	Vegetative
Hakea erinacea		1	0.75	Shrub, cycad, grass-tree (M)	Fruit
Leptosema aphyllum		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Levenhookia sp. (insufficient material)		1	0.1	Forb (G)	Flower
Melaleuca leiopyxis		10	0.75	Shrub, cycad, grass-tree (M)	Flower
Podotheca angustifolia		1	0.1	Forb (G)	Flower
Schoenus badius	P2, R.E	1	0.1	Sedge (G)	Vegetative
Scholtzia oleosa	P3	40	0.5	Shrub, cycad, grass-tree (M)	Flower
Scholtzia umbellifera		2	0.75	Shrub, cycad, grass-tree (M)	Flower
Styphelia cordifolia		<1	0.5	Shrub, cycad, grass-tree (M)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Thryptomene denticulata		10	0.75	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Wahlenbergia preissii		1	0.1	Forb (G)	Flower

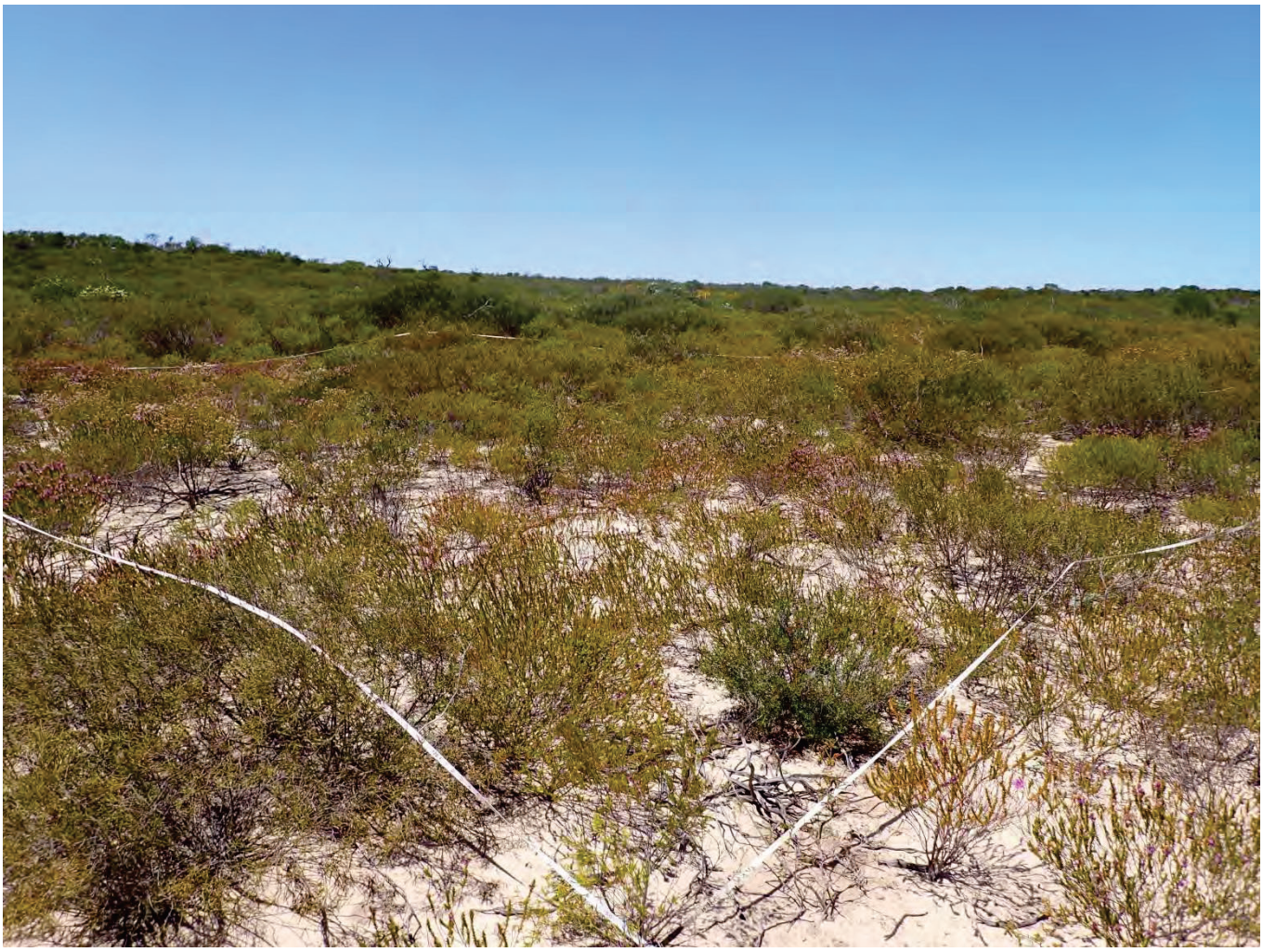


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Site ID:	MUR113	VT23 – (McChSo)
Type:	Quadrat	Size: 10m x 10m
Date:	12/10/2022	Described by: Alex Sleep
Co-ordinates (50K)	221179.3349	6968388.198
Landform:	Dry depression	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia spathulifolia		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calandrinia polypetala		1	0.1	Forb (G)	Flower
Calytrix harvestiana	P2	35	0.5	Shrub, cycad, grass-tree (M)	Flower
Chamelaucium sp. *Coolcalalaya* (A.H. Burbidge 4233)	P1	10	0.5	Shrub, cycad, grass-tree (M)	Fruit
Chthonocephalus tomentellus	P2	2	0.1	Forb (G)	Fruit
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Drosera sp. (insufficient material)		1	0.1	Forb (G)	Vegetative
Gnephosis tenuissima		1	0.1	Forb (G)	Fruit
Leptosema aphyllum		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Levenhookia sp. (insufficient material)		1	0.1	Forb (G)	Flower
Melaleuca concreta		15	1	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca conothamnoides		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca leiopyxis		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Mirbelia balsiformis		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Scholtzia oleosa	P3	20	0.5	Shrub, cycad, grass-tree (M)	Flower
Scholtzia umbellifera		5	0.75	Shrub, cycad, grass-tree (M)	Flower
Styphelia cordifolia		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Triodia bromoides	P4	1	0.1	Hummock grass (G)	Fruit

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Site ID:	MUR114	VT15 – (McMcAlAc)
Type:	Quadrat	Size: 10m x 10m
Date:	12/10/2022	Described by: Alex Sleep
Co-ordinates (50K)	220638.2925	6966296.127
Landform:	Dry depression on yellow sand	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	3-5 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Austrostipa sp. (insufficient material)		1	0.1	Other grass (G)	Vegetative
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Cassytha aurea var. *hirta*		10	0.5	Vine (G)	Fruit
Conostylis stylidioides		1	0.1	Forb (G)	Flower
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		20	0.25	Sedge (G)	Flower
Gnephosis tenuissima		1	0.1	Forb (G)	Fruit
Lawrencella davenportii		1	0.25	Forb (G)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Vegetative
Levenhookia sp. (insufficient material)		1	0.1	Forb (G)	Flower
Malleostemon microphyllus	P2, R.E	10	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca concreta		35	1.25	Shrub, cycad, grass-tree (M)	Fruit
Mesomelaena pseudostygia		2	0.25	Sedge (G)	Fruit
Mirbelia balsiformis		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Ptilotus divaricatus		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Rhagodia latifolia subsp. *latifolia*		1	0.1	Chenopod shrub (M)	Vegetative
Schoenus latitans		1	0.1	Sedge (G)	Vegetative
Tricoryne elatior		1	0.25	Forb (G)	Flower
Waitzia corymbosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR115	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Alex Sleep
Co-ordinates (50K)	213827.809	6981577.766
Landform:	Depression in rolling yellow dunes	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		25	2	Shrub, cycad, grass-tree (M)	Flower
Austrostipa sp. (insufficient material)		1	0.25	Other grass (G)	Vegetative
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	30	0.75	Shrub, cycad, grass-tree (M)	Flower
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Calytrix brevifolia		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Calytrix harvestiana	P2	2	1	Shrub, cycad, grass-tree (M)	Flower
Conospermum microflorum		2	0.75	Shrub, cycad, grass-tree (M)	Flower
Dicrastylis micrantha	P3, R.E	5	0.5	Shrub, cycad, grass-tree (M)	Fruit
Ecdeiocolea monostachya		20	1	Sedge (G)	Flower
Gnephosis tenuissima		1	0.1	Forb (G)	Fruit
Hibbertia conspicua		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Vegetative
Levenhookia sp. (insufficient material)		1	0.1	Forb (G)	Flower
Melaleuca leiopyxis		10	1	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Poranthera drummondii		1	0.1	Forb (G)	Flower
Pyrorchis nigricans		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Wahlenbergia preissii		1	0.1	Forb (G)	Flower

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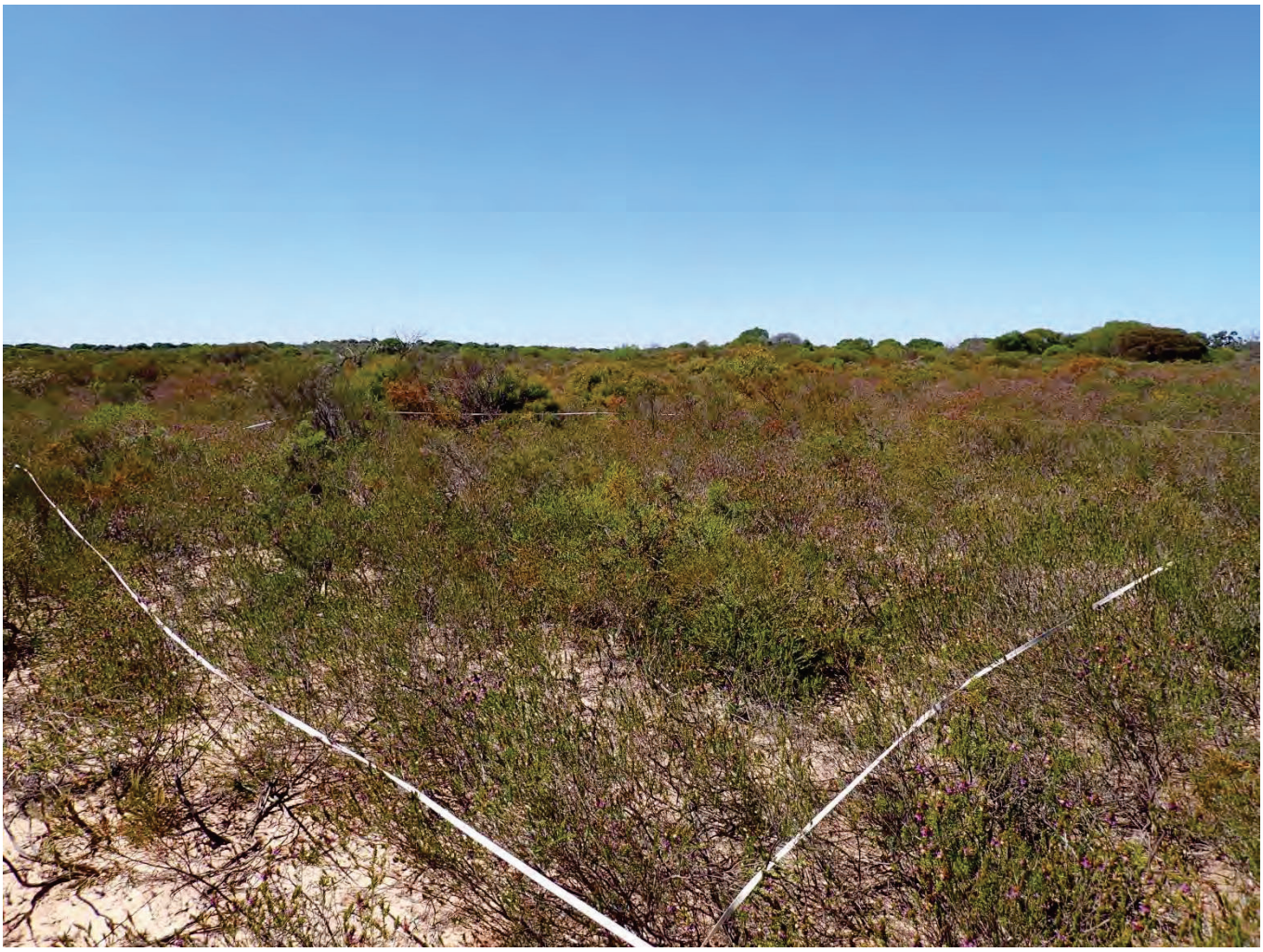


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Site ID:	MUR116	VT23 – (McChSo)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Alex Sleep
Co-ordinates (50K)	213871.5115	6976220.822
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia bidentata		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Banksia fraseri var. *ashbyi*		2	0.75	Shrub, cycad, grass-tree (M)	Fruit
Calytrix harvestiana	P2	40	1	Shrub, cycad, grass-tree (M)	Flower
Cassytha flava		1	0.1	Vine (G)	Fruit
Centrolepis drummondiana		1	0.1	Forb (G)	Flower
Gompholobium tomentosum		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Hakea trifurcata		2	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Hakea erinacea		5	0.75	Shrub, cycad, grass-tree (M)	Fruit
Hibbertia acerosa	R.E	1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lepidosperma aff. scabrum		1	0.25	Sedge (G)	Fruit
Leptosema aphyllum		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca concreta		25	1.25	Shrub, cycad, grass-tree (M)	Fruit
Mesomelaena pseudostygia		1	0.25	Sedge (G)	Fruit
Patersonia occidentalis var. *occidentalis*		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Stylidium repens		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Styphelia cordifolia		10	0.75	Shrub, cycad, grass-tree (M)	Fruit

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Site ID:	MUR117	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Alex Sleep
Co-ordinates (50K)	212033.3473	6974453.954
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		10	4	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.5	Sedge (G)	Fruit
Austrostipa sp. (insufficient material)		1	0.25	Other grass (G)	Vegetative
Baeckea aff. sp. *East* Nabawa (M.E. Trudgen MET 21623)	Species of interest	2	0.75	Shrub, cycad, grass-tree (M)	Flower
Banksia sceptrum		60	4	Shrub, cycad, grass-tree (M)	Fruit
Calandrinia liniflora		1	0.1	Forb (G)	Flower
Conostylis stylidioides		1	0.25	Forb (G)	Flower
Ecdeiocolea monostachya		30	1	Sedge (G)	Flower
Grevillea sp. (insufficient material)		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Malleostemon microphyllus	P2, R.E	2	0.75	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Phymatocarpus porphyrocephalus		10	0.75	Shrub, cycad, grass-tree (M)	Flower
Poranthera drummondii		1	0.1	Forb (G)	Flower
Schismus barbatus	*	1	0.1	Other grass (G)	Fruit
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Wahlenbergia preissii		1	0.1	Forb (G)	Flower

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Site ID:	MUR118	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	217315.8351	6946631.396
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		15	1.25	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		2	0.25	Sedge (G)	Fruit
Austrostipa elegantissima		1	0.5	Tussock grass (G)	Dehisced fruit
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Desmocladus asper		1	0.25	Sedge (G)	Vegetative
Eremophea spinosa		1	0.75	Chenopod shrub (M)	Vegetative
Exocarpos aphyllus		1	0.75	Shrub, cycad, grass-tree (M)	Fruit
Lasiopetalum angustifolium		65	0.75	Shrub, cycad, grass-tree (M)	Fruit
Lobelia heterophylla subsp. *heterophylla*		1	0.1	Forb (G)	Flower
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lysimachia arvensis	*	1	0.1	Forb (G)	Fruit
Melaleuca cardiophylla		20	0.5	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		10	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea gilgiana		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		2	0.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Ptilotus divaricatus		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus eremita		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Rhagodia drummondii		1	0.25	Chenopod shrub (M)	Vegetative
Rhodanthe citrina		1	0.25	Forb (G)	Flower
Roepera apiculata		2	0.25	Forb (G)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Rostraria pumila	*	1	0.25	Other grass (G)	Fruit
Scholtzia oligandra	R.E	2	0.25	Shrub, cycad, grass-tree (M)	Flower
Solanum oldfieldii		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	5	0.5	Hummock grass (G)	Fruit



Site ID:	MUR119	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m

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Site ID:	MUR119	VT22 – (BsArAbAc)
Date:	22/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	217121.3554	6947508.085
Landform:	Dunal	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. Ajana (C.A. Gardner 8596)		20	0.25	Sedge (G)	Fruit
Alyxia buxifolia		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Austrostipa elegantissima		1	0.25	Tussock grass (G)	Dehisced fruit
Conostylis stylidioides		3	1	Forb (G)	Flower
Conostylis aculeata subsp. *septentrionora*		2	0.75	Forb (G)	Flower
Guichenotia ? basiviridis		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		3	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca leiopyxis		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Opercularia spermacocea		1	0.25	Forb (G)	Fruit
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Roepera apiculata		<1		Forb (G)	Flower
Scholtzia oligandra	R.E	5	1.25	Shrub, cycad, grass-tree (M)	Flower
Seringia hermanniifolia		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Stenanthemum divaricatum	P3	20	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Triodia bromoides	P4	1	0.25	Hummock grass (G)	Fruit

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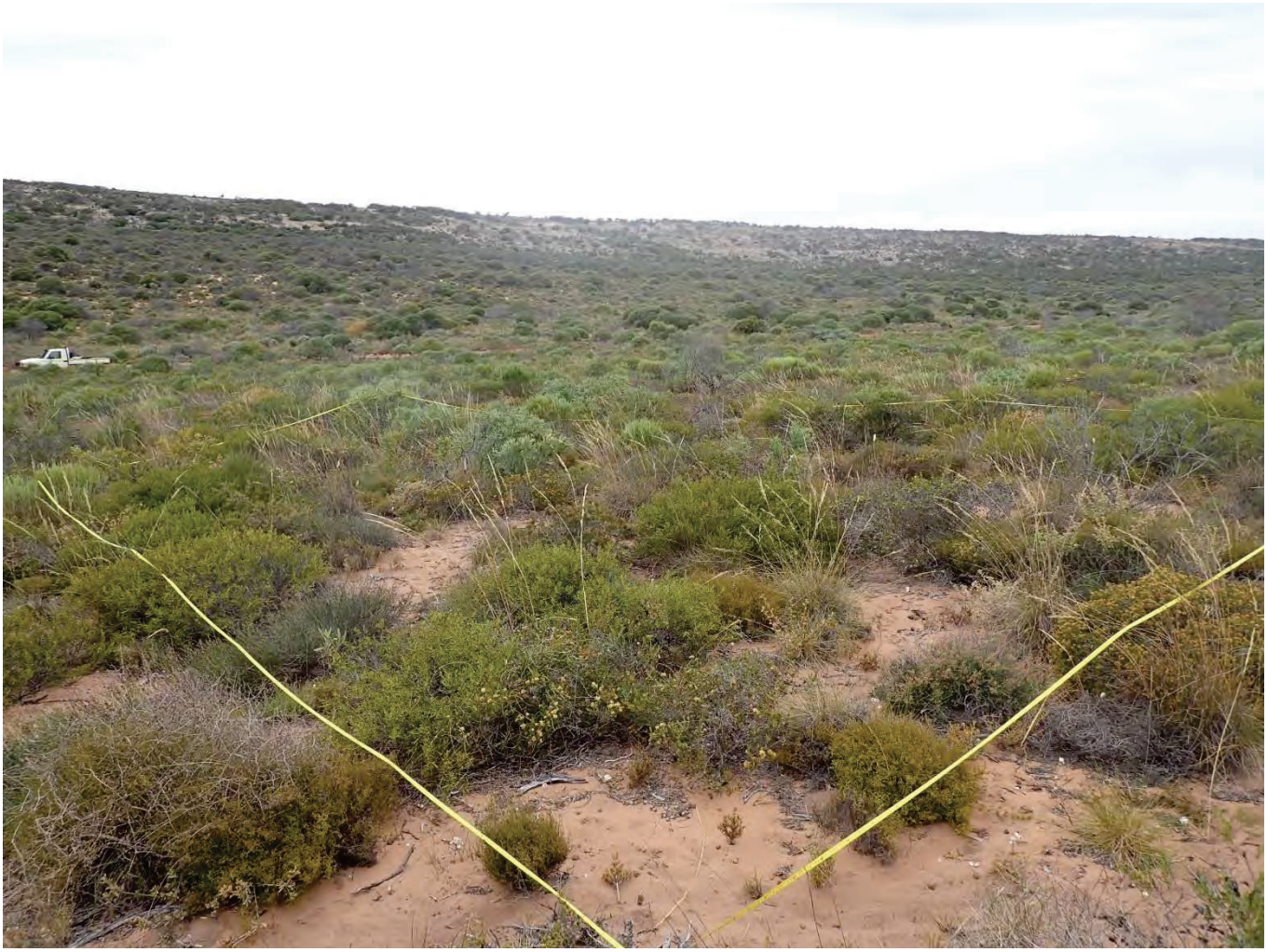
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Site ID:	MUR120	VT02 – (ArMcMlOk)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	216970.53	6949802.746
Landform:	Dunal	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		10	0.5	Shrub, cycad, grass-tree (M)	Fruit
Acacia spathulifolia		20	0.5	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Anthotroche walcottii		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Calothamnus oldfieldii		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Comesperma scoparium		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Daviesia ramosissima		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Desmocladus asper		3	0.25	Sedge (G)	Vegetative
Diplopeltis intermedia var. *intermedia*		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Grevillea stenomera	P2	1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		4	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		1	0.25	Sedge (G)	Flower
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		20	0.5	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		3	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Opercularia spermacocea		1	0.25	Forb (G)	Fruit
Podolepis aristata subsp. *aristata*		1	0.25	Forb (G)	Flower
Rhodanthe citrina		1	0.1	Forb (G)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Roepera apiculata		1	0.1	Forb (G)	Flower
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Scaevola sp.? *Golden hairs* (D. & B. Bellairs 1450 A)	P1	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Scholtzia oligandra	R.E	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	15	0.5	Hummock grass (G)	Fruit



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Site ID:	MUR121	VT21 – (AsMlBa)
Type:	Quadrat	Size: 10m x 10m
Date:	13/10/2022	Described by: Joel Collins
Co-ordinates (50K)	209967.8815	6973578.438
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		2	1.5	Shrub, cycad, grass-tree (M)	Fruit
Acacia hopperiana	R.E	1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Austrostipa elegantissima		1	0.25	Other grass (G)	Dehisced fruit
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	2	1.25	Shrub, cycad, grass-tree (M)	Flower
Banksia fraseri var. *ashbyi*		3	0.75	Shrub, cycad, grass-tree (M)	Flower
Banksia prionotes		3	1.5	Shrub, cycad, grass-tree (M)	Fruit
Bossiaea spinescens	R.E	1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Calytrix harvestiana	P2	2	0.5	Shrub, cycad, grass-tree (M)	Flower
Calytrix strigosa		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Comesperma scoparium		5	0.25	Shrub, cycad, grass-tree (M)	Flower
Daviesia hakeoides subsp. *hakeoides*		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Grevillea stenomera	P2	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Hakea circumalata		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Hibbertia conspicua		5	0.25	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Hybanthus floribundus subsp. *floribundus*		1	0.25	Forb (G)	Flower
Isotropis sp. *Shark Bay* (M. E. Trudgen 7170)		1	0.1	Forb (G)	Vegetative
Lepidobolus preissianus subsp. *preissianus*		2	0.25	Sedge (G)	Fruit
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		5	0.25	Sedge (G)	Fruit
Leptosema tomentosum		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lomandra maritima		3	0.25	Shrub, cycad, grass-tree (M)	Fruit
Malleostemon hursthousei		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		40	0.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		15	0.25	Sedge (G)	Fruit
Neurachne alopecuroidea		1	0.1	Other grass (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Patersonia occidentalis var. *occidentalis*		2	0.25	Forb (G)	Flower
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Petrophile pilostyla subsp. *pilostyla*		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Phymatocarpus porphyrocephalus		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Stenanthemum complicatum		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Styphelia cordifolia		2	0.5	Shrub, cycad, grass-tree (M)	Flowerbud

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Site ID:	MUR122	VT24 – (EjEr)
Type:	Quadrat	Size: 10m x 10m
Date:	14/10/2022	Described by: Joel Collins
Co-ordinates (50K)	225847.4811	6997081.058
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		20	1.75	Shrub, cycad, grass-tree (M)	Fruit
Anthotroche myoporoides	P3	1	1.5	Shrub, cycad, grass-tree (M)	Flower
Baeckea sp. Murchison River (M.E Trudgen 12009)		1	1.75	Shrub, cycad, grass-tree (M)	Flower
Beaufortia sprengelioides		30	2	Shrub, cycad, grass-tree (M)	Flower
Callitris arenaria		5	2	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		10	0.5	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		1	1	Shrub, cycad, grass-tree (M)	Flower
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Eucalyptus roycei		1	2.25	Tree mallee (U)	Fruit
Melaleuca lara		5	2	Shrub, cycad, grass-tree (M)	Flower
Melaleuca psammophila		2	1	Shrub, cycad, grass-tree (M)	Fruit
Scholtzia sp. (insufficient material)		1	1	Shrub, cycad, grass-tree (M)	Vegetative
Verticordia cooloomia	P3	10	2	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR123	VT24 – (EjEr)
Type:	Quadrat	Size: 10m x 10m
Date:	14/10/2022	Described by: Joel Collins
Co-ordinates (50K)	227044.7558	6996996.122
Landform:	Dunal	
Bare ground:	31-70%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		10	2	Shrub, cycad, grass-tree (M)	Fruit
Anthotroche myoporoides	P3	4	1.5	Shrub, cycad, grass-tree (M)	Flower
Aotus phylicoides		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Baeckea sp. *Murchison River* (M.E Trudgen 12009)		5	1.75	Shrub, cycad, grass-tree (M)	Flower
Beaufortia sprengelioides		30	2	Shrub, cycad, grass-tree (M)	Flower
Callitris arenaria		5	2.25	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		2	1	Shrub, cycad, grass-tree (M)	Flower
Calytrix harvestiana	P2	2	0.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Malleostemon hursthousei		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca lara		20	2	Shrub, cycad, grass-tree (M)	Flower
Melaleuca psammophila		2	1	Shrub, cycad, grass-tree (M)	Fruit
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Verticordia cooloomia	P3	25	2	Shrub, cycad, grass-tree (M)	Flower
Verticordia lepidophylla var. *quantula*	P1	10	1.75	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR124	VT19 – (BsEg)
Type:	Quadrat	Size: 10m x 10m
Date:	15/10/2022	Described by: Joel Collins
Co-ordinates (50K)	251944.1808	6966439.541
Landform:	Sand plain	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Cooloomia* (S.D. Hopper 3301)		1	0.25	Sedge (G)	Vegetative
Baeckea sp. *Murchison River* (M.E Trudgen 12009)		20	2	Shrub, cycad, grass-tree (M)	Flower
Banksia sceptrum		5	5	Tree (U)	Fruit
Beaufortia aestiva		4	1.75	Shrub, cycad, grass-tree (M)	Flower
Callitris arenaria		2	3	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		5	1.25	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		2	1	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Dampiera oligophylla		1	0.25	Forb (G)	Vegetative
Ecdeiocolea monostachya		4	1.25	Sedge (G)	Flower
Labichea teretifolia subsp. *teretifolia*		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Lepidobolus preissianus subsp. *preissianus*		2	0.25	Sedge (G)	Fruit
Melaleuca ? leuropoma		2	1	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca psammophila		10	1	Shrub, cycad, grass-tree (M)	Fruit
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Petrophile pilostyla subsp. *pilostyla*		1	0.5	Shrub, cycad, grass-tree (M)	Flowerbud
Phymatocarpus porphyrocephalus		3	1.5	Shrub, cycad, grass-tree (M)	Fruit
Pileanthus peduncularis ? subsp. *peduncularis*		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Stylobasium australe		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Triodia danthonioides		2	1.5	Hummock grass (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Verticordia capillaris	P4	3	0.5	Shrub, cycad, grass-tree (M)	Flower



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Site ID:	MUR125	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Joel Collins
Co-ordinates (50K)	217284.856	6947125.569
Landform:	Coastal heathland	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		5	1.5	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus humilis		2	0.25	Sedge (G)	Fruit
Anthotroche walcottii		3	0.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Austrostipa elegantissima		1	0.25	Tussock grass (G)	Fruit
Brassica tournefortii	*	1	0.25	Forb (G)	Dehisced fruit
Cassytha aurea var. *aurea*		1	0.25	Vine (G)	Fruit
Comesperma scoparium		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Desmocladus asper		1	0.1	Sedge (G)	Fruit
Diplopeltis intermedia var. *intermedia*		2	0.25	Shrub	Dehisced fruit
Hibbertia spicata		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Hyalosperma cotula		1	0.1	Forb (G)	Fruit
Lobelia heterophylla subsp. *heterophylla*		1	0.1	Forb (G)	Flower
Lomandra maritima		4	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca cardiophylla		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		10	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea gilgiana		1	0.25	Shrub, cycad, grass-tree (M)	Dehisced fruit
Pimelea microcephala subsp. *microcephala*		4	0.25	Shrub, cycad, grass-tree (M)	Fruit
Podolepis aristata subsp. *aristata*		1	0.25	Forb (G)	Flower
Ptilotus alexandri	P2, R.E	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Ptilotus divaricatus		2	0.5	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Ptilotus exiliflorus	R.E	2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Scholtzia oligandra	R.E	2	0.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Solanum oldfieldii		2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Triodia bromoides	P4	15	0.5	Hummock grass (G)	Fruit



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Site ID:	MUR126	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Joel Collins
Co-ordinates (50K)	216992.9621	6947937.947
Landform:	Coastal heathland	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia idiomorpha		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Acacia rostellifera		1	1	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Anthotroche walcottii		4	0.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Austrostipa elegantissima		1	0.25	Tussock grass (G)	Fruit
Brachyscome iberidifolia		1	0.1	Forb (G)	Flower
Cassytha aurea var. *aurea*		1	0.25	Vine (G)	Fruit
Comesperma scoparium		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Desmocladus asper		1	0.1	Sedge (G)	Fruit
Diplopeltis intermedia var. *intermedia*		3	0.25	Shrub	Dehisced fruit
Enchylaena tomentosa var. *tomentosa*		1	0.25	Chenopod shrub (M)	Vegetative
Hibbertia spicata		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Hyalosperma cotula		1	0.1	Forb (G)	Fruit
Lobelia heterophylla subsp. *heterophylla*		1	0.1	Forb (G)	Flower
Lomandra maritima		4	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca cardiophylla		20	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		3	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea gilgiana		1	0.25	Shrub, cycad, grass-tree (M)	Dehisced fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Pimelea microcephala subsp. *microcephala*		3	0.25	Shrub, cycad, grass-tree (M)	Fruit
Podolepis aristata subsp. *aristata*		1	0.25	Forb (G)	Flower
Ptilotus exiliflorus	R.E	2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Scholtzia oligandra	R.E	2	0.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Solanum oldfieldii		2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Triodia bromoides	P4	10	0.5	Hummock grass (G)	Fruit

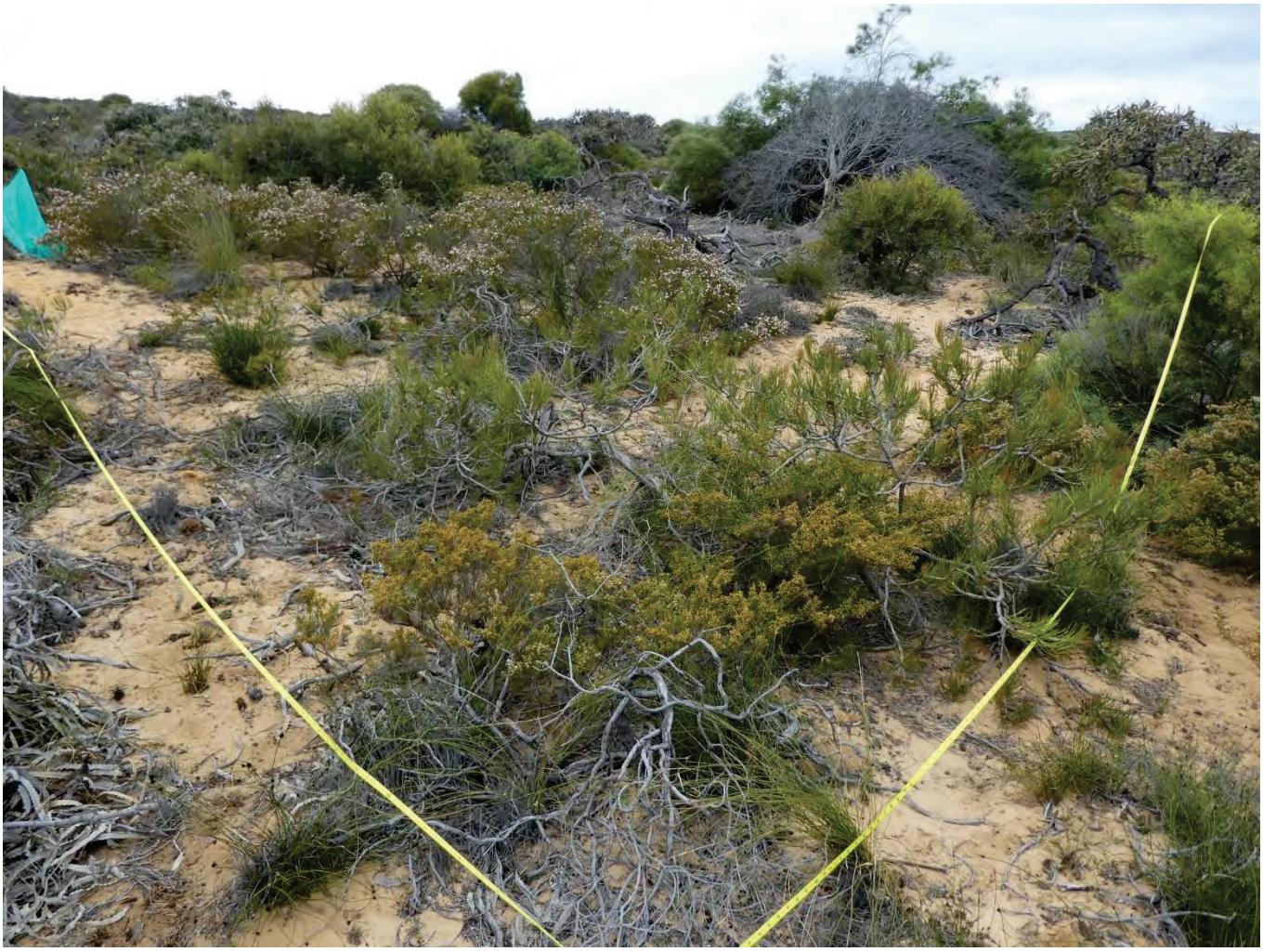


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Site ID:	MUR127	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Joel Collins
Co-ordinates (50K)	217182.8221	6949816.515
Landform:	Banksia sandy rise	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	15	1.25	Shrub, cycad, grass-tree (M)	Flower
Banksia ashbyi		3	2	Tree (U)	Fruit
Banksia attenuata		5	1.75	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus chrysanthereus		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.25	Vine (G)	Fruit
Conostylis stylidioides		1	0.25	Forb (G)	Fruit
Corynotheca micrantha		1	0.25	Forb (G)	Vegetative
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Ecdeiocolea monostachya		3	1.25	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Fruit
Grevillea annulifera		5	2	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Levenhookia ? stipitata		1	0.1	Forb (G)	Fruit
Malleostemon microphyllus	P2, R.E	3	0.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		2	0.25	Sedge (G)	Fruit
Neurachne alopecuroidea		1	0.25	Other grass (G)	Fruit
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Phymatocarpus porphyrocephalus		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Vulpia myuros	*	1	0.1	Other grass (G)	Fruit

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Site ID:	MUR128	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Joel Collins
Co-ordinates (50K)	217119.2696	6951458.32
Landform:	Banksia sandy rise	
Bare ground:	2-10%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		20	1.75	Shrub, cycad, grass-tree (M)	Fruit
Banksia attenuata		1	0.75	Shrub, cycad, grass-tree (M)	Fruit
Banksia sceptrum		20	3	Tree (U)	Flower
Calothamnus chrysanthereus		10	1.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.25	Vine (G)	Fruit
Conostylis stylidioides		1	0.25	Forb (G)	Fruit
Corynotheca micrantha		1	0.25	Forb (G)	Vegetative
Ecdeiocolea monostachya		10	1.25	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Fruit
Grevillea annulifera		4	1.25	Shrub, cycad, grass-tree (M)	Flower
Grevillea sp. (insufficient material)		2	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Malleostemon hursthousei		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Malleostemon microphyllus	P2, R.E	5	0.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		15	0.75	Shrub, cycad, grass-tree (M)	Fruit
Monotaxis bracteata		1	0.25	Forb (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR129	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Joel Collins
Co-ordinates (50K)	220093.2739	6954693.306
Landform:	Limestone ridge	
Bare ground:	<2%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Austrostipa elegantissima		1	0.25	Tussock grass (G)	Fruit
Austrostipa sp. (insufficient material)		1	0.25	Other grass (G)	Vegetative
Centaurea melitensis	*	10	0.25	Forb (G)	Fruit
Clematicissus angustissima		1	0.5	Forb (G)	Vegetative
Diplolaena grandiflora		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Ehrharta longiflora	*	40	0.25	Other grass (G)	Dehisced fruit
Lysimachia arvensis	*	20	0.1	Forb (G)	Fruit
Melaleuca cardiophylla		55	7	Tree (U)	Flowerbud
Muehlenbeckia adpressa		1	0.1	Forb (G)	Vegetative
Nicotiana occidentalis		1	0.1	Forb (G)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Ptilotus eriotrichus		45	0.5	Shrub, cycad, grass-tree (M)	Fruit
Rhagodia latifolia subsp. *latifolia*		1	0.25	Chenopod shrub (M)	Vegetative
Roepera apiculata		2	0.25	Forb (G)	Fruit
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Sisymbrium orientale	*	1	0.1	Forb (G)	Dehisced fruit
Solanum hesperium		3	0.25	Forb (G)	Fruit
Urospermum picroides	*	2	0.25	Forb (G)	Dehisced fruit

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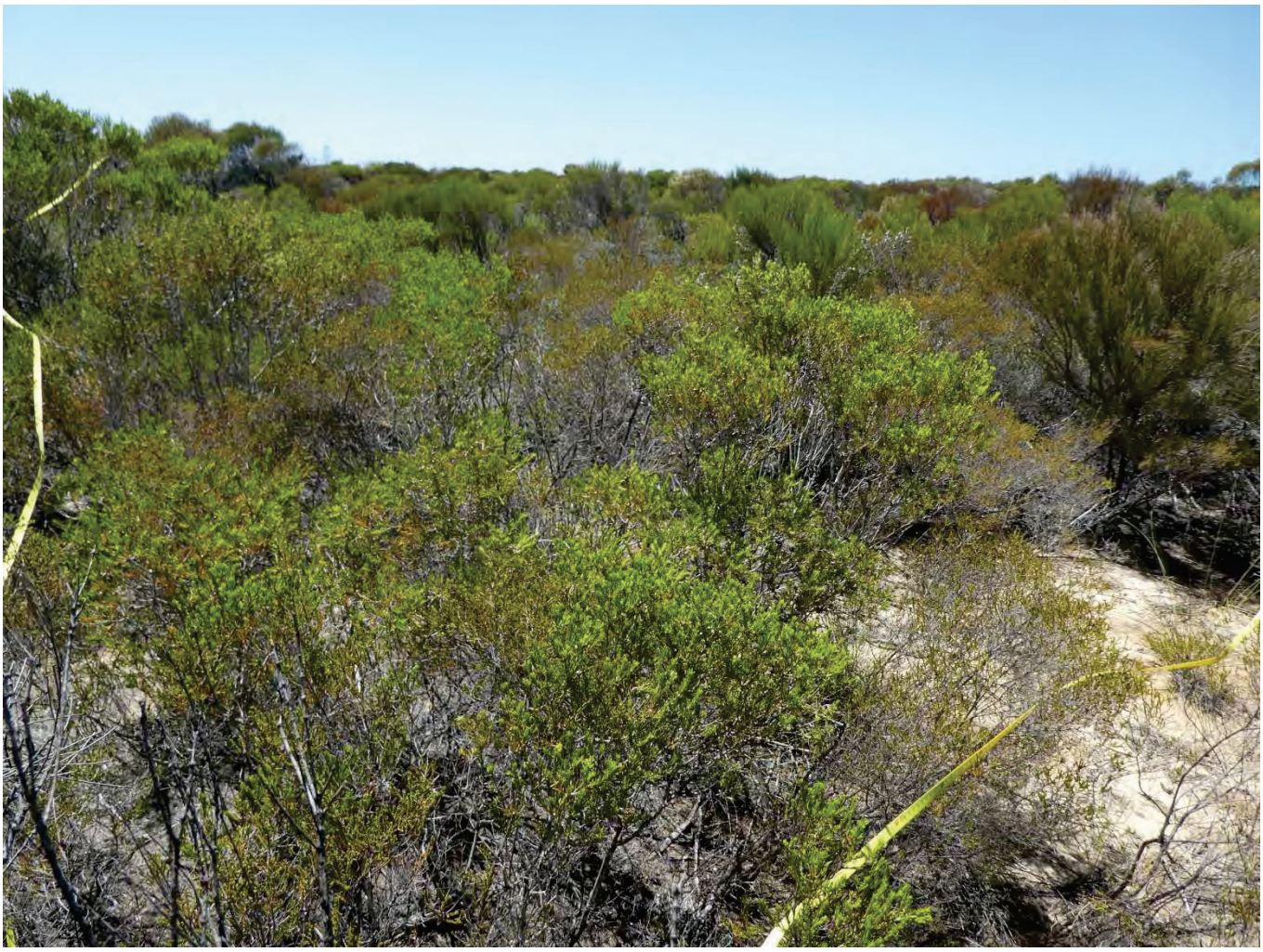


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Site ID:	MUR130	VT12 – (AcArAb)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Joel Collins
Co-ordinates (50K)	220882.3587	6954463.825
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		30	2	Shrub, cycad, grass-tree (M)	Fruit
Ecdeiocolea monostachya		2	1.25	Sedge (G)	Fruit
Grevillea stenomera	P2	1	1	Shrub, cycad, grass-tree (M)	Fruit
Lamarchea hakeifolia var. *brevifolia*		4	1.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		30	1.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca venusta		30	1.5	Shrub, cycad, grass-tree (M)	Flower
Thryptomene denticulata		60	1.5	Shrub, cycad, grass-tree (M)	Dehisced fruit

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Site ID:	MUR131	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Joel Collins
Co-ordinates (50K)	221966.259	6954318.737
Landform:	Limestone ridge	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Loam	
Fire age:	5-10 years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia lineolata subsp. *lineolata*	R.E	4	1.25	Shrub, cycad, grass-tree (M)	Fruit
Austrostipa elegantissima		2	0.25	Tussock grass (G)	Fruit
Austrostipa sp. (insufficient material)		1	0.25	Other grass (G)	Vegetative
Avena barbata	*	2	0.25	Other grass (G)	Immature fruit
Centaurea melitensis	*	10	0.25	Forb (G)	Fruit
Hypochaeris glabra	*	3	0.1	Forb (G)	Dehisced fruit
Lasiopetalum angustifolium		4	0.5	Shrub, cycad, grass-tree (M)	Fruit
Lysimachia arvensis	*	2	0.1	Forb (G)	Fruit
Melaleuca cardiophylla		45	5	Tree (U)	Flowerbud
Nicotiana occidentalis		1	0.1	Forb (G)	Fruit
Pimelea microcephala subsp. *microcephala*		2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Ptilotus eriotrichus		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Solanum hesperium		3	0.25	Forb (G)	Fruit
Trachymene pilosa		1	0.1	Forb (G)	Fruit
Urospermum picroides	*	2	0.25	Forb (G)	Dehisced fruit
Vittadinia humerata		2	0.1	Forb (G)	Dehisced fruit

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Site ID:	MUR132	VT29 – (ElMeAl)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Joel Collins
Co-ordinates (50K)	226745.5242	6959512.882
Landform:	York gum woodland	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Clay loam	
Fire age:	10+ years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia andrewsii		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Acacia lineolata subsp. *lineolata*	R.E	4	1.75	Shrub, cycad, grass-tree (M)	Immature fruit
Austrostipa elegantissima		1	0.25	Tussock grass (G)	Fruit
Cephalipterum drummondii		1	0.1	Forb (G)	Fruit
Echium plantagineum	* DP	1	0.25	Forb (G)	Dehisced fruit
Eucalyptus loxophleba subsp. *supralaevis*		40	8.5	Tree (U)	Fruit
Melaleuca eleuterostachya		4	4.75	Tree (U)	Fruit
Pimelea microcephala subsp. *microcephala*		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Ptilotus exaltatus		1	0.25	Forb (G)	Flower
Ptilotus obovatus		4	0.25	Forb (G)	Flower
Vittadinia humerata		1	0.1	Forb (G)	Dehisced fruit

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Site ID:	MUR133	VT25 – (EeEp)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Joel Collins
Co-ordinates (50K)	225467.5721	6957850.799
Landform:	Melaleuca mallee red clay flats	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Clay loam	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		2	2	Shrub, cycad, grass-tree (M)	Fruit
Eucalyptus eudesmioides		30	5	Tree mallee (U)	Fruit
Melaleuca atroviridis		60	2.5	Shrub, cycad, grass-tree (M)	Fruit
Seringia hermanniifolia		1	0.25	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR134	VT26 – (EpErEg)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Joel Collins
Co-ordinates (50K)	228349.5298	6967442.423
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia ? andrewsii		4	1	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus humilis		1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		3	2	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Cassytha aurea var. *aurea*		1	0.75	Vine (G)	Fruit
Conospermum microflorum		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Conostylis aculeata subsp. *echinissima*		1	0.25	Forb (G)	Flower
Ecdeiocolea monostachya		2	1.25	Sedge (G)	Fruit
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Melaleuca psammophila		15	0.5	Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		4	1.5	Shrub, cycad, grass-tree (M)	Flower
Pityrodia hemigenioides		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Scholtzia capitata		50	1.5	Shrub, cycad, grass-tree (M)	Flower
Thryptomene denticulata		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Tricoryne elatior		1	0.25	Forb (G)	Flower
Triodia bromoides	P4	1	0.25	Hummock grass (G)	Vegetative
Verticordia lepidophylla var. *quantula*	P1	2	1.5	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR135	VT28 – (ElAcAt)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Joel Collins
Co-ordinates (50K)	228686.0804	6967240.264
Landform:	York gum woodland	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Clay loam	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Austrostipa elegantissima		1	0.25	Tussock grass (G)	Fruit
Austrostipa sp. (insufficient material)		3	0.25	Tussock grass (G)	Vegetative
Centaurea melitensis	*	1	0.25	Forb (G)	Fruit
Cephalipterum drummondii		3	0.1	Forb (G)	Fruit
Eucalyptus loxophleba subsp. *supralaevis*		30	9	Tree (U)	Fruit
Hypochaeris glabra	*	4	0.1	Forb (G)	Dehisced fruit
Lamarchea hakeifolia var. *brevifolia*		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Lysimachia arvensis	*	2	0.1	Forb (G)	Fruit
Melaleuca cardiophylla		5	2.25	Tree (U)	Flowerbud
Melaleuca venusta		3	1.5	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pentameris airoides subsp. *airoides*	*	5	0.1	Other grass (G)	Dehisced fruit
Ptilotus obovatus		1	0.25	Forb (G)	Flower
Rhagodia latifolia subsp. *latifolia*		1	0.25	Chenopod shrub (M)	Vegetative
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Urospermum picroides	*	2	0.25	Forb (G)	Dehisced fruit
Waitzia acuminata var. *acuminata*		4	0.1	Forb (G)	Fruit

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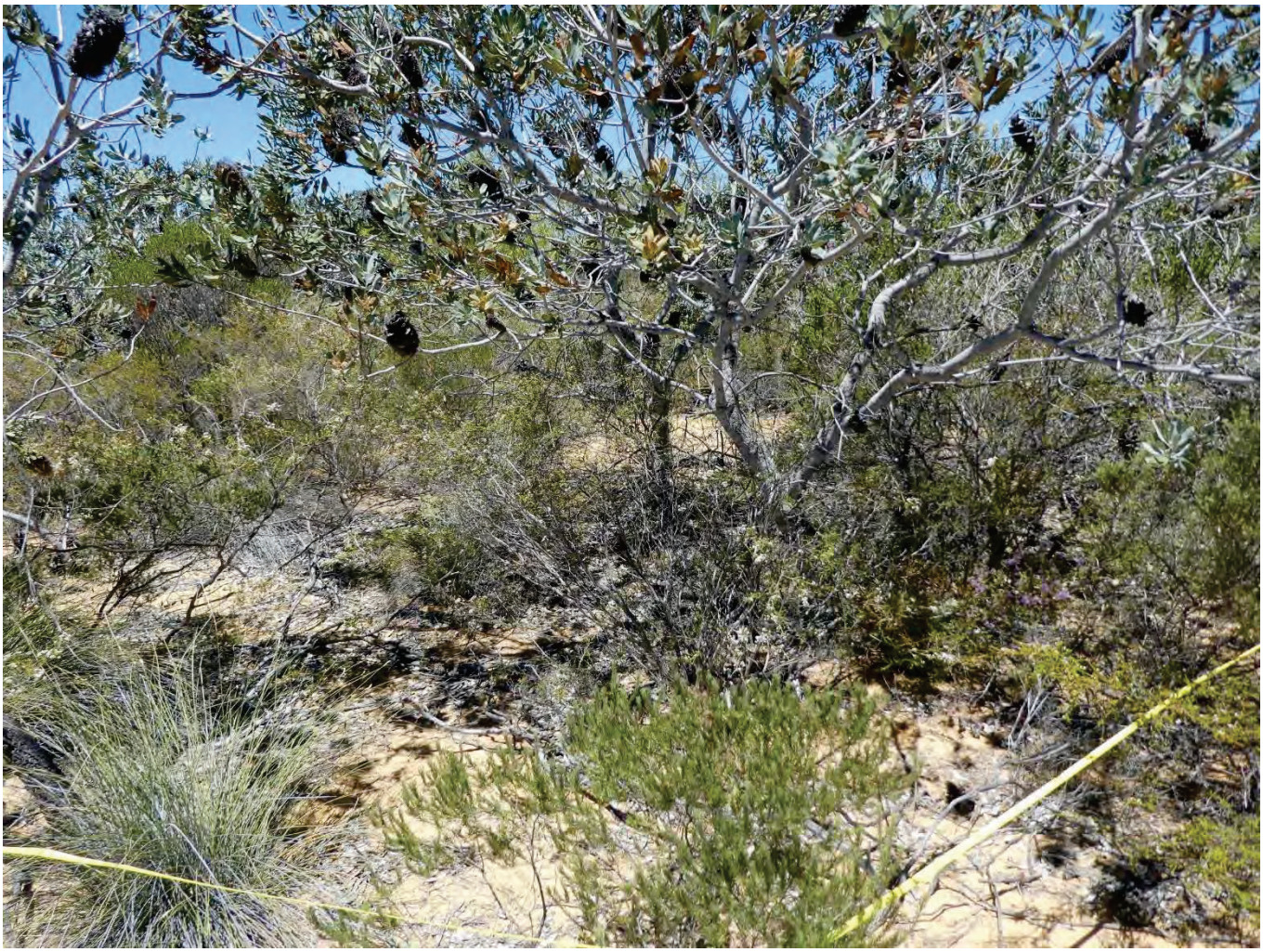


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Site ID:	MUR136	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Joel Collins
Co-ordinates (50K)	232726.9661	6964389.607
Landform:	Banksia sand plain	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Banksia sceptrum		40	4.5	Tree (U)	Flower
Calytrix strigosa		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Conospermum microflorum		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Daviesia hakeoides subsp. *hakeoides*		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Ecdeiocolea monostachya		3	1.25	Sedge (G)	Fruit
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		3	0.25	Sedge (G)	Flower
Melaleuca psammophila		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Mesomelaena preissii		2	0.25	Sedge (G)	Fruit
Monotaxis bracteata		1	0.25	Forb (G)	Vegetative
Persoonia acicularis		2	0.1	Shrub, cycad, grass-tree (M)	Flower
Petrophile pilostyla subsp. *pilostyla*		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Pileanthus peduncularis subsp. *pilifer*		4	0.75	Shrub, cycad, grass-tree (M)	Immature fruit
Scholtzia capitata		30	1.5	Shrub, cycad, grass-tree (M)	Flower
Styphelia cordifolia		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Thryptomene denticulata		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Tricoryne elatior		1	0.25	Forb (G)	Flower
Triodia bromoides	P4	2	0.5	Hummock grass (G)	Fruit
Xylomelum angustifolium		10	4.5	Tree (U)	Fruit

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Site ID:	MUR137	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Joel Collins
Co-ordinates (50K)	224986.4684	6963225.057
Landform:	Stony plain	
Bare ground:	31-70%	
Litter cover:	11-30%	
Soil type:	Clay loam	
Fire age:	10+ years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		10	7	Tree (U)	Fruit
Acanthocarpus preissii		1	0.1	Sedge (G)	Vegetative
Austrostipa elegantissima		1	0.25	Tussock grass (G)	Fruit
Austrostipa sp. (insufficient material)		1	0.25	Other grass (G)	Vegetative
Centaurea melitensis	*	1	0.1	Forb (G)	Fruit
Cephalipterum drummondii		1	0.1	Forb (G)	Fruit
Daucus glochidiatus		1	0.25	Forb (G)	Dehisced fruit
Hypochaeris glabra	*	4	0.1	Forb (G)	Dehisced fruit
Lysimachia arvensis	*	10	0.1	Forb (G)	Fruit
Melaleuca cardiophylla		40	3	Tree (U)	Fruit
Melaleuca eleuterostachya		2	6	Tree (U)	Fruit
Melaleuca venusta		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Dehisced fruit
Pimelea microcephala subsp. *microcephala*		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Ptilotus obovatus		5	0.25	Forb (G)	Flower
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Urospermum picroides	*	2	0.25	Forb (G)	Dehisced fruit
Vittadinia humerata		1	0.1	Forb (G)	Dehisced fruit
Waitzia acuminata var. *acuminata*		1	0.1	Forb (G)	Fruit

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Site ID:	MUR138	VT20 – (BsCoSuHc)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Joel Collins
Co-ordinates (50K)	245221.6824	6959178.122
Landform:	Banksia sand plain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		15	3	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus humilis		2	0.25	Sedge (G)	Fruit
Allocasuarina campestris		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Banksia fraseri var. *ashbyi*		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Banksia sceptrum		35	4.5	Tree (U)	Flower
Cassytha aurea var. *aurea*		2	0.25	Vine (G)	Fruit
Comesperma scoparium		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Conostylis stylidioides		1	0.25	Forb (G)	Fruit
Desmocladus asper		1	0.25	Sedge (G)	Fruit
Dianella revoluta var. *divaricata*		1	0.25	Forb (G)	Vegetative
Diploaena mollis		3	0.5	Shrub, cycad, grass-tree (M)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Dehisced fruit
Hakea lissocarpha		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Hybanthus floribundus subsp. *floribundus*		2	0.25	Forb (G)	Vegetative
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		1	0.25	Sedge (G)	Fruit
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		60	0.75	Shrub, cycad, grass-tree (M)	Fruit
Monotaxis bracteata		1	0.25	Forb (G)	Vegetative
Olearia sp. *Kennedy Range* (G. Byrne 66)		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Patersonia graminea		1	0.25	Forb (G)	Vegetative
Persoonia acicularis		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Pimelea leucantha		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Poranthera drummondii		1	0.1	Forb (G)	Dehisced fruit
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Stenanthemum divaricatum	P3	1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Styphelia cordifolia		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Triodia bromoides	P4	1	0.5	Hummock grass (G)	Fruit



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Site ID:	MUR139	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Joel Collins
Co-ordinates (50K)	213439.3784	6963174
Landform:	Melaleuca cardio low shrubland	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus humilis		2	0.25	Sedge (G)	Fruit
Angianthus milnei	R.E	1	0.1	Forb (G)	Flower
Anthocercis intricata	P3	1	1.5	Shrub, cycad, grass-tree (M)	Vegetative
Austrostipa elegantissima		1	0.25	Tussock grass (G)	Fruit
Calandrinia sp. *Shark Bay* (A. Markey 1405)		1	0.1	Forb (G)	Dehisced fruit
Comesperma scoparium		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Desmocladus asper		5	0.25	Sedge (G)	Fruit
Lobelia heterophylla subsp. *heterophylla*		1	0.1	Forb (G)	Flower
Lomandra maritima		2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lysiandra scabra		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca cardiophylla		45	1.5	Tree (U)	Fruit
Melaleuca leiopyxis		1	1	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		5	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea leucantha		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Podotheca angustifolia		1	0.1	Forb (G)	Flower
Ptilotus divaricatus		1	0.25	Forb (G)	Fruit
Ptilotus eremita		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Ptilotus exiliflorus	R.E	1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Rhagodia drummondii		2	1	Chenopod shrub (M)	Vegetative
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Scholtzia oligandra	R.E	4	1	Shrub, cycad, grass-tree (M)	Dehisced fruit
Sisymbrium orientale	*	1	0.1	Forb (G)	Dehisced fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Styphelia cordifolia		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Threlkeldia diffusa		2	0.25	Chenopod shrub (M)	Vegetative



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Site ID:	MUR140	VT20 – (BsCoSuHc)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Joel Collins
Co-ordinates (50K)	210364.2734	6969086.888
Landform:	Coastal heathland	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia cavealis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		2	0.25	Sedge (G)	Fruit
Austrostipa elegantissima		1	0.25	Tussock grass (G)	Fruit
Banksia fraseri var. *ashbyi*		10	1.25	Shrub, cycad, grass-tree (M)	Fruit
Bossiaea spinescens	R.E	1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Calandrinia sp. *Shark Bay* (A. Markey 1405)		1	0.1	Forb (G)	Dehisced fruit
Calothamnus oldfieldii		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Cassytha aurea var. *aurea*		2	0.25	Vine (G)	Fruit
Comesperma scoparium		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Desmocladus asper		2	0.25	Sedge (G)	Vegetative
Dianella revoluta var. *divaricata*		1	0.25	Forb (G)	Vegetative
Diploaena mollis		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Ecdeiocolea monostachya		2	1.25	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Dehisced fruit
Hibbertia conspicua		4	0.5	Shrub, cycad, grass-tree (M)	Flower
Lobelia heterophylla subsp. *heterophylla*		1	0.1	Forb (G)	Flower
Lomandra maritima		2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		80	0.75	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Patersonia graminea		3	0.25	Forb (G)	Vegetative
Petrophile semifurcata		1	0.5	Shrub, cycad, grass-tree (M)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Schoenus clandestinus		2	0.1	Sedge (G)	Vegetative
Styphelia cordifolia		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Triodia bromoides	P4	3	0.75	Hummock grass (G)	Dehisced fruit
Wahlenbergia preissii		1	0.1	Forb (G)	Dehisced fruit



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Site ID:	MUR141	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Joel Collins
Co-ordinates (50K)	215917.2891	6967495.327
Landform:	Sand plain	
Bare ground:	31-70%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		5	8	Tree (U)	Fruit
Acanthocarpus humilis		2	0.25	Sedge (G)	Fruit
Androcalva gaudichaudii		1	0.25	Forb (G)	Vegetative
Austrostipa elegantissima		3	0.25	Tussock grass (G)	Fruit
Austrostipa hemipogon	R.E	2	0.25	Other grass (G)	Fruit
Brassica tournefortii	*	1	0.25	Forb (G)	Dehisced fruit
Desmocladus asper		2	0.1	Sedge (G)	Fruit
Ehrharta longiflora	*	1	0.25	Other grass (G)	Dehisced fruit
Eucalyptus pallida		15	3.5	Tree mallee (U)	Fruit
Hibbertia conspicua		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Hibbertia racemosa		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Hypochaeris glabra	*	1	0.1	Forb (G)	Dehisced fruit
Malleostemon microphyllus	P2, R.E	2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		2	1	Shrub, cycad, grass-tree (M)	Fruit
Rytidosperma setaceum		1	0.25	Other grass (G)	Fruit
Trachymene pilosa		1	0.1	Forb (G)	Dehisced fruit

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Site ID:	MUR151	VT24 – (EjEr)
Type:	Quadrat	Size: 10m x 10m
Date:	14/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	226809.4787	6997018.191
Landform:	Dunal	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		2	1.5	Shrub, cycad, grass-tree (M)	Fruit
Anthotroche myoporoides	P3	2	1.5	Heath shrub (M)	Flower
Baeckea sp. *Murchison* River (M.E Trudgen 12009)		1	1.75	Heath shrub (M)	Flower
Banksia sceptrum		1	1.75	Shrub, cycad, grass-tree (M)	Dehisced fruit
Callitris arenaria		1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		1	0.75	Heath shrub (M)	Flower
Lechenaultia linarioides		1	0.75	Heath shrub (M)	Flower
Melaleuca lara		2	1.75	Heath shrub (M)	Flower
Verticordia cooloomia	P3	15	2	Heath shrub (M)	Flower
Xylomelum angustifolium		1	3	Shrub, cycad, grass-tree (M)	Dehisced fruit

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Site ID:	MUR152	VT19 – (BsEg)
Type:	Quadrat	Size: 10m x 10m
Date:	15/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	251808.669	6966108.431
Landform:	Banksia sand plain	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia plautella	P3, R.E	2	1.25	Shrub, cycad, grass-tree (M)	Fruit
Allocasuarina campestris		1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Baeckea sp. Murchison River (M.E Trudgen 12009)		5	1.75	Shrub, cycad, grass-tree (M)	Flower
Banksia sceptrum		5	2	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		2	1	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		1	0.75	Shrub, cycad, grass-tree (M)	Flower
Calytrix strigosa		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1		Vine (G)	Vegetative
Conospermum microflorum		1	1.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Ecdeiocolea monostachya		1	0.75	Sedge (G)	Fruit
Eucalyptus gittinsii subsp. *gittinsii*		3	6.5	Tree mallee (U)	Fruit
Grevillea eriostachya		1	2.5	Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Labichea teretifolia subsp. *teretifolia*		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Vegetative
Melaleuca ? leuropoma		1	1	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca psammophila		1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Pileanthus peduncularis ? subsp. *peduncularis*		1	0.5	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Pimelea microcephala subsp. *microcephala*		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Schoenus sp. *Murchison* (K.L. Wilson 2647)	R.E	1	0.25	Sedge (G)	Fruit
Stenanthemum complicatum		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Stylidium elongatum		1	0.25	Forb (G)	Flowerbud
Thryptomene globifera		1	1.5	Shrub, cycad, grass-tree (M)	Flower



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Site ID:	MUR153	VT25 – (EeEp)
Type:	Quadrat	Size: 10m x 10m
Date:	16/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	241490.9773	6973426.147
Landform:	*M. uncinata* shrubland	
Bare ground:	>70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus humilis		1	0.5	Sedge (G)	Vegetative
Austrostipa elegantissima		1	1	Other grass (G)	Fruit
Brachyscome iberidifolia		1	0.1	Forb (G)	Flower
Cephalipterum drummondii		1	0.1	Forb (G)	Flower
Conostylis prolifera		1	0.25	Forb (G)	Flower
Drosera sp. (insufficient material)		1	0.1	Forb (G)	Vegetative
Erodium cygnorum		1	0.1	Forb (G)	Dehisced fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Goodenia berardiana		1	0.1	Forb (G)	Fruit
Hakea stenophylla subsp. *notialis*		2	2.5	Shrub, cycad, grass-tree (M)	Fruit
Hyalosperma demissum		1	0.1	Forb (G)	Flower
Jacksonia arenicola		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lepidosperma sp. (insufficient material)		1	0.5	Sedge (G)	Flower
Leptosema aphyllum		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca atroviridis		15	3	Shrub, cycad, grass-tree (M)	Fruit
Olearia axillaris		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Ptilotus grandiflorus		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Dehisced fruit
Triodia aff dielsii	Species of interest	1	1.25	Hummock grass (G)	Fruit
Waitzia corymbosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR154R	VT09 – (AoHrHs)
Type:	Relevé	
Date:	16/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	239755.2051	6973383.739
Landform:	Flat disturbed clay soil	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Degraded	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Atriplex sp. (insufficient material)		1		Chenopod shrub (M)	Vegetative
Avena barbata	*	20		Other grass (G)	Fruit
Centaurea melitensis	*	5		Forb (G)	Fruit
Enchylaena tomentosa var. *tomentosa*		1		Chenopod shrub (M)	Vegetative
Hakea stenophylla subsp. *notialis*		30		Shrub, cycad, grass-tree (M)	Flower
Hakea recurva subsp. *recurva*	*	3		Shrub, cycad, grass-tree (M)	Fruit
Phalaris minor	*	5		Other grass (G)	Flower
Ptilotus obovatus		1		Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR155R	VT09 – (AoHrHs)
Type:	Relevé	
Date:	16/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	239189.946	6973364.737
Landform:	Limestone outcrop	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sandy loam	
Fire age:	10+ years	
Vegetation condition:	Degraded	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Alectryon oleifolius subsp. *oleifolius*		3	4	Shrub, cycad, grass-tree (M)	Vegetative
Amphipogon caricinus var. *caricinus*		5	0.25	Other grass (G)	Dehisced fruit
Austrostipa sp. (insufficient material)		30	0.1	Other grass (G)	Vegetative
Crassula closiana		1	0.1	Forb (G)	Flower
Enchylaena tomentosa var. *tomentosa*		2	0.5	Chenopod shrub (M)	Fruit
Maireana sp. (insufficient material)		2	0.1	Chenopod shrub (M)	Flower
Maireana tomentosa		2	0.75	Chenopod shrub (M)	Fruit
Monachather paradoxus		5	0.1	Shrub, cycad, grass-tree (M)	Dehisced fruit
Ptilotus obovatus		10	0.75	Shrub, cycad, grass-tree (M)	Flower
Rhodanthe humboldtiana	R.E	1	0.25	Forb (G)	Flower
Sclerolaena diacantha		1	0.1	Chenopod shrub (M)	Fruit

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Site ID:	MUR156	VT13 – (MaAr)
Type:	Quadrat	Size: 10m x 10m
Date:	17/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	248065.5166	6973578.395
Landform:	Mulga woodland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Austrostipa macalpinei		1	0.25	Tussock grass (G)	Fruit
Brunonia australis		1	0.1	Forb (G)	Flower
Comesperma integerrimum		20	0.75	Shrub, cycad, grass-tree (M)	Flower
Crassula closiana		1	0.1	Forb (G)	Flower
Ecdeiocolea monostachya		2	1	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Goodenia sp. (insufficient material)		1	0.1	Forb (G)	Flower
Jacksonia arenicola		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Macarthuria intricata	P3	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca atroviridis		1	1.75	Shrub, cycad, grass-tree (M)	Fruit
Phalaris minor	*	5	3	Other grass (G)	Flower
Rhodanthe citrina		1	0.1	Forb (G)	Flower
Waitzia acuminata var. *acuminata*		1	0.1	Forb (G)	Flower
Waitzia corymbosa		1	0.1	Forb (G)	Flower

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Site ID:	MUR157	VT13 – (MaAr)
Type:	Quadrat	Size: 10m x 10m
Date:	17/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	247989.1426	6973639.23
Landform:	*M. uncinata* shrubland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Amphipogon caricinus var. *caricinus*		1	0.5	Other grass (G)	Fruit
Baeckea sp. *Eurardy Station* (Wildflower Society of W.A. EURA 15)		1	0.75	Shrub, cycad, grass-tree (M)	Fruit
Brunonia australis		1	0.1	Forb (G)	Flower
Comesperma integerrimum		1		Shrub, cycad, grass-tree (M)	Vegetative
Drosera sp. (insufficient material)		1	0.25	Forb (G)	Dehisced fruit
Ecdeiocolea monostachya		5	1	Sedge (G)	Fruit
Erodium cygnorum		1	0.1	Forb (G)	Dehisced fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Jacksonia arenicola		1	0.75	Shrub, cycad, grass-tree (M)	Flower
Macarthuria intricata	P3	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca atroviridis		20	2.5	Shrub, cycad, grass-tree (M)	Fruit
Monachather paradoxus		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Rhodanthe citrina		1	0.1	Forb (G)	Flower
Waitzia acuminata var. *acuminata*		1	0.1	Forb (G)	Flower

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Site ID:	MUR158	VT13 – (MaAr)
Type:	Quadrat	Size: 10m x 10m
Date:	17/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	244917.6674	6973507.587
Landform:	Mulga woodland	
Bare ground:	31-70%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia ramulosa		4	5.5	Shrub, cycad, grass-tree (M)	Vegetative
Amphipogon caricinus var. *caricinus*		1	0.25	Other grass (G)	Fruit
Austrostipa macalpinei		1	0.25	Tussock grass (G)	Fruit
Brachyscome iberidifolia		1	0.1	Forb (G)	Flower
Calothamnus blepharospermus		1	1.75	Shrub, cycad, grass-tree (M)	Fruit
Crassula closiana		1	0.1	Forb (G)	Flower
Ecdeiocolea monostachya		3	1	Sedge (G)	Fruit
Eremophila latrobei subsp. *latrobei*		1	1	Shrub, cycad, grass-tree (M)	Flower
Erodium cygnorum		1	0.1	Forb (G)	Flower
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Lobelia heterophylla subsp. *heterophylla*		1	0.1	Forb (G)	Flower
Macarthuria intricata	P3	1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Monachather paradoxus		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Ptilotus grandiflorus		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhodanthe citrina		1	0.1	Forb (G)	Flower
Scholtzia sp. (insufficient material)		3	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Solanum sp. (insufficient material)		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Triodia aff *dielsii*	Species of interest	15	1.25	Hummock grass (G)	Fruit
Waitzia acuminata var. *acuminata*		1	0.1	Forb (G)	Flower

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Site ID:	MUR159R	VT19 – (BsEg)
Type:	Relevé	
Date:	17/10/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	235874.7501	6975321.452
Landform:	Banksia sand plain	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	10+ years	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia plautella	P3, R.E	1	1	Shrub, cycad, grass-tree (M)	Fruit
Banksia sceptrum		35	4	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		2	1.25	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		3	1.25	Shrub, cycad, grass-tree (M)	Flower
Calytrix strigosa		1	1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca psammophila		1	0.75	Shrub, cycad, grass-tree (M)	Flower
Petrophile pilostyla subsp. *pilostyla*		1	1.25	Shrub, cycad, grass-tree (M)	Fruit
Pileanthus peduncularis subsp. *pilifer*		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Triodia aff *dielsii*	Species of interest	2	1.25	Hummock grass (G)	Fruit
Verticordia lepidophylla var. *quantula*	P1	1	2	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR160	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	218114.4181	6945087.539
Landform:	Coastal heathland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia idiomorpha		1		Shrub, cycad, grass-tree (M)	Fruit
Acacia rostellifera		1		Shrub, cycad, grass-tree (M)	Fruit
Acacia spathulifolia		1		Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus robustus		1		Sedge (G)	Fruit
Calothamnus oldfieldii		1		Shrub, cycad, grass-tree (M)	Fruit
Cassytha aurea var. *aurea*		1		Vine (G)	Fruit
Comesperma scoparium		1		Shrub, cycad, grass-tree (M)	Vegetative
Conostylis aculeata subsp. *septentrionora*		1		Forb (G)	Flower
Desmocladus asper		1		Sedge (G)	Fruit
Diplopeltis intermedia var. *incana*		1		Shrub, cycad, grass-tree (M)	Fruit
Goodenia berardiana		1		Forb (G)	Vegetative
Grevillea stenomera	P2	1		Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia racemosa		3		Shrub, cycad, grass-tree (M)	Flower
Hyalosperma cotula		1		Forb (G)	Flower
Hybanthus calycinus		1		Forb (G)	Flower
Lomandra maritima		1		Shrub, cycad, grass-tree (M)	Vegetative
Macarthuria intricata	P3	1		Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		3		Shrub, cycad, grass-tree (M)	Fruit
Melaleuca keigheryi		1		Shrub, cycad, grass-tree (M)	Fruit
Olearia axillaris		1		Shrub, cycad, grass-tree (M)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Scholtzia oligandra	R.E	1		Shrub, cycad, grass-tree (M)	Fruit
Stenanthemum notiale subsp. *notiale*		1		Shrub, cycad, grass-tree (M)	Fruit
Triodia bromoides	P4	1		Hummock grass (G)	Fruit
Waitzia sp. (insufficient material)		1		Forb (G)	Flower



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Site ID:	MUR161	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	217812.1451	6945657.994
Landform:	Coastal heathland	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia idiomorpha		1		Shrub, cycad, grass-tree (M)	Fruit
Acacia rostellifera		5		Shrub, cycad, grass-tree (M)	Fruit
Acacia spathulifolia		1		Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus robustus		1		Sedge (G)	Fruit
Anthotroche walcottii		1		Shrub, cycad, grass-tree (M)	Flower
Calothamnus oldfieldii		1		Shrub, cycad, grass-tree (M)	Fruit
Cassytha aurea var. *aurea*		1		Vine (G)	Fruit
Comesperma scoparium		1		Shrub, cycad, grass-tree (M)	Flower
Conostylis aculeata subsp. *septentrionora*		1		Forb (G)	Flower
Desmocladus asper		1		Sedge (G)	Fruit
Diplopeltis intermedia var. *incana*		2		Shrub, cycad, grass-tree (M)	Fruit
Goodenia berardiana		1		Forb (G)	Flower
Hibbertia racemosa		1		Shrub, cycad, grass-tree (M)	Flower
Lomandra maritima		1		Shrub, cycad, grass-tree (M)	Fruit
Lysiandra scabra		1		Shrub, cycad, grass-tree (M)	Flower
Melaleuca keigheryi		2		Shrub, cycad, grass-tree (M)	Fruit
Olearia axillaris		1		Shrub, cycad, grass-tree (M)	Vegetative
Podolepis aristata subsp. *aristata*		1		Forb (G)	Flower
Rhagodia sp. (insufficient material)		1		Chenopod shrub (M)	Vegetative
Roepera fruticulosa		1		Forb (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Scholtzia oligandra	R.E	1		Shrub, cycad, grass-tree (M)	Fruit
Solanum oldfieldii		1		Shrub, cycad, grass-tree (M)	Flower
Triodia bromoides	P4	2		Hummock grass (G)	Fruit
Waitzia sp. (insufficient material)		1		Forb (G)	Flower



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Site ID:	MUR162	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	216968.5835	6948394.632
Landform:	Coastal heathland	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		2		Shrub, cycad, grass-tree (M)	Vegetative
Acanthocarpus robustus		1		Sedge (G)	Vegetative
Alyxia buxifolia		1		Shrub, cycad, grass-tree (M)	Flower
Anthotroche walcottii		1		Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1		Vine (G)	Fruit
Comesperma scoparium		1		Shrub, cycad, grass-tree (M)	Flower
Desmocladus asper		1		Sedge (G)	Fruit
Diplopeltis intermedia var. *incana*		1		Shrub, cycad, grass-tree (M)	Fruit
Hibbertia racemosa		1		Shrub, cycad, grass-tree (M)	Flower
Lasiopetalum angustifolium		2		Shrub, cycad, grass-tree (M)	Vegetative
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		1		Sedge (G)	Flower
Lomandra maritima		1		Shrub, cycad, grass-tree (M)	Fruit
Lysiandra scabra		1		Shrub, cycad, grass-tree (M)	Flower
Melaleuca cardiophylla		4		Shrub, cycad, grass-tree (M)	Fruit
Melaleuca keigheryi		1		Shrub, cycad, grass-tree (M)	Fruit
Olearia axillaris		1		Shrub, cycad, grass-tree (M)	Vegetative
Pimelea gilgiana		1		Shrub, cycad, grass-tree (M)	Vegetative

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Podolepis aristata subsp. *aristata*		1		Forb (G)	Flower
Ptilotus divaricatus		1		Shrub, cycad, grass-tree (M)	Flower
Roepera fruticulosa		1		Forb (G)	Fruit
Scholtzia oligandra	R.E	1		Shrub, cycad, grass-tree (M)	Fruit
Triodia bromoides	P4	3		Hummock grass (G)	Fruit
Waitzia sp. (insufficient material)		1		Forb (G)	Flower

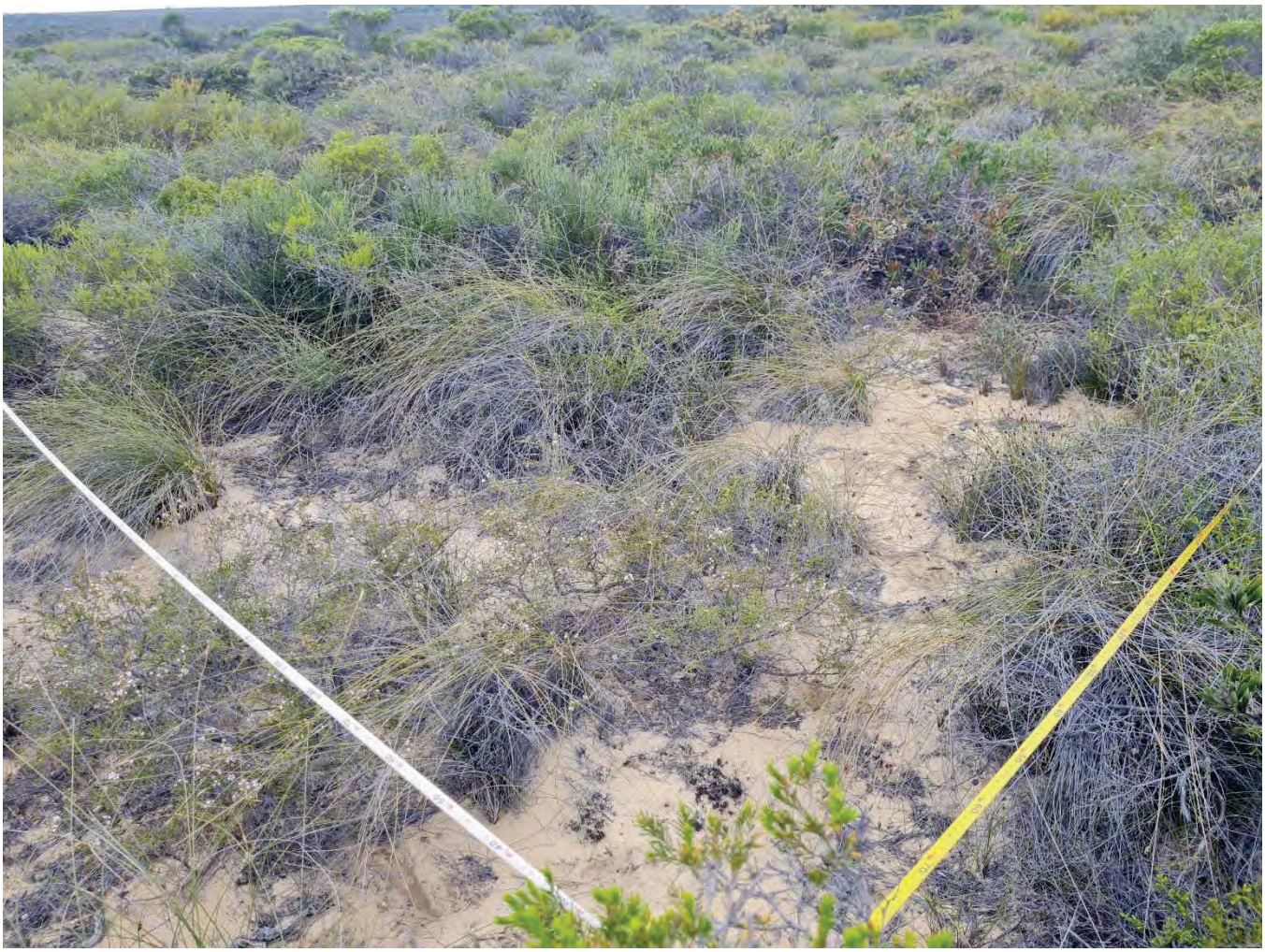


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Site ID:	MUR163	VT21 – (AsMIBa)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	217007.3398	6954351.257
Landform:	Coastal heathland	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia spathulifolia		1		Shrub, cycad, grass-tree (M)	Fruit
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	1		Shrub, cycad, grass-tree (M)	Flower
Banksia attenuata		1		Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		2		Shrub, cycad, grass-tree (M)	Fruit
Calytrix strigosa		1		Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1		Vine (G)	Fruit
Ecdeiocolea monostachya		5		Sedge (G)	Fruit
Goodenia sp. (insufficient material)		1		Forb (G)	Flower
Jacksonia dendrospinosa	P4, R.E	2		Shrub, cycad, grass-tree (M)	Flower
Leptosema aphyllum		1		Shrub, cycad, grass-tree (M)	Vegetative
Malleostemon microphyllus	P2, R.E	1		Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		2		Shrub, cycad, grass-tree (M)	Fruit
Mesomelaena pseudostygia		1		Sedge (G)	Fruit
Persoonia acicularis		1		Shrub, cycad, grass-tree (M)	Flower
Phymatocarpus porphyrocephalus		3		Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR164	VT15 – (McMcAlAc)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	223369.1857	6948423.466
Landform:	*M. uncinata* on red clay	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia lineolata subsp. *lineolata*	R.E	1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Allocasuarina campestris		3	1.25	Shrub, cycad, grass-tree (M)	Fruit
Ecdeiocolea monostachya		1	0.75	Sedge (G)	Fruit
Eucalyptus eudesmioides		2	3.5	Tree mallee (U)	Fruit
Melaleuca campanae		1	1.5	Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca concreta		10	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Poaceae sp. (insufficient material)		1	0.5	Other grass (G)	Vegetative

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Site ID:	MUR165	VT15 – (McMcAlAc)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	222860.7122	6950877.472
Landform:	Rocky hill	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Clay loam	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Amphipogon caricinus var. *caricinus*		1		Other grass (G)	Fruit
Asteraceae sp. (insufficient material)		1		Forb (G)	Vegetative
Crassula sp. (insufficient material)		1		Forb (G)	Flower
Erodium cygnorum		1		Forb (G)	Flower
Lamarchea hakeifolia var. *brevifolia*		1		Shrub, cycad, grass-tree (M)	Flowerbud
Melaleuca campanae		5		Shrub, cycad, grass-tree (M)	Fruit
Melaleuca cardiophylla		5		Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		1		Shrub, cycad, grass-tree (M)	Vegetative
Pimelea leucantha		1		Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR166	VT25 – (EeEp)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	223153.5762	6956745.233
Landform:	*M. uncinata* flats	
Bare ground:	>70%	
Litter cover:	<2%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		1		Shrub, cycad, grass-tree (M)	Flower
Alyogyne sp. 1	P2	1		Shrub, cycad, grass-tree (M)	Flowerbud
Ecdeiocolea monostachya		3		Sedge (G)	Fruit
Eucalyptus eudesmioides		2		Tree mallee (U)	Fruit
Melaleuca atroviridis		10		Shrub, cycad, grass-tree (M)	Fruit
Mirbelia ramulosa		1		Shrub, cycad, grass-tree (M)	Flower
Seringia hermanniifolia		1		Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR167	VT15 – (McMcAlAc)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	224077.806	6954062.529
Landform:	Limestone ridge	
Bare ground:	>70%	
Litter cover:	<2%	
Soil type:	Clay loam	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		2		Shrub, cycad, grass-tree (M)	Fruit
Asteraceae sp. (insufficient material)		1		Forb (G)	Vegetative
Comesperma volubile		1		Shrub, cycad, grass-tree (M)	Flower
Cryptandra multispina		1		Shrub, cycad, grass-tree (M)	Flower
Dianella revoluta var. *divaricata*		1		Forb (G)	Fruit
Euphorbia drummondii		1		Forb (G)	Fruit
Melaleuca campanae		1		Shrub, cycad, grass-tree (M)	Fruit
Melaleuca cardiophylla		10		Shrub, cycad, grass-tree (M)	Fruit
Melaleuca radula		1		Shrub, cycad, grass-tree (M)	Flower
Mirbelia ramulosa		1		Shrub, cycad, grass-tree (M)	Flower
Poaceae sp. (insufficient material)		1		Other grass (G)	Vegetative
Ptilotus obovatus		1		Shrub, cycad, grass-tree (M)	Flower
Vittadinia humerata		1		Shrub, cycad, grass-tree (M)	Vegetative

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Site ID:	MUR168	VT12 – (AcArAb)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	226875.4644	6968192.611
Landform:	Limestone ridge	
Bare ground:	2-10%	
Litter cover:	31-70%	
Soil type:	Clay loam	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		20		Shrub, cycad, grass-tree (M)	Fruit
Asteraceae sp. (insufficient material)		1		Forb (G)	Vegetative
Austrostipa sp. (insufficient material)		1		Other grass (G)	Vegetative
Desmocladus asper		1		Sedge (G)	Fruit
Ecdeiocolea monostachya		1		Sedge (G)	Fruit
Melaleuca cardiophylla		1		Shrub, cycad, grass-tree (M)	Fruit
Melaleuca venusta		10		Shrub, cycad, grass-tree (M)	Fruit
Roepera fruticulosa		1		Forb (G)	Dehisced fruit

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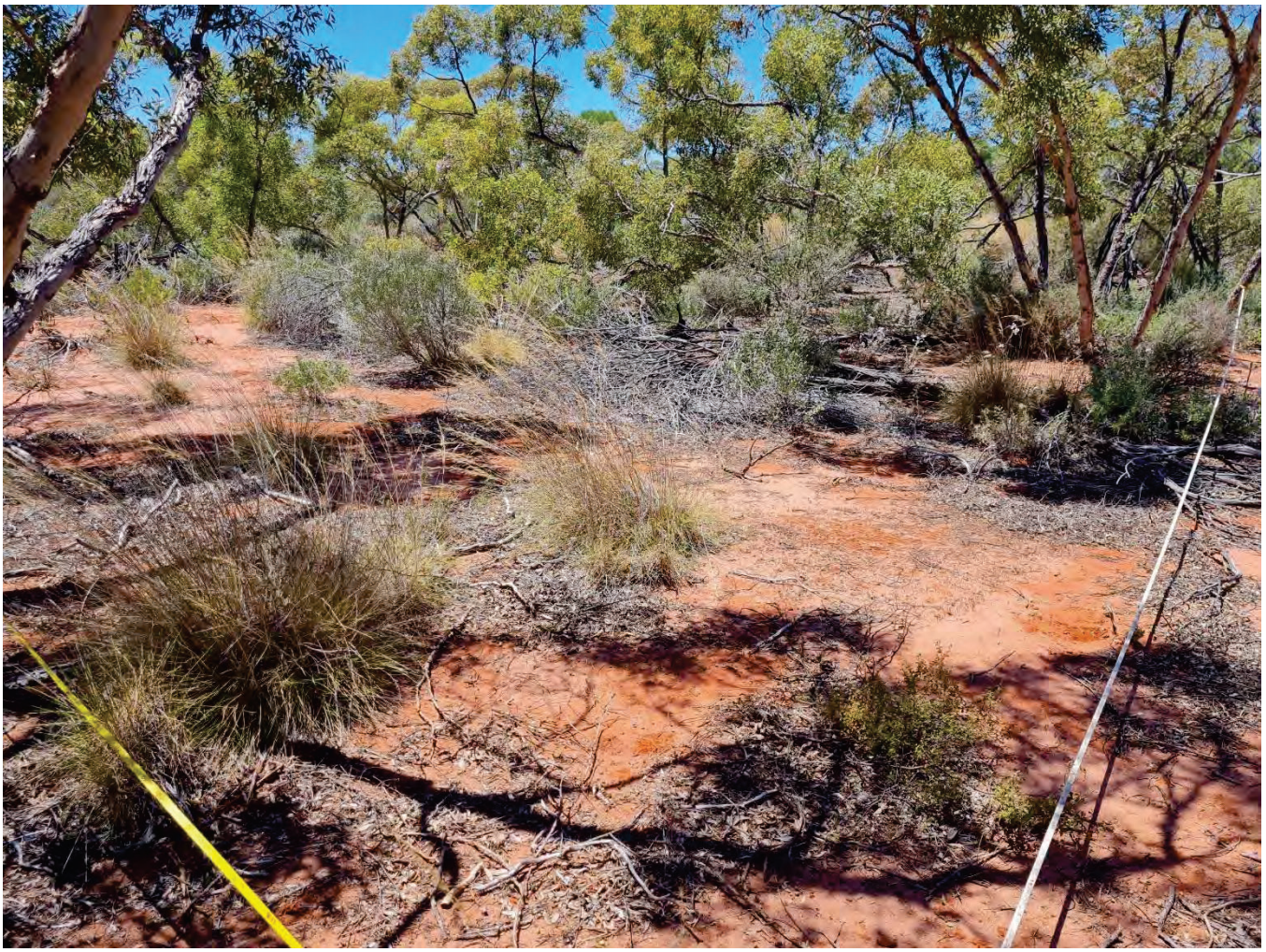


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Site ID:	MUR169	VT25 – (EeEp)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	230322.2277	6967231.591
Landform:	Mallee woodland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sandy clay loam	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Vegetative
Austrostipa elegantissima		1	0.5	Other grass (G)	Fruit
Calandrinia translucens		1	0.1	Forb (G)	Flower
Cephalipterum drummondii		1	0.1	Forb (G)	Flower
Corynotheca aff. *dichotoma*	Species of interest	1	0.75	Forb (G)	Vegetative
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Flower
Duperreya sericea		1	(	Forb (G)	Flower
Eucalyptus eudesmioides		5	5	Tree mallee (U)	Fruit
Lamarchea hakeifolia var. *brevifolia*		2	1.25	Shrub, cycad, grass-tree (M)	Flowerbud
Melaleuca leiopyxis		1	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		1	1.25	Shrub, cycad, grass-tree (M)	Flowerbud
Ptilotus obovatus		1	0.75	Shrub, cycad, grass-tree (M)	Flower
Roepera fruticulosa		1		Forb (G)	Dehisced fruit
Scaevola spinescens		1	1	Shrub, cycad, grass-tree (M)	Vegetative
Senna artemisioides subsp. *filifolia*		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Seringia hermanniifolia		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Triodia bromoides	P4	3	1.25	Hummock grass (G)	Fruit

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Site ID:	MUR170	VT25 – (EeEp)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	231236.6868	6966431.632
Landform:	Mallee woodland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sandy clay loam	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia acuminata		2		Shrub, cycad, grass-tree (M)	Vegetative
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		<1		Sedge (G)	Fruit
Austrostipa elegantissima		<1		Other grass (G)	Fruit
Calandrinia translucens		<1		Forb (G)	Flower
Cassytha aurea var. *aurea*		<1		Vine (G)	Fruit
Conostylis stylidioides		<1		Forb (G)	Flower
Crassula colorata var. *colorata*		<1		Forb (G)	Flower
Dianella revoluta var. *divaricata*		<1		Forb (G)	Fruit
Drosera glanduligera		<1	0.1	Forb (G)	Vegetative
Eucalyptus eudesmioides		5		Tree mallee (U)	Fruit
Lamarchea hakeifolia var. *brevifolia*		10		Shrub, cycad, grass-tree (M)	Flowerbud
Macarthuria intricata	P3	<1		Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca atroviridis		<1		Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		<1		Shrub, cycad, grass-tree (M)	Vegetative
Seringia hermanniifolia		<1		Shrub, cycad, grass-tree (M)	Vegetative
Stylobasium spathulatum		<1		Shrub, cycad, grass-tree (M)	Vegetative
Triodia bromoides	P4	<1		Hummock grass (G)	Fruit

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Site ID:	MUR171	VT25 – (EeEp)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	229711.0767	6963579.424
Landform:	Mallee woodland	
Bare ground:	>70%	
Litter cover:	2-10%	
Soil type:	Sandy clay loam	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia acuminata		4		Shrub, cycad, grass-tree (M)	Vegetative
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1		Sedge (G)	Fruit
Asteraceae sp. (insufficient material)		1		Forb (G)	Vegetative
Austrostipa elegantissima		1		Other grass (G)	Fruit
Austrostipa variabilis		1		Other grass (G)	Fruit
Cephalipterum drummondii		1		Forb (G)	Flower
Crassula colorata var. *colorata*		1		Forb (G)	Flower
Eucalyptus eudesmioides		2		Tree mallee (U)	Fruit
Lamarchea hakeifolia var. *brevifolia*		2		Shrub, cycad, grass-tree (M)	Flowerbud
Melaleuca atroviridis		1		Shrub, cycad, grass-tree (M)	Fruit
Mirbelia ramulosa		1		Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		1		Shrub, cycad, grass-tree (M)	Vegetative
Ptilotus obovatus		1		Shrub, cycad, grass-tree (M)	Flower
Ptilotus sp. (insufficient material)		1		Shrub, cycad, grass-tree (M)	Vegetative
Roepera fruticulosa		1		Forb (G)	Flower

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Site ID:	MUR172	VT21 – (AsMIBa)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	216073.4231	6956390.907
Landform:	Coastal heathland	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Poor	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia cavealis		2		Shrub, cycad, grass-tree (M)	Flower
Acacia spathulifolia		1		Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1		Sedge (G)	Vegetative
Allocasuarina humilis		1		Shrub, cycad, grass-tree (M)	Fruit
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	1		Shrub, cycad, grass-tree (M)	Flower
Calothamnus blepharospermus		1		Shrub, cycad, grass-tree (M)	Fruit
Calothamnus oldfieldii		1		Shrub, cycad, grass-tree (M)	Flower
Comesperma scoparium		1		Shrub, cycad, grass-tree (M)	Flower
Diploaena mollis		1		Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		10		Sedge (G)	Fruit
Eremaea ebracteata var. *ebracteata*	R.E	1		Shrub, cycad, grass-tree (M)	Vegetative
Grevillea sp. (insufficient material)		1		Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		1		Shrub, cycad, grass-tree (M)	Flower
Jacksonia hakeoides		1		Shrub, cycad, grass-tree (M)	Flower
Lechenaultia linarioides		1		Shrub, cycad, grass-tree (M)	Flower
Leptosema aphyllum		1		Shrub, cycad, grass-tree (M)	Vegetative
Melaleuca leiopyxis		4		Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		1		Sedge (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Mesomelaena pseudostygia		2		Sedge (G)	Fruit
Persoonia acicularis		1		Shrub, cycad, grass-tree (M)	Flower
Petrophile pilostyla subsp. *pilostyla*		1		Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		1		Shrub, cycad, grass-tree (M)	Flower
Pimelea gilgiana		1		Shrub, cycad, grass-tree (M)	Vegetative
Schoenus latitans		1		Sedge (G)	Vegetative
Stylidium repens		1		Forb (G)	Vegetative
Styphelia cordifolia		1		Shrub, cycad, grass-tree (M)	Immature fruit
Thysanotus sparteus		1		Forb (G)	Fruit
Triodia bromoides	P4	1		Hummock grass (G)	Fruit



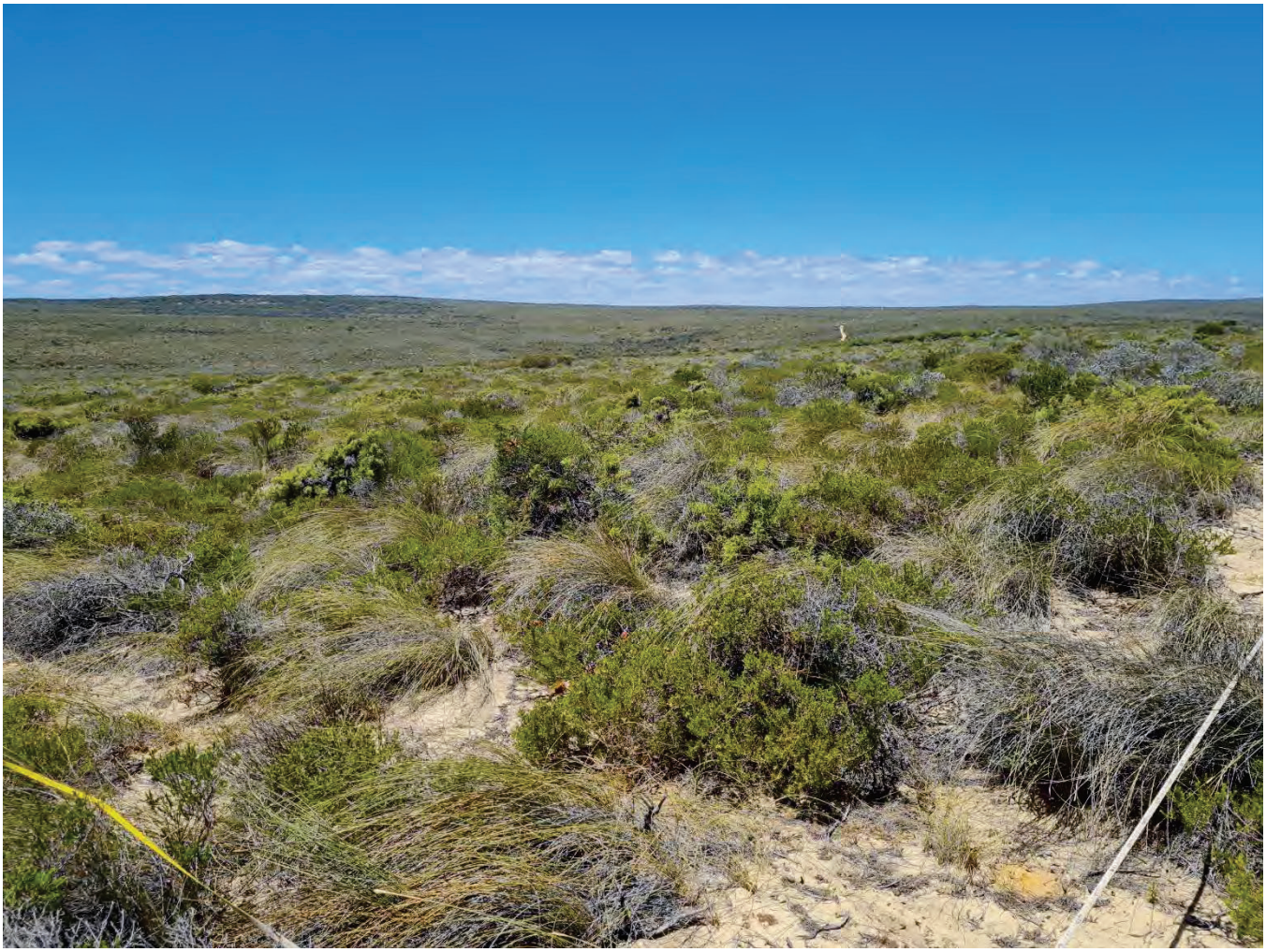
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Site ID:	MUR173	VT21 – (AsMlBa)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	215305.9535	6958251.357
Landform:	Coastal heathland	
Bare ground:	31-70%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia spathulifolia		1		Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1		Sedge (G)	Vegetative
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	1		Shrub, cycad, grass-tree (M)	Flower
Banksia fraseri var. *ashbyi*		4		Shrub, cycad, grass-tree (M)	Fruit
Boronia purdieana subsp. *calcicola*		1		Shrub, cycad, grass-tree (M)	Flower
Calothamnus oldfieldii		1		Shrub, cycad, grass-tree (M)	Flower
Calothamnus quadrifidus subsp. *obtusus*		1		Heath shrub (M)	Fruit
Cassytha aurea var. *aurea*		1		Vine (G)	Fruit
Comesperma scoparium		1		Shrub, cycad, grass-tree (M)	Flower
Desmocladus asper		1		Sedge (G)	Fruit
Ecdeiocolea monostachya		10		Sedge (G)	Fruit
Geleznowia verrucosa		1		Forb (G)	Vegetative
Hakea lissocarpha		1		Shrub, cycad, grass-tree (M)	Fruit
Hibbertia conspicua		1		Shrub, cycad, grass-tree (M)	Flower
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		1		Sedge (G)	Flower
Levenhookia sp. (insufficient material)		1		Forb (G)	Flower
Melaleuca leiopyxis		4		Shrub, cycad, grass-tree (M)	Flower
Melaleuca venusta		1		Shrub, cycad, grass-tree (M)	Fruit
Mesomelaena preissii		1		Sedge (G)	Fruit
Mesomelaena pseudostygia		1		Sedge (G)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Monotaxis bracteata		1		Forb (G)	Flower
Persoonia acicularis		1		Shrub, cycad, grass-tree (M)	Flower
Schoenus latitans		1		Sedge (G)	Vegetative
Stenanthemum notiale subsp. notiale		1		Shrub, cycad, grass-tree (M)	Vegetative
Stylidium repens		1		Forb (G)	Vegetative
Styphelia cordifolia		1		Shrub, cycad, grass-tree (M)	Immature fruit



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Site ID:	MUR175	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Lauren Taaffe
Co-ordinates (50K)	2153354.7848	3971000.325
Landform:	Mulga woodland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	5-10 years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		2		Shrub, cycad, grass-tree (M)	Flower
Acacia rostellifera		10		Shrub, cycad, grass-tree (M)	Flower
Austrostipa sp. (insufficient material)		1		Other grass (G)	Vegetative
Olearia sp. *Kennedy Range* (G. Byrne 66)		4		Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		1		Shrub, cycad, grass-tree (M)	Flower
Roepera fruticulosa		2		Forb (G)	Flower

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Site ID:	MUR181	VT22 – (BsArAbAc)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	217246.19	6951393.605
Landform:	Dunal	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia blakelyi		15	1.75	Shrub, cycad, grass-tree (M)	Fruit
Acacia rostellifera		15	2	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus humilis		1	0.25	Sedge (G)	Vegetative
Allocasuarina humilis		4	1.25	Shrub, cycad, grass-tree (M)	Flower
Banksia attenuata		20	1.25	Shrub, cycad, grass-tree (M)	Fruit
Conostylis stylidioides		1	0.25	Forb (G)	Fruit
Ecdeiocolea monostachya		45	0.75	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Shrub, cycad, grass-tree (M)	Vegetative
Grevillea sp. (insufficient material)		5	2	Shrub, cycad, grass-tree (M)	Vegetative
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Leptosema tomentosum		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Levenhookia ? stipitata		1	0.1	Forb (G)	Flower
Macarthuria intricata	P3	1		Shrub, cycad, grass-tree (M)	Flower
Malleostemon microphyllus	P2, R.E	1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		5	1	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena pseudostygia		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Pimelea microcephala subsp. *microcephala*		1	0.25	Shrub, cycad, grass-tree (M)	Dehisced fruit
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Triodia bromoides	P4	5	0.75	Hummock grass (G)	Fruit



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Site ID:	MUR182	VT12 – (AcArAb)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	219834.3795	6954687.147
Landform:	Shallow depression flat between limestone hills	
Bare ground:	<2%	
Litter cover:	11-30%	
Soil type:	Clay loam	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus parviflorus	P3	1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Vegetative
Desmocladus asper		1	0.25	Sedge (G)	Vegetative
Ecdeiocolea monostachya		4	0.75	Sedge (G)	Fruit
Eucalyptus eudesmioides		30	4	Tree (U)	Fruit
Hibbertia conspicua		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Lamarchea hakeifolia var. *brevifolia*		35	1.5	Shrub, cycad, grass-tree (M)	Flower
Lysimachia arvensis	*	1	0.1	Forb (G)	Fruit
Melaleuca leiopyxis		1	1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca venusta		35	1.25	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		5	1	Shrub, cycad, grass-tree (M)	Dehisced fruit
Ptilotus serico		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Scholtzia oligandra	R.E	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Wahlenbergia preissii		1	0.1	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR183	VT12 – (AcArAb)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	220463.6398	6954541.415
Landform:	Flat *Allocasuarina* tall scrub	
Bare ground:	<2%	
Litter cover:	31-70%	
Soil type:	Clay loam	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		80	2.25	Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		1	0.75	Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		5	1.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca venusta		40	1.25	Shrub, cycad, grass-tree (M)	Fruit

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Site ID:	MUR184	VT12 – (AcArAb)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	221371.7157	6951365.701
Landform:	Red clay flat with limestone fragments and *Allocasuarina* scrub	
Bare ground:	2-10%	
Litter cover:	11-30%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		70	2.5	Shrub, cycad, grass-tree (M)	Vegetative
Blennospora drummondii		1	0.1	Forb (G)	Flower
Cassytha flava		1	0.1	Vine (G)	Fruit
Cryptandra arbutiflora var. *borealis*		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Desmocladus asper		1	0.25	Sedge (G)	Vegetative
Grevillea stenomera	P2	3	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Lamarchea hakeifolia var. *brevifolia*		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Lepidosperma tenue	R.E	<1		Sedge (G)	Fruit
Melaleuca leiopyxis		5	1.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca venusta		10	1	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Scholtzia umbellifera		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Wahlenbergia preissii		1	0.1	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR185	VT29 – (ElMeAl)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	227401.8064	6959991.072
Landform:	York gum woodland	
Bare ground:	31-70%	
Litter cover:	11-30%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia lineolata subsp. *lineolata*	R.E	10	1.5	Shrub, cycad, grass-tree (M)	Fruit
Eucalyptus loxophleba subsp. *supralaevis*		35	6	Tree (U)	Fruit
Ptilotus obovatus		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Roepera apiculata		1	0.25	Forb (G)	Flower
Sclerolaena diacantha		10	0.25	Chenopod shrub (M)	Fruit
Vulpia sp. (insufficient material)	*	1	0.25	Tussock grass (G)	Vegetative

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Site ID:	MUR186	VT29 – (ElMeAl)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	225745.1271	6958494.909
Landform:	Clay flat between limestone low hills	
Bare ground:	31-70%	
Litter cover:	31-70%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia lineolata subsp. *lineolata*	R.E	10	3.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca eleuterostachya		80	3.75	Shrub, cycad, grass-tree (M)	Fruit
Waitzia acuminata var. *acuminata*		2	0.25	Forb (G)	Flower

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Site ID:	MUR187	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	227855.4167	6967770.653
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Conospermum microflorum		5	1.5	Shrub, cycad, grass-tree (M)	Flower
Conostylis stylidioides		1	0.25	Forb (G)	Fruit
Ecdeiocolea monostachya		10	0.5	Sedge (G)	Fruit
Hibbertia conspicua		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		3	0.25	Shrub, cycad, grass-tree (M)	Fruit
Malleostemon hursthousei		35	1.5	Shrub, cycad, grass-tree (M)	Flower
Melaleuca filifolia		5	0.75	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca psammophila		2	1.25	Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		3	0.75	Shrub, cycad, grass-tree (M)	Flower
Scholtzia umbellifera		35	1.25	Shrub, cycad, grass-tree (M)	Flower
Thryptomene denticulata		15	1	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR188	VT15 – (McMcAlAc)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	228912.5987	6967359.448
Landform:	*Melaleuca uncinata* hard clay flats	
Bare ground:	31-70%	
Litter cover:	31-70%	
Soil type:	Clay loam	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus parviflorus	P3	1	0.25	Sedge (G)	Fruit
Allocasuarina campestris		2	2.75	Shrub, cycad, grass-tree (M)	Vegetative
Austrostipa elegantissima		2	0.5	Tussock grass (G)	Fruit
Calandrinia sp. (insufficient material)		1	0.1	Forb (G)	Flower
Centrolepis drummondiana		1	0.1	Forb (G)	Fruit
Ecdeiocolea monostachya		1	0.5	Sedge (G)	Fruit
Melaleuca uncinata		80	2.75	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR189	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	232225.4294	6965062.258
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sandy loam	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia longispinea		<1		Shrub, cycad, grass-tree (M)	Flower
Callitris arenaria		15	2.5	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		2	1	Shrub, cycad, grass-tree (M)	Flower
Conospermum microflorum		1	1.25	Shrub, cycad, grass-tree (M)	Flower
Cryptandra multispina		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Cyanothamnus coerulescens subsp. *spicatus*		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		30	1	Sedge (G)	Fruit
Lepidobolus preissianus subsp. *preissianus*		3	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lobelia heterophylla subsp. *heterophylla*		1	0.1	Forb (G)	Flower
Malleostemon hursthousei		35	1.25	Shrub, cycad, grass-tree (M)	Flower
Melaleuca filifolia		2	0.75	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca psammophila		5	1.25	Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		2	1.25	Shrub, cycad, grass-tree (M)	Flower
Scholtzia umbellifera		5	1	Shrub, cycad, grass-tree (M)	Vegetative
Stylidium repens		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Styphelia cordifolia		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Thryptomene denticulata		10	1.25	Shrub, cycad, grass-tree (M)	Flower
Waitzia acuminata var. *albicans*		1	0.1	Forb (G)	Flower

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Site ID:	MUR190	VT28 – (ElAcAt)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	226142.0534	6963282.706
Landform:	York gum woodland	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		<1	4	Shrub, cycad, grass-tree (M)	Flower
Austrostipa scabra		10	0.25	Other grass (G)	Fruit
Bromus rubens	*	1	0.25	Other grass (G)	Fruit
Centaurea melitensis	*	35	0.25	Forb (G)	Fruit
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Vegetative
Eucalyptus loxophleba subsp. *supralaevis*		20	5	Tree (U)	Fruit
Lysimachia arvensis	*	2	0.1	Forb (G)	Fruit
Melaleuca cardiophylla		35	1.5	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		1	0.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Ptilotus obovatus		35	0.5	Shrub, cycad, grass-tree (M)	Flower
Rhagodia latifolia subsp. *latifolia*		1	0.5	Chenopod shrub (M)	Vegetative
Rostraria cristata	*	1	0.1	Other grass (G)	Fruit
Rytidosperma sp. (insufficient material)		1	0.25	Other grass (G)	Fruit
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Vittadinia humerata		<1		Shrub, cycad, grass-tree (M)	Flower

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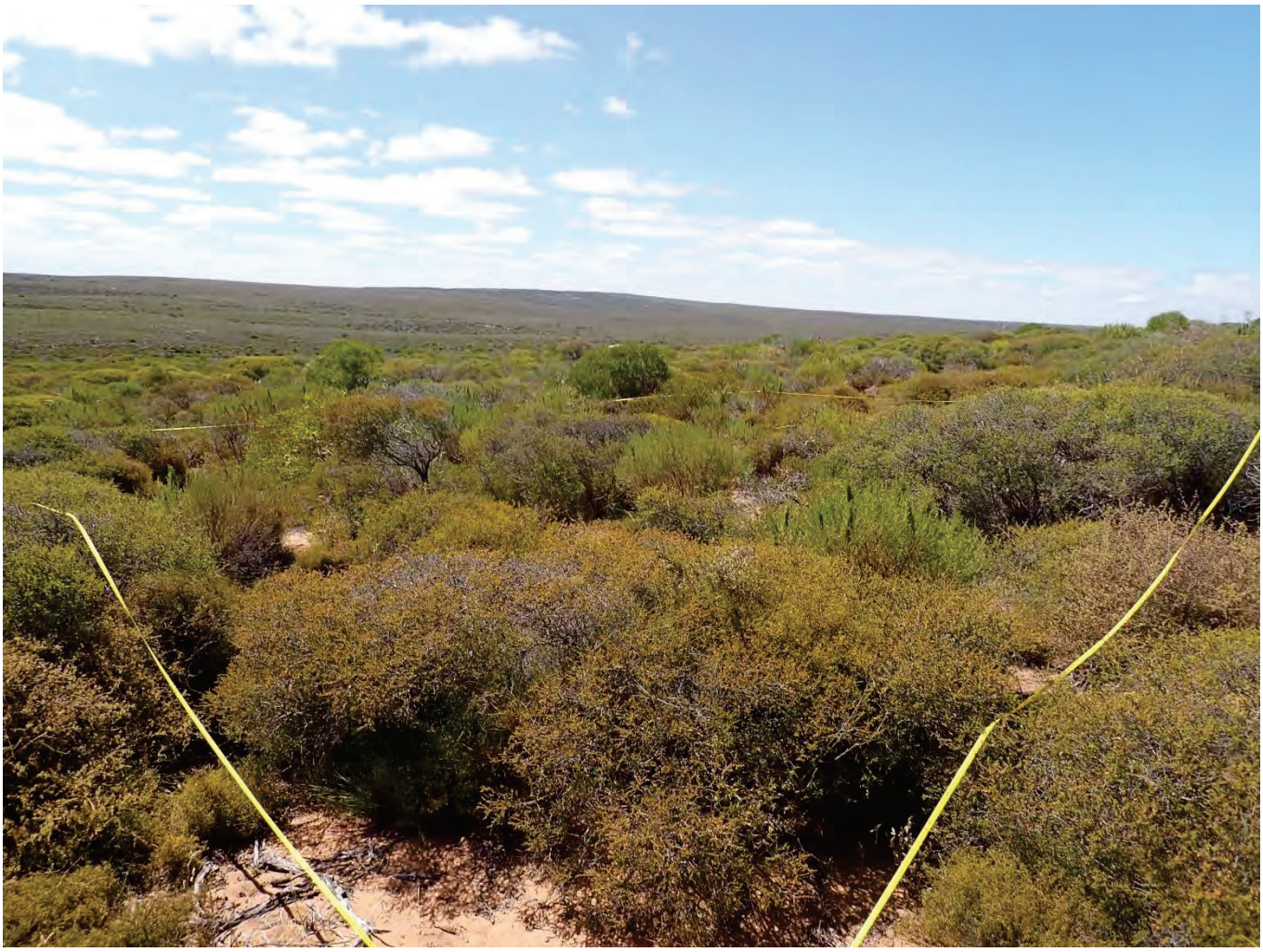


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Site ID:	MUR191	VT02 – (ArMcMlOk)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	214950.0761	6959062.255
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		5	1	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Cassytha flava		1	0.1	Vine (G)	Fruit
Desmocladus asper		7	0.25	Sedge (G)	Vegetative
Diploaena mollis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Exocarpos aphyllus		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Lepidosperma sp. *Zuytdorp* (G.J. Keighery & N. Gibson 1710)		1	0.25	Sedge (G)	Flower
Lomandra maritima		3	0.25	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca cardiophylla		45	1	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		10	1	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		20	1	Shrub, cycad, grass-tree (M)	Vegetative
Rhagodia latifolia subsp. *latifolia*		2	0.75	Chenopod shrub (M)	Vegetative
Roepera apiculata		1	0.1	Forb (G)	Flower
Scholtzia oligandra	R.E	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Solanum orbiculatum subsp. *orbiculatum*		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Waitzia podolepis		1	0.1	Forb (G)	Flower

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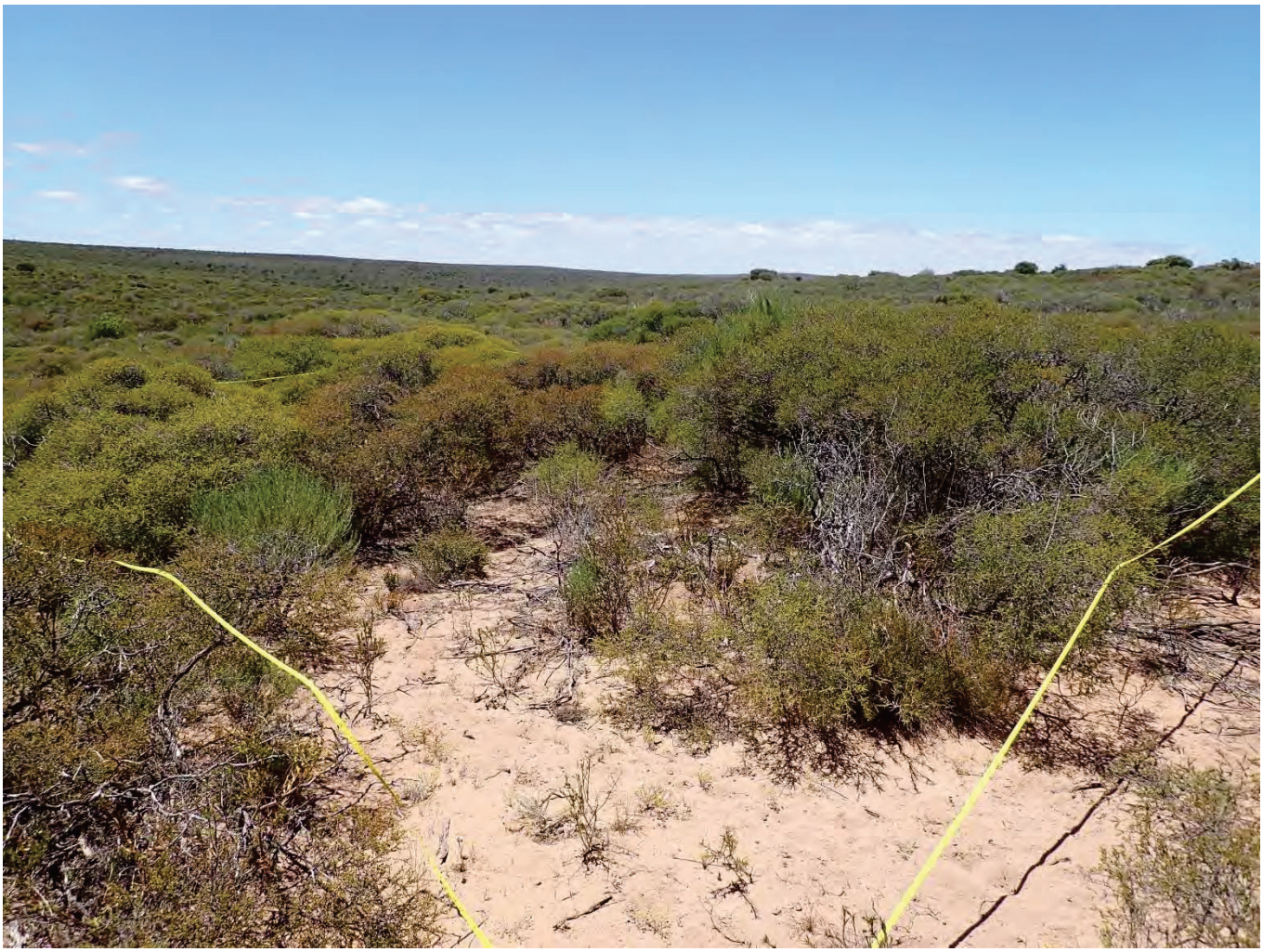


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Site ID:	MUR192	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	213230.7769	6963138.695
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		3	0.25	Sedge (G)	Fruit
Angianthus milnei	R.E	1	0.1	Forb (G)	Flower
Austrostipa elegantissima		1	0.5	Tussock grass (G)	Fruit
Brachyscome iberidifolia		1	0.1	Forb (G)	Flower
Brassica tournefortii	*	1	0.25	Forb (G)	Dehisced fruit
Crassula colorata var. *colorata*		1	0.1	Forb (G)	Vegetative
Desmocladus asper		2	0.25	Sedge (G)	Fruit
Eremophea aggregata		1	0.25	Chenopod shrub (M)	Vegetative
Goodenia berardiana		1	0.25	Forb (G)	Flower
Lomandra maritima		1	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lysiandra calycina		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Lysiandra scabra		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca cardiophylla		60	1.5	Shrub, cycad, grass-tree (M)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		4	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Podotheca angustifolia		1	0.1	Forb (G)	Flower
Ptilotus divaricatus		<1	0.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus eremita		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit
Rytidosperma setaceum		1	0.5	Other grass (G)	Fruit
Scholtzia oligandra	R.E	1	0.5	Shrub, cycad, grass-tree (M)	Flower
Waitzia podolepis		1	0.1	Forb (G)	Flower

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Site ID:	MUR193	VT05 – (AbMcEa)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	210616.9694	6968361.539
Landform:	Dunal	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		3	0.25	Sedge (G)	Fruit
Angianthus milnei	R.E	1	0.1	Forb (G)	Flower
Austrostipa nodosa		1	0.5	Other grass (G)	Fruit
Comesperma scoparium		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Desmocladus asper		3	0.25	Sedge (G)	Vegetative
Lomandra maritima		5	0.25	Shrub, cycad, grass-tree (M)	Fruit
Lysiandra calycina		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Lysiandra scabra		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca cardiophylla		70	1.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Opercularia spermacocea		1	0.25	Forb (G)	Fruit
Ptilotus divaricatus		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Rhagodia latifolia subsp. *latifolia*		1	0.5	Chenopod shrub (M)	Vegetative
Rytidosperma setaceum		1	0.5	Other grass (G)	Fruit
Scholtzia oligandra	R.E	1	0.5	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR194	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	215943.3755	6968222.634
Landform:	Dunal	
Bare ground:	31-70%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	3-5 years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		30	5	Shrub, cycad, grass-tree (M)	Flower
Aristida contorta		1	0.25	Tussock grass (G)	Flower
Austrostipa elegantissima		1	0.5	Tussock grass (G)	Fruit
Avena barbata	*	2	0.5	Other grass (G)	Immature fruit
Calocephalus francisii		1	0.1	Forb (G)	Flower
Dendrophyllanthus erwinii		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Ehrharta longiflora	*	1	0.25	Other grass (G)	Dehisced fruit
Gnephosis brevifolia		1	0.1	Forb (G)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		10	1.25	Shrub, cycad, grass-tree (M)	Vegetative
Pentameris airoides subsp. *airoides*	*	1	0.25	Other grass (G)	Fruit
Pimelea microcephala subsp. *microcephala*		20	1.25	Shrub, cycad, grass-tree (M)	Flower
Ptilotus grandiflorus		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Trachymene pilosa		1	0.1	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR195	VT07 – (ArReSc)
Type:	Quadrat	Size: 10m x 10m
Date:	26/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	216615.0899	6945553.728
Landform:	Dunal	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		15	1	Shrub, cycad, grass-tree (M)	Flower
Brassica tournefortii	*	1	0.25	Forb (G)	Dehisced fruit
Carpobrotus sp. *Thevenard Island* (M. White 050)	P3	2	0.1	Chenopod shrub (M)	Flower
Ehrharta longiflora	*	2	0.25	Other grass (G)	Dehisced fruit
Euphorbia drummondii		1	0.1	Forb (G)	Fruit
Frankenia pauciflora		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Lysimachia arvensis	*	1	0.1	Forb (G)	Fruit
Ptilotus exiliflorus	R.E	2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Reichardia tingitana		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Rhagodia eremaea		4	1	Chenopod shrub (M)	Fruit
Roepera apiculata		1	0.25	Forb (G)	Flower
Sonchus oleraceus	*	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Spinifex longifolius		35	0.5	Shrub, cycad, grass-tree (M)	Flower
Stylobasium spathulatum		2	0.75	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Urospermum picroides	*	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Westringia dampieri		<1		Shrub	Flower

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Site ID:	MUR196	VT07 – (ArReSc)
Type:	Quadrat	Size: 10m x 10m
Date:	26/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	216537.1708	6945694.913
Landform:	Dunal	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus verticillatus		5	0.25	Sedge (G)	Vegetative
Bromus rubens	*	1	0.25	Other grass (G)	Fruit
Carpobrotus sp. *Thevenard Island* (M. White 050)	P3	1	0.1	Chenopod shrub (M)	Flower
Ehrharta longiflora	*	1	0.25	Other grass (G)	Dehisced fruit
Euphorbia drummondii		1	0.1	Forb (G)	Fruit
Frankenia pauciflora		10	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Lomandra maritima		10	0.25	Shrub, cycad, grass-tree (M)	Fruit
Pimelea gilgiana		1	0.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Ptilotus exiliflorus	R.E	1	0.1	Shrub, cycad, grass-tree (M)	Fruit
Rhagodia eremaea		1	0.5	Chenopod shrub (M)	Fruit
Rostraria pumila	*	1	0.1	Other grass (G)	Fruit
Scaevola crassifolia		40	0.5	Shrub, cycad, grass-tree (M)	Flower
Sonchus oleraceus	*	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Threlkeldia diffusa		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Waitzia podolepis		1	0.1	Forb (G)	Flower

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Site ID:	MUR197	VT31 – (AvEdPa)
Type:	Quadrat	Size: 10m x 10m
Date:	26/11/2022	Described by: Alex Sleep
Co-ordinates (50K)	216707.7372	6966738.892
Landform:	Claypan	
Bare ground:	<2%	
Litter cover:	<2%	
Soil type:	Sandy clay loam	
Fire age:	10+ years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Angianthus milnei	R.E	30	0.1	Forb (G)	Flower
Austrostipa variabilis		60	0.25	Other grass (G)	Fruit
Bromus rubens	*	1	0.25	Other grass (G)	Fruit
Calandrinia baccata		1	0.1	Forb (G)	Flower
Crassula colorata var. *colorata*		2	0.1	Forb (G)	Vegetative
Eragrostis dielsii		10	0.1	Other grass (G)	Fruit
Hordeum leporinum	*	1	0.25	Other grass (G)	Flower
Hypochaeris glabra	*	1	0.1	Forb (G)	Dehisced fruit
Pentameris airoides subsp. *airoides*	*	5	0.1	Shrub, cycad, grass-tree (M)	Flower
Petrorhagia dubia	*	1	0.25	Forb (G)	Fruit
Trifolium arvense	*	30	0.1	Forb (G)	Flower

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Site ID:	MUR201	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	217375.1919	6948354.194
Landform:	Limestone ridge	
Bare ground:	<2%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Degraded	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Diplolaena grandiflora		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Lysimachia arvensis	*	<1		Forb (G)	Fruit
Maireana sp. (insufficient material)		1	0.25	Chenopod shrub (M)	Flower
Melaleuca cardiophylla		20	3	Shrub, cycad, grass-tree (M)	Fruit
Pimelea microcephala subsp. *microcephala*		5	1	Shrub, cycad, grass-tree (M)	Dehisced fruit
Rhagodia latifolia subsp. *latifolia*		5	1	Chenopod shrub (M)	Vegetative
Roepera apiculata		2	0.5	Forb (G)	Fruit
Urospermum picroides	*	1	0.25	Forb (G)	Fruit

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Site ID:	MUR202	VT21 – (AsMlBa)
Type:	Quadrat	Size: 10m x 10m
Date:	22/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	216920.8014	6951282.365
Landform:	Coastal heathland	
Bare ground:	2-10%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia spathulifolia		10	1.5	Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		2	0.1	Sedge (G)	Fruit
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	10	0.75	Shrub, cycad, grass-tree (M)	Vegetative
Calothamnus blepharospermus		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Calothamnus oldfieldii		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus quadrifidus subsp. *obtusus*		1	0.5	Heath shrub (M)	Fruit
Calytrix brevifolia		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.1	Vine (G)	Fruit
Conospermum microflorum		1	0.5	Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		20	1.5	Sedge (G)	Fruit
Eremaea ebracteata var. *ebracteata*	R.E	2	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Glischrocargon aureum		10	0.25	Forb (G)	Vegetative
Jacksonia hakeoides		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Malleostemon microphyllus	P2, R.E	1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		5	1.5	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		5	0.25	Sedge (G)	Fruit
Persoonia acicularis		2	0.25	Shrub, cycad, grass-tree (M)	Flower
Phymatocarpus porphyrocephalus		2	1	Shrub, cycad, grass-tree (M)	Flower
Seringia hermanniifolia		2	0.25	Shrub, cycad, grass-tree (M)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Stenanthemum divaricatum	P3	1	0.25	Shrub, cycad, grass-tree (M)	Vegetative



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Site ID:	MUR203	VT15 – (McMcAlAc)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	223006.4997	6948134.952
Landform:	Hardpan mallee on clay	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Clay	
Fire age:	Recent (<2 years)	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia lineolata subsp. *lineolata*	R.E	50	1.75	Shrub, cycad, grass-tree (M)	Fruit
Allocasuarina campestris		5	1.5	Shrub, cycad, grass-tree (M)	Fruit
Eucalyptus gittinsii subsp. *gittinsii*		20	5	Tree (U)	Fruit
Melaleuca cardiophylla		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca concreta		5	1.75	Shrub, cycad, grass-tree (M)	Vegetative

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Site ID:	MUR204	VT15 – (McMcAlAc)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	222515.2999	6951079.635
Landform:	Hardpan	
Bare ground:	2-10%	
Litter cover:	11-30%	
Soil type:	Clay	
Fire age:	Recent (<2 years)	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus parviflorus	P3	5	0.25	Sedge (G)	Fruit
Allocasuarina campestris		2	1.75	Shrub, cycad, grass-tree (M)	Fruit
Ecdeiocolea monostachya		1	0.25	Sedge (G)	Fruit
Eucalyptus gittinsii subsp. *gittinsii*		15	5	Tree (U)	Fruit
Lamarchea hakeifolia var. *brevifolia*		10	1.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca campanae		5	1.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca concreta		20	1.75	Shrub, cycad, grass-tree (M)	Vegetative

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Site ID:	MUR205	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	223323.7012	6957002.099
Landform:	Limestone ridge	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Skeletal	
Fire age:	10+ years	
Vegetation condition:	Degraded	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Austrostipa crinita		5	0.5	Other grass (G)	Fruit
Austrostipa elegantissima		2	0.25	Tussock grass (G)	Fruit
Avena barbata	*	10	1	Shrub, cycad, grass-tree (M)	Immature fruit
Centaurea melitensis	*	2	0.1	Forb (G)	Fruit
Daucus glochidiatus		1	0.1	Forb (G)	Dehisced fruit
Ehrharta longiflora	*	2	0.25	Other grass (G)	Dehisced fruit
Lasiopetalum angustifolium		<1		Shrub, cycad, grass-tree (M)	Fruit
Lysimachia arvensis	*	10	0.1	Forb (G)	Fruit
Medicago polymorpha	*	5	0.1	Forb (G)	Flower
Melaleuca campanae		1	1	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca cardiophylla		20	1.5	Shrub, cycad, grass-tree (M)	Fruit
Pimelea microcephala subsp. *microcephala*		2	1	Shrub, cycad, grass-tree (M)	Dehisced fruit
Roepera apiculata		1	1	Forb (G)	Fruit
Rytidosperma sp. (insufficient material)		2	0.25	Other grass (G)	Fruit
Sonchus oleraceus	*	5	0.1	Shrub, cycad, grass-tree (M)	Flower
Vittadinia humerata		1	0.1	Shrub, cycad, grass-tree (M)	Flower
Vulpia myuros	*	5	0.1	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR206	VT28 – (ElAcAt)
Type:	Quadrat	Size: 10m x 10m
Date:	23/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	2239946.6874	6954977.546
Landform:	York gum woodland	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Clay	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia acuminata		10	2	Shrub, cycad, grass-tree (M)	Fruit
Austrostipa crinita		2	0.25	Other grass (G)	Fruit
Austrostipa elegantissima		2	0.25	Tussock grass (G)	Fruit
Centaurea melitensis	*	2	0.25	Forb (G)	Fruit
Eucalyptus loxophleba subsp. *supralaevis*		30	15	Tree (U)	Fruit
Euphorbia drummondii		1	0.1	Forb (G)	Fruit
Lysimachia arvensis	*	1	0.1	Forb (G)	Fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		1	0.25	Shrub, cycad, grass-tree (M)	Vegetative
Ptilotus obovatus		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Rhagodia latifolia subsp. *latifolia*		2	1	Chenopod shrub (M)	Vegetative
Roepera apiculata		2	0.25	Forb (G)	Fruit
Rytidosperma setaceum		2	0.5	Other grass (G)	Fruit

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Site ID:	MUR207	VT12 – (AcArAb)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	227125.8864	6968037.606
Landform:	Sand plain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	Recent (<2 years)	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia leptospermoides ? subsp. *leptospermoides*		10	1.5	Shrub, cycad, grass-tree (M)	Flower
Acacia rostellifera		5	2	Shrub, cycad, grass-tree (M)	Vegetative
Acacia spathulifolia		1	1.5	Shrub, cycad, grass-tree (M)	Fruit
Allocasuarina campestris		10	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Eucalyptus eudesmioides		5	4	Tree mallee (U)	Fruit
Grevillea candelabroides		2	1.75	Shrub, cycad, grass-tree (M)	Flower
Grevillea stenomera	P2	5	1.5	Shrub, cycad, grass-tree (M)	Vegetative
Hakea stenophylla subsp. *notialis*		2	2	Shrub, cycad, grass-tree (M)	Fruit
Lobelia heterophylla subsp. *heterophylla*		1	0.1	Forb (G)	Flower
Melaleuca cardiophylla		2	1.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca leiopyxis		2	1.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca venusta		5	1.5	Shrub, cycad, grass-tree (M)	Fruit
Thryptomene denticulata		20	1.5	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR208	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	229637.8648	6967222.218
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia stereophylla var. *cylindrata*	P2, R.E	1	0.25	Shrub, cycad, grass-tree (M)	Flower
Allocasuarina campestris		20	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Calytrix brevifolia		5	0.5	Shrub, cycad, grass-tree (M)	Flower
Calytrix sp. (insufficent material)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Conospermum microflorum		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Cyanothamnus coerulescens subsp. *spicatus*		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		20	1.5	Sedge (G)	Fruit
Gnephosis tenuissima		1	0.1	Forb (G)	Flower
Hibbertia conspicua		5	0.75	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		5	0.25	Sedge (G)	Flower
Malleostemon hursthousei		20	1	Shrub, cycad, grass-tree (M)	Flower
Melaleuca filifolia		1	1	Shrub, cycad, grass-tree (M)	Fruit
Mesomelaena preissii		2	0.5	Sedge (G)	Fruit
Monotaxis bracteata		1	0.1	Forb (G)	Flower
Patersonia graminea		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Petrophile semifurcata		5	1	Shrub, cycad, grass-tree (M)	Fruit
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative

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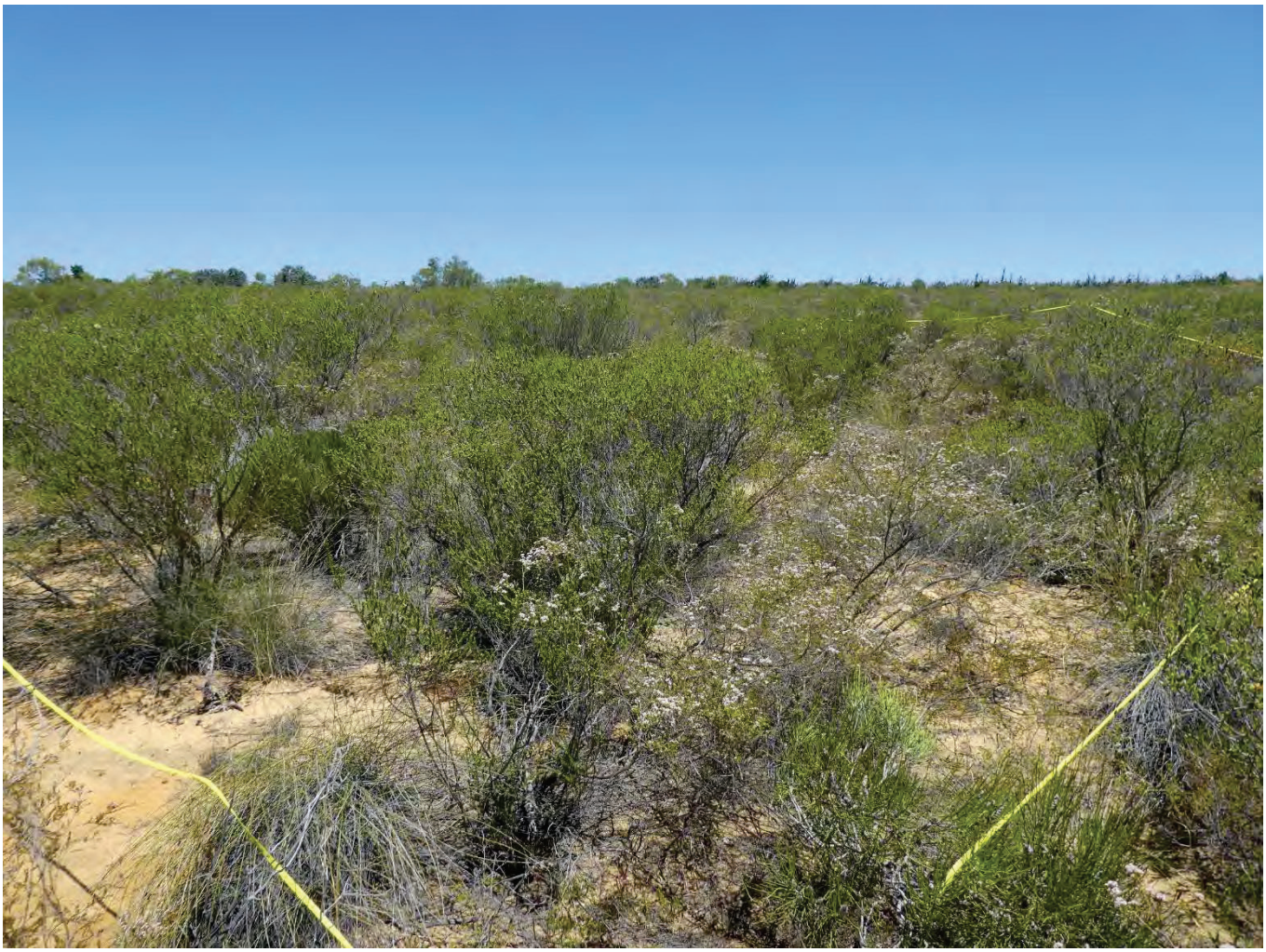


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Site ID:	MUR209	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	232075.7236	6964562.787
Landform:	Sand plain	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		<1		Sedge (G)	Fruit
Calytrix sp. (insufficient material)		<1		Shrub, cycad, grass-tree (M)	Vegetative
Conospermum microflorum		2		Shrub, cycad, grass-tree (M)	Flower
Conostylis stylidioides		<1		Forb (G)	Flower
Cyanothamnus coerulescens subsp. *spicatus*		<1		Shrub, cycad, grass-tree (M)	Flower
Ecdeiocolea monostachya		20	1.5	Sedge (G)	Fruit
Lepidobolus preissianus subsp. *preissianus*		5	0.25	Sedge (G)	Flower
Melaleuca psammophila		<1		Shrub, cycad, grass-tree (M)	Flower
Petrophile semifurcata		<1		Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		30	1.75	Shrub, cycad, grass-tree (M)	Flower
Scholtzia umbellifera		10	1.5	Shrub, cycad, grass-tree (M)	Flower
Thryptomene denticulata		<1		Shrub, cycad, grass-tree (M)	Flower
Tricoryne elatior		<1		Forb (G)	Flower
Triodia danthonioides		<1		Hummock grass (G)	Fruit

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Site ID:	MUR210	VT18 – (BsAcCaGe)
Type:	Quadrat	Size: 10m x 10m
Date:	24/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	231014.9355	6963654.631
Landform:	Sandplain	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Allocasuarina campestris		20	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Callitris arenaria		5	2	Shrub, cycad, grass-tree (M)	Fruit
Calytrix brevifolia		5	1.5	Shrub, cycad, grass-tree (M)	Flower
Calytrix sp. (insufficient material)		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Calytrix strigosa		2	1.5	Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1	0.1	Vine (G)	Fruit
Ecdeiocolea monostachya		15	1	Sedge (G)	Fruit
Lepidobolus preissianus subsp. *preissianus*		10	0.25	Sedge (G)	Flower
Melaleuca cardiophylla		1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Melaleuca filifolia		2	0.5	Shrub, cycad, grass-tree (M)	Fruit
Petrophile semifurcata		5	0.5	Shrub, cycad, grass-tree (M)	Fruit
Schoenus clandestinus		1	0.1	Sedge (G)	Vegetative
Scholtzia umbellifera		20	1.5	Shrub, cycad, grass-tree (M)	Flower
Thryptomene denticulata		5	0.5	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR211	VT21 – (AsMIBa)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	216186.8646	6956128.828
Landform:	Coastal heathland	
Bare ground:	2-10%	
Litter cover:	2-10%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia cavealis		7		Shrub, cycad, grass-tree (M)	Flower
Acacia spathulifolia		10		Shrub, cycad, grass-tree (M)	Fruit
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		2		Sedge (G)	Fruit
Austrostipa sp. (insufficient material)		1		Other grass (G)	Vegetative
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	15		Shrub, cycad, grass-tree (M)	Vegetative
Banksia attenuata		2		Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		2		Shrub, cycad, grass-tree (M)	Flower
Cassytha aurea var. *aurea*		1		Vine (G)	Fruit
Comesperma scoparium		2		Shrub, cycad, grass-tree (M)	Flower
Cryptandra multispina		1		Shrub, cycad, grass-tree (M)	Flower
Cyanothamnus coerulescens subsp. *spicatus*		1		Shrub, cycad, grass-tree (M)	Flower
Daviesia hakeoides subsp. *hakeoides*		1		Shrub, cycad, grass-tree (M)	Vegetative
Desmocladus asper		1		Sedge (G)	Vegetative
Ecdeiocolea monostachya		5		Sedge (G)	Fruit
Eremaea ebracteata var. *ebracteata*	R.E	2		Shrub, cycad, grass-tree (M)	Vegetative
Grevillea annulifera		6		Shrub, cycad, grass-tree (M)	Flower
Hibbertia conspicua		10		Shrub, cycad, grass-tree (M)	Flower
Jacksonia hakeoides		2		Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		5		Sedge (G)	Flower

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Leptosema tomentosum		1		Shrub, cycad, grass-tree (M)	Vegetative
Macarthuria intricata	P3	1		Shrub, cycad, grass-tree (M)	Flower
Melaleuca leiopyxis		5		Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		10		Sedge (G)	Fruit
Monotaxis bracteata		1		Forb (G)	Flower
Persoonia acicularis		2		Shrub, cycad, grass-tree (M)	Flower
Petrophile pilostyla subsp. *pilostyla*		2		Shrub, cycad, grass-tree (M)	Fruit
Petrophile semifurcata		5		Shrub, cycad, grass-tree (M)	Fruit
Phymatocarpus porphyrocephalus		5		Shrub, cycad, grass-tree (M)	Flower
Scaevola sp.? *Golden hairs* (D. & B. Bellairs 1450 A)	P1	1		Shrub, cycad, grass-tree (M)	Flower
Styphelia cordifolia		1		Shrub, cycad, grass-tree (M)	Fruit
Thysanotus sparteus		1		Forb (G)	Fruit

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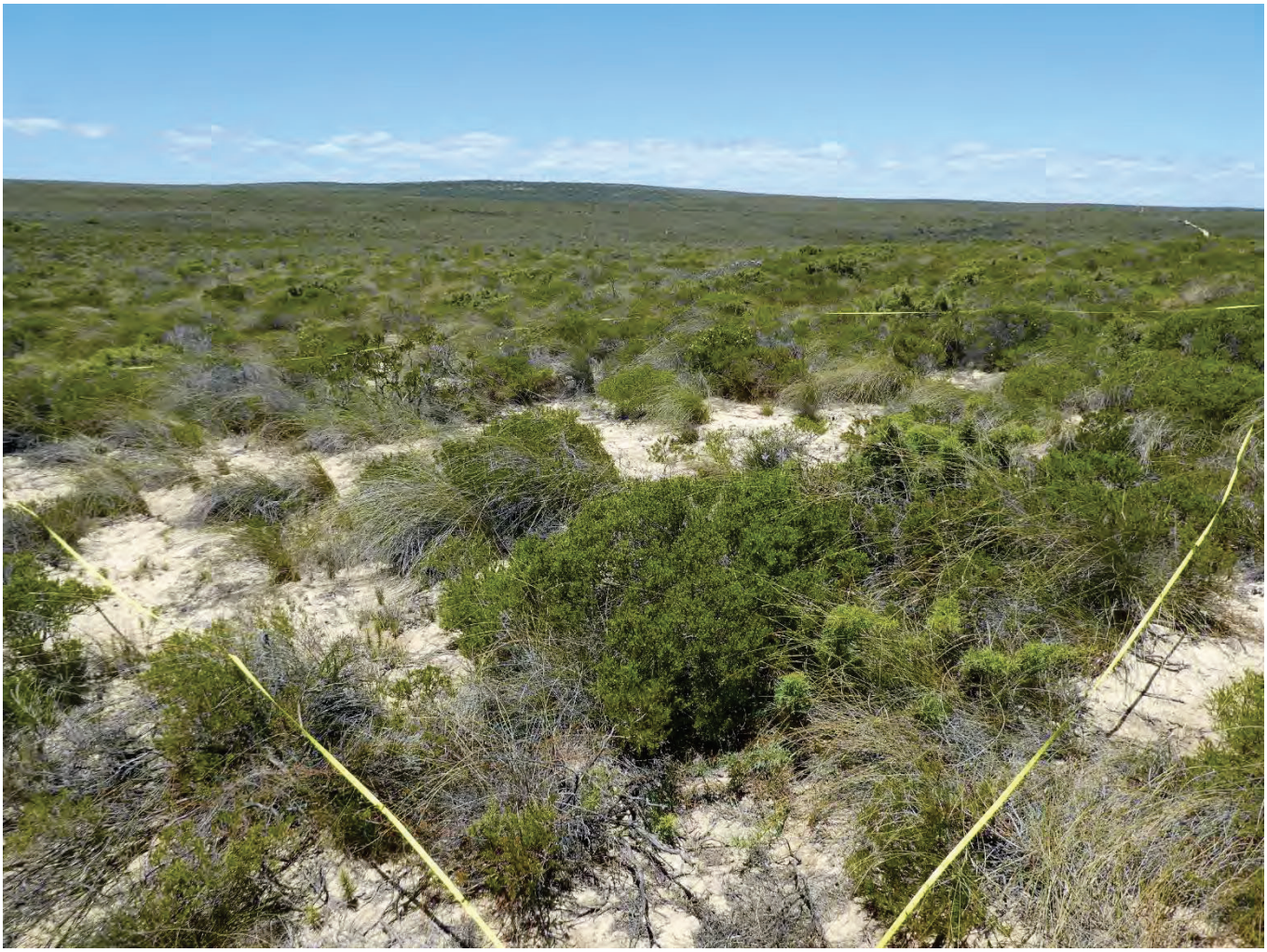
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Site ID:	MUR212	VT21 – (AsMIBa)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	215397.0348	6958258.286
Landform:	Coastal heathland	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Excellent	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acanthocarpus sp. *Ajana* (C.A. Gardner 8596)		1	0.25	Sedge (G)	Fruit
Baeckea aff. sp. *East Nabawa* (M.E. Trudgen MET 21623)	Species of interest	1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Banksia fraseri var. *ashbyi*		10	1.5	Shrub, cycad, grass-tree (M)	Fruit
Calothamnus blepharospermus		5	1	Shrub, cycad, grass-tree (M)	Flower
Calothamnus quadrifidus subsp. *obtusus*		5	1	Heath shrub (M)	Fruit
Cassytha aurea var. *aurea*		1	0.1	Vine (G)	Fruit
Comesperma scoparium		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Cyanothamnus coerulescens subsp. *spinescens*		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Daviesia hakeoides subsp. *hakeoides*		1	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Desmocladus asper		1	0.25	Sedge (G)	Vegetative
Ecdeiocolea monostachya		30	1.25	Sedge (G)	Fruit
Hakea lissocarpha		5	1	Shrub, cycad, grass-tree (M)	Fruit
Hemigenia saligna	P3	1	0.5	Shrub, cycad, grass-tree (M)	Fruit
Hibbertia conspicua		10	0.5	Shrub, cycad, grass-tree (M)	Flower
Lepidobolus preissianus subsp. *preissianus*		1	0.25	Sedge (G)	Flower
Melaleuca leiopyxis		15	1	Shrub, cycad, grass-tree (M)	Flower
Mesomelaena preissii		2	0.5	Sedge (G)	Fruit
Monotaxis bracteata		1	0.25	Forb (G)	Flower
Persoonia acicularis		1	0.25	Shrub, cycad, grass-tree (M)	Flower
Stylidium repens		1	0.1	Forb (G)	Flower
Styphelia cordifolia		1	0.25	Shrub, cycad, grass-tree (M)	Fruit

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Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Thysanotus sparteus		1	0.5	Forb (G)	Fruit



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Site ID:	MUR213	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	25/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	214848.5198	6971975.571
Landform:	Mulga woodland	
Bare ground:	11-30%	
Litter cover:	11-30%	
Soil type:	Sand	
Fire age:	Recent (<2 years)	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		20	4	Shrub, cycad, grass-tree (M)	Flower
Acanthocarpus sp. *Cooloomia* (S.D. Hopper 3301)		1	0.25	Sedge (G)	Vegetative
Austrostipa crinita		<1		Other grass (G)	Fruit
Calocephalus multiflorus		1	0.1	Forb (G)	Flower
Hibbertia conspicua		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Olearia sp. *Kennedy Range* (G. Byrne 66)		5	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea microcephala subsp. *microcephala*		2	1	Shrub, cycad, grass-tree (M)	Dehisced fruit

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Site ID:	MUR214	VT07 – (ArReSc)
Type:	Quadrat	Size: 10m x 10m
Date:	26/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	216640.2374	6945482.722
Landform:	Beach	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		2	0.5	Shrub, cycad, grass-tree (M)	Flower
Carpobrotus sp. *Thevenard Island* (M. White 050)	P3	1	0.25	Chenopod shrub (M)	Flower
Cuscuta epithymum	*	1	0.1	Forb (G)	Fruit
Ehrharta longiflora	*	1	0.25	Other grass (G)	Dehisced fruit
Mesembryanthemum nodiflorum	*	5	0.25	Forb (G)	Flower
Ptilotus exiliflorus	R.E	10	0.25	Shrub, cycad, grass-tree (M)	Fruit
Rhagodia eremaea		2	1	Chenopod shrub (M)	Fruit
Roepera fruticulosa		2	0.25	Forb (G)	Fruit
Sonchus oleraceus	*	1	0.1	Shrub, cycad, grass-tree (M)	Flower
Spinifex longifolius		20	0.75	Other grass (G)	Fruit
Threlkeldia diffusa		3	0.25	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR215	VT07 – (ArReSc)
Type:	Quadrat	Size: 10m x 10m
Date:	26/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	216596.1729	6945704.458
Landform:	Beach	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	10+ years	
Vegetation condition:	Very good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		1	1	Shrub, cycad, grass-tree (M)	Flower
Brassica tournefortii	*	1	0.25	Forb (G)	Dehisced fruit
Carpobrotus sp. *Thevenard Island* (M. White 050)	P3	1	0.25	Chenopod shrub (M)	Flower
Ehrharta longiflora	*	1	0.1	Other grass (G)	Dehisced fruit
Euphorbia sharkoensis		1	0.1	Forb (G)	Fruit
Frankenia confusa		10	0.5	Shrub, cycad, grass-tree (M)	Vegetative
Pimelea gilgiana		2	0.5	Shrub, cycad, grass-tree (M)	Dehisced fruit
Ptilotus exiliflorus	R.E	2	0.25	Shrub, cycad, grass-tree (M)	Fruit
Rhagodia eremaea		2	0.5	Chenopod shrub (M)	Fruit
Rhodanthe condensata		2	0.1	Forb (G)	Flower
Roepera fruticulosa		1	0.5	Forb (G)	Fruit
Spinifex longifolius		20	1	Other grass (G)	Fruit
Stylobasium spathulatum		5	1	Shrub, cycad, grass-tree (M)	Vegetative
Threlkeldia diffusa		5	0.5	Shrub, cycad, grass-tree (M)	Flower

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Site ID:	MUR216	VT14 – (ArMc)
Type:	Quadrat	Size: 10m x 10m
Date:	26/11/2022	Described by: Angela Benkovic
Co-ordinates (50K)	216649.0844	6967076.7
Landform:	Mulga woodland	
Bare ground:	11-30%	
Litter cover:	<2%	
Soil type:	Sand	
Fire age:	3-5 years	
Vegetation condition:	Good	

Species	Status	% cover	Height (m)	Form/stratum	Reproductive state
Acacia rostellifera		10	4	Shrub, cycad, grass-tree (M)	Flower
Actinobole condensatum		1	0.1	Forb (G)	Flower
Austrostipa elegantissima		1	0.5	Tussock grass (G)	Fruit
Calandrinia baccata		1	0.1	Forb (G)	Flower
Calocephalus multiflorus		1	0.1	Forb (G)	Flower
Ehrharta longiflora	*	1	0.25	Other grass (G)	Dehisced fruit
Olearia sp. *Kennedy Range* (G. Byrne 66)		15	1.75	Shrub, cycad, grass-tree (M)	Vegetative
Pentameris airoides subsp. *airoides*	*	1	0.1	Other grass (G)	Fruit
Pimelea microcephala subsp. *microcephala*		5	1.5	Shrub, cycad, grass-tree (M)	Flowerbud
Ptilotus exiliflorus	R.E	2	0.25	Shrub, cycad, grass-tree (M)	Fruit

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Significant flora data (within the survey area)

Species	Status	# plants	% cover	Point X	Point Y
Acacia plautella	P3, R.E.	1	1	235874.7501	6975321.452
Acacia stereophylla var. *cylindrata*	P2, R.E.	1	1	229637.8648	6967222.218
Acanthocarpus ?parviflorus	P3	2		240357.7391	6974184.706
Acanthocarpus ?parviflorus	P3	10		244522.7614	6973534.459
Acanthocarpus ?parviflorus	P3	3		240844.5236	6973401.739
Acanthocarpus ?parviflorus	P3	1	1	240606.3135	6973340.669
Acanthocarpus parviflorus	P3	2		222616.3036	6950896.357
Acanthocarpus parviflorus	P3	1	1	219834.3795	6954687.147
Acanthocarpus parviflorus	P3	1	1	228912.5987	6967359.448
Acanthocarpus parviflorus	P3	1	5	222515.2999	6951079.635
Alyogyne sp. 1	Species of interest	6		218663.8386	6966224.367
Alyogyne sp. 1	Species of interest	20		218662.7093	6966175.278
Alyogyne sp. 1	Species of interest	1	1	223153.5762	6956745.233
Alyogyne sp. 2	Species of interest	50		217133.5722	6945627.68
Anthocercis intricata	P3	10		210843.2768	6966394.246
Anthocercis intricata	P3	2		210814.5318	6966385.517
Anthocercis intricata	P3	10		210848.5149	6966367.935
Anthocercis intricata	P3	10		211000.8102	6966383.541
Anthocercis intricata	P3	10		210841.9671	6966330.627
Anthocercis intricata	P3	11		211072.7844	6966387.068
Anthocercis intricata	P3	2		211555.2219	6963320.821
Anthocercis intricata	P3	1		210913.2162	6966444.136
Anthocercis intricata	P3	5		210812.5894	6966295.923
Anthocercis intricata	P3	5		210988.2122	6966278.793
Anthocercis intricata	P3	1		211513.3739	6963353.851
Anthocercis intricata	P3	2		211548.3458	6963346.723
Anthocercis intricata	P3	5		210948.992	6966297.835
Anthocercis intricata	P3	2		211533.3868	6963330.475
Anthocercis intricata	P3	5		210938.447	6966311.266
Anthocercis intricata	P3	1		211541.5909	6963346.38
Anthocercis intricata	P3	5		210896.7225	6966352.617
Anthocercis intricata	P3	2		210795.4888	6966468.912
Anthocercis intricata	P3	5		211570.6928	6963336.341
Anthocercis intricata	P3	5		210988.7241	6966334.26
Anthocercis intricata	P3	5		211015.438	6966292.741
Anthocercis intricata	P3	1		211490.289	6963318.372
Anthocercis intricata	P3	2		211555.942	6963318.25
Anthocercis intricata	P3	10		210937.4007	6966390.912
Anthocercis intricata	P3	5		211025.371	6966312.384
Anthocercis intricata	P3	5		210943.7235	6966367.585

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Species	Status	# plants	% cover	Point X	Point Y
Anthocercis intricata	P3	1		210803.7257	6966441.378
Anthocercis intricata	P3	1		210912.9082	6966429.155
Anthocercis intricata	P3	1		210938.7285	6966404.622
Anthocercis intricata	P3	8		210804.5455	6966462.655
Anthocercis intricata	P3	5		210923.1414	6966351.759
Anthocercis intricata	P3	5		210873.2242	6966355.577
Anthocercis intricata	P3	5		210956.7771	6966282.49
Anthocercis intricata	P3	5		210847.6388	6966335.011
Anthocercis intricata	P3	1		210816.3279	6966424.667
Anthocercis intricata	P3	5		210978.6435	6966341.971
Anthocercis intricata	P3	2		211553.5343	6963329.469
Anthocercis intricata	P3	5		210834.7118	6966309.383
Anthocercis intricata	P3	5		210943.8147	6966349.656
Anthocercis intricata	P3	5		210976.4132	6966275.373
Anthocercis intricata	P3	1		210933.2649	6966426.491
Anthocercis intricata	P3	5		210952.3635	6966350.966
Anthocercis intricata	P3	1		211534.1592	6963353.784
Anthocercis intricata	P3	5		210806.0993	6966445.685
Anthocercis intricata	P3	5		210934.5284	6966323.559
Anthocercis intricata	P3	5		210799.146	6966278.231
Anthocercis intricata	P3	1		211465.7814	6963329.442
Anthocercis intricata	P3	5		210937.1407	6966338.778
Anthocercis intricata	P3	5		210838.2481	6966334.421
Anthocercis intricata	P3	5		211015.8893	6966329.722
Anthocercis intricata	P3	1		211487.6167	6963333.837
Anthocercis intricata	P3	2		218012.5933	6945841.52
Anthocercis intricata	P3	2		214971.2548	6959189.336
Anthocercis intricata	P3	2		213378.2065	6963143.872
Anthocercis intricata	P3	1		213442.9157	6963173.498
Anthocercis intricata	P3	1		214988.2641	6959144.845
Anthocercis intricata	P3	3		215453.6415	6958017.384
Anthocercis intricata	P3	1		208879.1658	6969642.36
Anthocercis intricata	P3	1		208789.5384	6969649.389
Anthocercis intricata	P3	1		208546.0041	6969635.017
Anthocercis intricata	P3	1		208527.9826	6969634.006
Anthocercis intricata	P3	4		208863.8089	6969639.567
Anthocercis intricata	P3	1		208664.6719	6969652.424
Anthocercis intricata	P3	5		208864.5068	6969640.411
Anthocercis intricata	P3	5		208801.9478	6969649.804
Anthocercis intricata	P3	2		208571.8962	6969633.387
Anthocercis intricata	P3	4		208577.9692	6969633.194

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Species	Status	# plants	% cover	Point X	Point Y
Anthocercis intricata	P3	4		208379.4639	6969597.584
Anthocercis intricata	P3	2		208757.485	6969647.62
Anthocercis intricata	P3	1		208578.8435	6969633.912
Anthocercis intricata	P3	1		208553.0073	6969635.552
Anthocercis intricata	P3	1		208467.4781	6969626.162
Anthocercis intricata	P3	2		208442.3481	6969610.241
Anthocercis intricata	P3	1		208767.5683	6969647.577
Anthocercis intricata	P3	5		208290.1584	6969574.205
Anthocercis intricata	P3	2		208767.4252	6969647.624
Anthocercis intricata	P3	1		208789.9985	6969650.451
Anthocercis intricata	P3	1		208803.1243	6969649.257
Anthocercis intricata	P3	1		208686.6017	6969650.358
Anthocercis intricata	P3	1		208644.6594	6969654.509
Anthocercis intricata	P3	1		208672.9922	6969651.628
Anthocercis intricata	P3	1		208545.2235	6969635.017
Anthocercis intricata	P3	1		208730.4622	6969647.657
Anthocercis intricata	P3	2		208742.7811	6969646.453
Anthocercis intricata	P3	1		208602.267	6969643.217
Anthocercis intricata	P3	1		208756.3132	6969647.901
Anthocercis intricata	P3	3		208673.1923	6969651.682
Anthocercis intricata	P3	1		208495.4903	6969631.254
Anthocercis intricata	P3	2		208456.7925	6969620.136
Anthocercis intricata	P3	3		208401.5264	6969598.768
Anthocercis intricata	P3	1		208826.6686	6969646.192
Anthocercis intricata	P3	2		208644.276	6969654.81
Anthocercis intricata	P3			211464.7874	6966361.237
Anthocercis intricata	P3			212883.3037	6963553.463
Anthocercis intricata	P3			211743.9535	6966312.334
Anthocercis intricata	P3	1	15	209889.1223	6966544.005
Anthocercis intricata	P3	1	2	208364.4975	6969690.468
Anthocercis intricata	P3	1	1	213439.3784	6963174
Anthocercis intricata	P3	1	1	217993.9113	6945835.052
Anthocercis intricata	P3	1	5	204323.1302	6978395.047
Anthotroche myoporoides	P3	10		243542.4589	6973446.46
Anthotroche myoporoides	P3	14		243737.1526	6973450.021
Anthotroche myoporoides	P3	8		243057.129	6973434.158
Anthotroche myoporoides	P3	1		243798.9378	6973447.185
Anthotroche myoporoides	P3	5		243459.1274	6973456.491
Anthotroche myoporoides	P3	5		243080.5016	6973437.449
Anthotroche myoporoides	P3	5		243113.9236	6973424.925
Anthotroche myoporoides	P3	4		242923.9179	6973443.169

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Species	Status	# plants	% cover	Point X	Point Y
Anthotroche myoporoides	P3	1		243961.1824	6973461.965
Anthotroche myoporoides	P3	12		243152.4939	6973444.108
Anthotroche myoporoides	P3	1		244067.3806	6973456.248
Anthotroche myoporoides	P3	1		243194.3732	6973443.969
Anthotroche myoporoides	P3	20		243061.0931	6973431.463
Anthotroche myoporoides	P3	11		243738.037	6973438.416
Anthotroche myoporoides	P3	5		243357.5118	6973442.265
Anthotroche myoporoides	P3	3		243640.7736	6973434.085
Anthotroche myoporoides	P3	1		243931.3506	6973451.058
Anthotroche myoporoides	P3	1		244137.0005	6973450.727
Anthotroche myoporoides	P3	30		243027.3933	6973434.176
Bossiaea calcicola	P3, R.E.	2		217176.2283	6945641.977
Bossiaea calcicola	P3, R.E.	1	<1	217789.6579	6956373.21
Caladenia barbarella	T	1		225699.8052	6973473.301
Caladenia barbarella	T	2		225698.1017	6973474.043
Caladenia barbarella	T	7		225700.0696	6973480.931
Caladenia barbarella	T	3		225701.2412	6973477.608
Caladenia barbarella	T	1		225701.9673	6973472.565
Caladenia barbarella	T	6		225698.1018	6973474.039
Caladenia barbarella	T	7		225700.0696	6973480.931
Caladenia barbarella	T	1		230668.6265	6972148.254
Caladenia barbarella	T	1		222094.4197	6981353.734
Caladenia barbarella	T	20		225493.599	6972937.396
Caladenia barbarella	T	2		225709.7576	6973513.314
Caladenia barbarella	T	1		225488.0392	6972942.249
Caladenia barbarella	T	1		224320.1	6982176.025
Caladenia barbarella	T	1		225661.9308	6973491.764
Caladenia barbarella	T	1		224309.0178	6982181.674
Caladenia barbarella	T	1		224294.478	6982039.109
Caladenia barbarella	T	1		225781.92	6973470.752
Caladenia barbarella	T	1		225474.1915	6972996.59
Caladenia barbarella	T	2		225451.0801	6973021.376
Caladenia barbarella	T	1		222111.3755	6981353.764
Caladenia barbarella	T	1		225759.9784	6973392.503
Caladenia barbarella	T	4		225476.9817	6972965.853
Caladenia barbarella	T	25		224332.0483	6982166.857
Caladenia barbarella	T	1		225481.578	6972954.084
Caladenia barbarella	T	1		224339.5675	6982146.304
Caladenia barbarella	T	1		225473.7286	6972980.238
Caladenia barbarella	T	1		224310.1058	6982186.888
Caladenia barbarella	T	2		224324.6053	6982152.103

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Species	Status	# plants	% cover	Point X	Point Y
Caladenia barbarella	T	2		225721.6222	6973510.601
Caladenia barbarella	T	1		225662.6977	6973491.271
Caladenia barbarella	T	4		224345.5286	6982149.058
Caladenia barbarella	T	3		224363.6921	6982099.34
Caladenia barbarella	T	2		225452.3218	6973064.363
Caladenia barbarella	T	1		225491.6002	6972936.802
Caladenia barbarella	T	1		244521.0456	6973530.985
Caladenia barbarella	T	1		224297.2097	6982043.204
Caladenia barbarella	T	3		224364.3498	6982093.464
Caladenia barbarella	T	4		225480.5138	6972944.057
Caladenia barbarella	T	1		224307.7531	6982169.857
Caladenia barbarella	T	1		224345.5528	6982175.412
Caladenia barbarella	T	1		225773.9538	6973476.489
Caladenia barbarella	T	4		225473.1999	6972969.73
Caladenia barbarella	T	5		224338.0004	6982168.607
Caladenia barbarella	T	1		225745.6717	6973436.424
Caladenia barbarella	T	1		222103.7486	6981325.493
Caladenia barbarella	T	1		225458.7434	6973011.722
Caladenia barbarella	T	1		222110.55	6981346.507
Caladenia barbarella	T	1		224347.4541	6982138.497
Caladenia barbarella	T	6		224346.5938	6982151.613
Caladenia barbarella	T	6		225689.5899	6973514.458
Caladenia barbarella	T	1		224347.3751	6982140.785
Caladenia barbarella	T	1		224309.7705	6982161.033
Caladenia barbarella	T	1		225460.392	6972988.524
Caladenia barbarella	T	1		225719.0389	6973450.742
Caladenia barbarella	T	4		225683.8501	6973521.834
Caladenia barbarella	T	1		225713.7096	6973455.767
Caladenia barbarella	T	10		225686.2938	6973467.537
Caladenia barbarella	T	1		225696.1069	6973505.979
Caladenia barbarella	T	15		225736.5241	6973231.056
Caladenia barbarella	T	1		225707.602	6973490.6
Caladenia barbarella	T	1		225776.2682	6973461.973
Caladenia barbarella	T	1		225711.2601	6973500.904
Caladenia barbarella	T	1		225692.4963	6973497.547
Caladenia barbarella	T	1		225661.4814	6973501.921
Caladenia barbarella	T	6		225666.2981	6973116.055
Caladenia barbarella	T	1		225702.1086	6973126.967
Caladenia barbarella	T	1	1	225694.629	6973483.316
Caladenia ? bryceana subsp. *cracens* (leaf only)	T	18		240333.9478	6973391.22

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Species	Status	# plants	% cover	Point X	Point Y
Caladenia bryceana subsp. *cracens*	T	15		244525.6943	6973538.005
Caladenia bryceana subsp. *cracens*	T	52		244503.6481	6973520.067
Caladenia bryceana subsp. *cracens*	T	9		244521.445	6973550.506
Caladenia bryceana subsp. *cracens*	T	9		244498.2248	6973525.587
Caladenia bryceana subsp. *cracens*	T	10		242830.4316	6972714.918
Caladenia bryceana subsp. *cracens*	T	25		243494.8688	6972937.184
Caladenia bryceana subsp. *cracens*	T	2		242780.8847	6972711.312
Caladenia bryceana subsp. *cracens*	T	2		243534.6812	6972943.279
Caladenia bryceana subsp. *cracens*	T	17		243495.0526	6972936.519
Caladenia bryceana subsp. *cracens*	T	9		244549.6674	6973873.913
Caladenia bryceana subsp. *cracens*	T	75		244573.348	6973863.802
Caladenia bryceana subsp. *cracens*	T	8		244570.4823	6973868.061
Caladenia bryceana subsp. *cracens*	T	45		240830.6199	6973410.119
Calytrix harvestiana	P2	25		231024.8304	6979992.943
Calytrix harvestiana	P2	25		231013.6959	6979928.753
Calytrix harvestiana	P2	25		231037.5798	6980072.41
Calytrix harvestiana	P2	20		231089.1727	6980032.686
Calytrix harvestiana	P2	10		231123.958	6980243.151
Calytrix harvestiana	P2	25		230825.2632	6980016.486
Calytrix harvestiana	P2	25		231080.7607	6980055.614
Calytrix harvestiana	P2	25		230772.8893	6979918.333
Calytrix harvestiana	P2	25		230989.1419	6980166.436
Calytrix harvestiana	P2	20		231066.9897	6980036.023
Calytrix harvestiana	P2	1		227352.9136	6969754.702
Calytrix harvestiana	P2	1		224095.4819	6971709.02
Calytrix harvestiana	P2	1	2	223936.6051	6971780.276
Calytrix harvestiana	P2	1	5	221685.4247	6967969.207
Calytrix harvestiana	P2	1	35	221179.3349	6968388.198
Calytrix harvestiana	P2	1	2	213827.8029	6981577.766
Calytrix harvestiana	P2	1	40	213871.5115	6976220.822
Calytrix harvestiana	P2	1	2	209967.8815	6973578.438
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1		220768.2011	6966197.367
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	12		220911.1352	6966163.67
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	10		220904.2147	6966192.535
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	4		223148.1229	6967888.746
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	12		223370.806	6967956.78
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	5		223181.8766	6967858.596
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	5		221731.2052	6966544.141

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Species	Status	# plants	% cover	Point X	Point Y
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	3		222041.5875	6967915.128
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	10		222003.6201	6966891.117
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	25		222028.1088	6966899.256
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	10		223313.9605	6967920.052
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	4		223320.7339	6967926.712
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1		221700.9761	6966400.28
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	25		222862.869	6968418.913
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	4		223337.0427	6967939.212
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	8		223347.3465	6967950.955
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	15		223091.0564	6967914.102
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	30		223549.7756	6967944.703
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	2		223513.2174	6967947.843
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	5		222035.4309	6967891.56
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	10		223163.2976	6967872.584
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	20		223519.6604	6967941.227
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	2		223504.9383	6967953.492
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	5		223430.1789	6971539.356
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	15		223663.2329	6968027.391
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	10		223594.5508	6967961.379
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	30		225615.3433	6972916.639
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	10		223643.3729	6968009.015
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	15		222169.2709	6967351.776
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	2		223154.1091	6967884.621
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	15		222013.9411	6966900.831
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	20		223542.3824	6967942.131
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1		223194.2392	6967859.992
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	15		223653.7006	6968016.767

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Species	Status	# plants	% cover	Point X	Point Y
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	10		223621.1142	6967978.286
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	10		223616.081	6967971.493
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	25		222043.3286	6966903.764
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	2		223115.4918	6967898.834
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1		225667.2568	6972875.234
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	15		220279.3471	6981872.262
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	100		220114.4999	6981822.305
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	100		220182.0472	6981841.314
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	100		220206.1401	6981841.335
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	10		222824.8991	6968512.476
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1			221521.863	6968113.393
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1			221876.6985	6966621.541
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1			222104.0626	6967435.277
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1			220938.3172	6966180.773
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1			221756.6576	6966464.931
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1			221957.0734	6966807.169
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1			223691.2298	6971596.276
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1	30	221685.4247	6967969.207
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1	10	221179.3349	6968388.198
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1	1	224409.4397	6982157.87
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1	15	223489.6538	6971777.416
Chamelaucium sp. Coolcalalaya (A.H. Burbidge 4233)	P1	1	15	220908.8765	6966166.589
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	2		205986.5206	6971897.514
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	2		205940.5714	6972037.291
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	3		206026.122	6971850.372
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		206026.8765	6971848.497
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216652.3545	6945852.752

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Species	Status	# plants	% cover	Point X	Point Y
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	10		216727.2038	6945565.758
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	13		216507.7054	6945861.408
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	13		216719.6894	6945406.985
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	13		216618.7434	6945839.032
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	3		216815.1585	6945295.89
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	15		216744.8202	6945395.738
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216711.5679	6945593.677
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	3		216762.1852	6945371.372
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	5		216777.7833	6945529.593
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	6		216735.805	6945557.085
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	10		216829.5945	6945269.977
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216649.9532	6945828.481
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	10		216908.006	6945361.631
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	13		216733.8384	6945393.45
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	10		216733.3949	6945568.675
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	13		216599.9041	6945898.485
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	3		216643.1306	6945866.956
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	10		216786.9806	6945388.768
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	25		216801.4532	6945396.77
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	3		216654.185	6945855.208
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	3		216757.5739	6945263.706
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	6		216735.4786	6945646.372
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216622.3986	6945677.977
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	25		216821.7429	6945349.63
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	3		216612.8246	6945736.558
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	12		216635.0787	6945919.43
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216618.9153	6945668.389

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Species	Status	# plants	% cover	Point X	Point Y
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216585.3329	6945867.534
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	8		216644.0545	6945891.368
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	2		216684.5032	6945778.901
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	3		216752.4019	6945569.369
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	25		216817.1219	6945342.724
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	8		216734.9928	6945636.789
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	2		216714.9634	6945714.268
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216639.0967	6945702.648
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	3		216732.8391	6945317.86
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216574.0031	6945819.143
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	10		216744.2847	6945570.817
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216659.713	6945861.363
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216706.5669	6945748.965
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	6		216744.3043	6945607.089
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	8		216727.255	6945660.277
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216599.2281	6945801.042
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	15		216618.1915	6945664.376
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	10		216644.5254	6945891.587
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	5		216596.1784	6945939.56
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1		216745.4902	6945596.869
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	15		216706.1452	6945360.829
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	10		216705.5071	6945360.295
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	25		201608.3815	6980440.559
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	15		201665.4125	6980386.697
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	30		201522.333	6980579.682
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	2		206027.3691	6971873.388
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	2		206083.8957	6971787.097

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Species	Status	# plants	% cover	Point X	Point Y
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	2		206091.0485	6971777.117
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	2		206093.4369	6971775.464
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	4		213965.6901	6954967.713
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	3		213830.6752	6955355.28
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1	1	213843.8174	6955361.324
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1	2	216615.0899	6945553.728
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1	1	216537.1708	6945694.913
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1	1	216640.2374	6945482.722
Carpobrotus ? sp. Thevenard Island (M. White 050)	P3	1	1	216596.1729	6945704.458
Chthonocephalus tomentellus	P2	1	2	221179.3349	6968388.198
Chthonocephalus tomentellus	P2	1	1	218118.3412	6963180.618
Corynotheca aff. *dichotoma*	Species of interest	1	1	230322.2277	6967231.591
Dasymalla glutinosa	P3	5		238867.8823	6982504.45
Dasymalla glutinosa	P3	1		241869.1366	6973409.274
Dasymalla glutinosa	P3	3		241873.9501	6973428.846
Dasymalla glutinosa	P3	1		241676.8645	6973405.032
Dasymalla glutinosa	P3	1		241794.2661	6973400.147
Dasymalla glutinosa	P3	1		241852.7023	6973402.865
Dasymalla glutinosa	P3	1		241798.1881	6973408.842
Dasymalla glutinosa	P3	1		241027.2088	6973382.223
Dasymalla glutinosa	P3	1		241866.3638	6973413.873
Dasymalla glutinosa	P3	2		240879.5433	6973395.561
Dasymalla glutinosa	P3	1		241035.2171	6973380.698
Desmocladus ferruginipes	P1	1	1	221417.7174	6981937.338
Desmocladus ferruginipes	P1	1	1	221296.2104	6981935.283
Dicrastylis micrantha	P3, R.E.	1		217709.0323	6963842.349
Dicrastylis micrantha	P3, R.E.	1		244967.5234	6973417.272
Dicrastylis micrantha	P3, R.E.	1		244136.4858	6973458.494
Dicrastylis micrantha	P3, R.E.	1		244947.0426	6973431.745
Dicrastylis micrantha	P3, R.E.	25		217268.4043	6964686.385
Dicrastylis micrantha	P3, R.E.	1		244925.7832	6973478.332
Dicrastylis micrantha	P3, R.E.	3		235585.4969	6973242.326
Dicrastylis micrantha	P3, R.E.	10		236704.0711	6973298.126
Dicrastylis micrantha	P3, R.E.	1		236802.4514	6973277.622
Dicrastylis micrantha	P3, R.E.	1		243545.1209	6973446.452
Dicrastylis micrantha	P3, R.E.	10		223093.1655	6969708.721
Dicrastylis micrantha	P3, R.E.	10		222548.9731	6969850.186

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Species	Status	# plants	% cover	Point X	Point Y
Dicrastylis micrantha	P3, R.E.	25		224067.9844	6969502.331
Dicrastylis micrantha	P3, R.E.	25		223248.6365	6969669.958
Dicrastylis micrantha	P3, R.E.	25		224114.5812	6969492.187
Dicrastylis micrantha	P3, R.E.	25		224041.5905	6969508.094
Dicrastylis micrantha	P3, R.E.	25		224182.7971	6969477.564
Dicrastylis micrantha	P3, R.E.	25		224088.8007	6969498.045
Dicrastylis micrantha	P3, R.E.	35		223181.609	6967179.479
Dicrastylis micrantha	P3, R.E.	25		222780.3167	6966183.666
Dicrastylis micrantha	P3, R.E.	2		222529.9994	6966899.54
Dicrastylis micrantha	P3, R.E.	30		223140.7563	6966573.473
Dicrastylis micrantha	P3, R.E.	1		222639.7918	6967635.276
Dicrastylis micrantha	P3, R.E.	10		222038.5522	6967908.598
Dicrastylis micrantha	P3, R.E.	10		223155.149	6966758.877
Dicrastylis micrantha	P3, R.E.	45		217152.8559	6964575.672
Dicrastylis micrantha	P3, R.E.	1		244277.3621	6973449.198
Dicrastylis micrantha	P3, R.E.	1		222749.4228	6968738.287
Dicrastylis micrantha	P3, R.E.	2		222035.9102	6967888.455
Dicrastylis micrantha	P3, R.E.	10		223171.7382	6967016.595
Dicrastylis micrantha	P3, R.E.	25		223755.6375	6971611.755
Dicrastylis micrantha	P3, R.E.	10		222051.1982	6967871.803
Dicrastylis micrantha	P3, R.E.	1		222619.5725	6967457.013
Dicrastylis micrantha	P3, R.E.	70		213746.4767	6979275.467
Dicrastylis micrantha	P3, R.E.	1		222119.6794	6967579.926
Dicrastylis micrantha	P3, R.E.	10		222768.9523	6968676.948
Dicrastylis micrantha	P3, R.E.	20		222059.9319	6967857.45
Dicrastylis micrantha	P3, R.E.	10		222573.1838	6969140.301
Dicrastylis micrantha	P3, R.E.	10		223132.2844	6966470.644
Dicrastylis micrantha	P3, R.E.	10		222799.1005	6968596.806
Dicrastylis micrantha	P3, R.E.	20		223137.8481	6966526.758
Dicrastylis micrantha	P3, R.E.	2		222581.9272	6967349.661
Dicrastylis micrantha	P3, R.E.	1		244889.7069	6973480.872
Dicrastylis micrantha	P3, R.E.	50		222633.9189	6967482.159
Dicrastylis micrantha	P3, R.E.	20		222628.4551	6967463.98
Dicrastylis micrantha	P3, R.E.	10		223178.0212	6967102.522
Dicrastylis micrantha	P3, R.E.	10		223160.3364	6966855.128
Dicrastylis micrantha	P3, R.E.	35		223186.8591	6967333.421
Dicrastylis micrantha	P3, R.E.	10		222811.7803	6968555.931
Dicrastylis micrantha	P3, R.E.	10		223630.2097	6966171.506
Dicrastylis micrantha	P3, R.E.	3		222583.6073	6967344.802
Dicrastylis micrantha	P3, R.E.	1		244948.4889	6973483.476
Dicrastylis micrantha	P3, R.E.	10		222518.1644	6969313.466

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Species	Status	# plants	% cover	Point X	Point Y
Dicrastylis micrantha	P3, R.E.	25		222582.6082	6969109.573
Dicrastylis micrantha	P3, R.E.	20		222875.9534	6966184.926
Dicrastylis micrantha	P3, R.E.	15		219059.79	6966232.858
Dicrastylis micrantha	P3, R.E.	20		217170.6374	6964586.031
Dicrastylis micrantha	P3, R.E.	2		223145.3195	6966644.804
Dicrastylis micrantha	P3, R.E.	15		218665.6068	6966232.095
Dicrastylis micrantha	P3, R.E.	10		220282.1038	6966213.734
Dicrastylis micrantha	P3, R.E.	80		223182.3656	6967266.494
Dicrastylis micrantha	P3, R.E.	25		224147.1404	6969485.064
Dicrastylis micrantha	P3, R.E.	50		223718.2454	6968637.385
Dicrastylis micrantha	P3, R.E.	1		223857.3211	6968321.811
Dicrastylis micrantha	P3, R.E.	100		223494.7834	6967961.118
Dicrastylis micrantha	P3, R.E.	25		223849.3763	6968714.596
Dicrastylis micrantha	P3, R.E.	25		223408.9642	6968019.751
Dicrastylis micrantha	P3, R.E.	1		223512.2275	6968418.903
Dicrastylis micrantha	P3, R.E.	25		223463.0817	6968005.423
Dicrastylis micrantha	P3, R.E.	15		224605.3201	6969360.323
Dicrastylis micrantha	P3, R.E.	20		224131.3051	6968654.219
Dicrastylis micrantha	P3, R.E.	1		223928.1038	6968430.134
Dicrastylis micrantha	P3, R.E.	40		223677.4454	6968056.2
Dicrastylis micrantha	P3, R.E.	10		223860.7833	6968712.218
Dicrastylis micrantha	P3, R.E.	20		223831.6962	6968714.686
Dicrastylis micrantha	P3, R.E.	25		223473.537	6967986.189
Dicrastylis micrantha	P3, R.E.	25		223468.0136	6967995.052
Dicrastylis micrantha	P3, R.E.	11		224084.9825	6968591.884
Dicrastylis micrantha	P3, R.E.	100		223491.7599	6967975.041
Dicrastylis micrantha	P3, R.E.	25		210596.4562	6973882.551
Dicrastylis micrantha	P3, R.E.	25		210206.8417	6969302.516
Dicrastylis micrantha	P3, R.E.	1		231317.3969	6966385.056
Dicrastylis micrantha	P3, R.E.	9		222994.8492	6964374.759
Dicrastylis micrantha	P3, R.E.	10		223185.725	6967288.487
Dicrastylis micrantha	P3, R.E.	40		218391.3169	6966215.701
Dicrastylis micrantha	P3, R.E.	2		244463.1597	6973472.21
Dicrastylis micrantha	P3, R.E.	6		223165.7802	6966954.732
Dicrastylis micrantha	P3, R.E.	1		244539.4341	6973736.332
Dicrastylis micrantha	P3, R.E.	7		223141.5455	6965785.916
Dicrastylis micrantha	P3, R.E.	3		222604.1694	6969037.139
Dicrastylis micrantha	P3, R.E.	13		222982.2872	6964319.272
Dicrastylis micrantha	P3, R.E.	1		218166.2393	6961795.92
Dicrastylis micrantha	P3, R.E.	1		218684.0006	6960476.584
Dicrastylis micrantha	P3, R.E.	1	5	213827.8029	6981577.766

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Species	Status	# plants	% cover	Point X	Point Y
Drosera aff. *eremaea*	P3, R.E.	1	1	225153.9806	6972454.464
Drosera aff. *eremaea*	P3, R.E.	1	1	240423.582	6973339.523
Eucalyptus zopherophloia	P4	1	5	203644.8948	6981155.661
Eucalyptus zopherophloia	P4	1	10	204003.722	6978150.133
Eucalyptus zopherophloia	P4	1	10	204254.7141	6978215.646
Geleznowia ? amabilis	P2, R.E.	1	1	203644.8948	6981155.661
Grevillea rogersoniana	P3, R.E.	1		217119.9508	6947497.039
Grevillea rogersoniana	P3, R.E.	5		217726.5796	6957819.299
Grevillea stenomera	P2	1		215148.5272	6958847.735
Grevillea stenomera	P2	2		207908.3885	6972788.015
Grevillea stenomera	P2	5		209719.5359	6969852.665
Grevillea stenomera	P2	4		204083.1816	6980939.59
Grevillea stenomera	P2	1		203995.7648	6981079.767
Grevillea stenomera	P2	2		204298.6199	6981226.025
Grevillea stenomera	P2	1		205042.0949	6981221.391
Grevillea stenomera	P2	2		205962.2129	6981263.74
Grevillea stenomera	P2	3		210517.6639	6968741.344
Grevillea stenomera	P2	1		204873.1605	6981223.779
Grevillea stenomera	P2	1		203961.1517	6981159.124
Grevillea stenomera	P2	1		234821.0339	6973214.481
Grevillea stenomera	P2	3		210345.0981	6969074.292
Grevillea stenomera	P2	7		204152.8651	6980777.711
Grevillea stenomera	P2	1		204575.0827	6981179.264
Grevillea stenomera	P2	1		210086.7433	6969562.558
Grevillea stenomera	P2	3		205939.5615	6981264.543
Grevillea stenomera	P2	1		218030.4599	6956093.717
Grevillea stenomera	P2	6		215584.4278	6958352.716
Grevillea stenomera	P2	1		209626.9857	6970384.771
Grevillea stenomera	P2	1		214130.1327	6956064.245
Grevillea stenomera	P2	2		209885.1968	6969895.173
Grevillea stenomera	P2	1		210050.2311	6969616.271
Grevillea stenomera	P2	5		205198.8861	6981226.534
Grevillea stenomera	P2	2		205418.1138	6981235.317
Grevillea stenomera	P2	1		216123.1888	6958468.121
Grevillea stenomera	P2	6		205567.6737	6981248.694
Grevillea stenomera	P2	6		204466.7142	6981218.517
Grevillea stenomera	P2	1		203951.3396	6981203.61
Grevillea stenomera	P2	7		204396.4582	6981207.949
Grevillea stenomera	P2	1		203897.9317	6981255.684
Grevillea stenomera	P2	4		210742.3556	6968263.748
Grevillea stenomera	P2	2		204164.7472	6980764.602

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Species	Status	# plants	% cover	Point X	Point Y
Grevillea stenomera	P2	2		215253.4107	6958737.291
Grevillea stenomera	P2	3		214133.3586	6956079.589
Grevillea stenomera	P2	1		203605.767	6981177.45
Grevillea stenomera	P2	5		205757.4043	6981260.401
Grevillea stenomera	P2	3		214660.6199	6956027.49
Grevillea stenomera	P2	2		211022.5037	6967787.277
Grevillea stenomera	P2	2		205292.1816	6981240.159
Grevillea stenomera	P2	4		218000.0692	6956111.215
Grevillea stenomera	P2	2		212567.7487	6964791.231
Grevillea stenomera	P2	2		204107.7625	6980867.339
Grevillea stenomera	P2	2		214857.4792	6956096.094
Grevillea stenomera	P2	2		204075.3622	6980926.28
Grevillea stenomera	P2	1		214124.4799	6956089.406
Grevillea stenomera	P2	2		204041.9685	6981213.955
Grevillea stenomera	P2	6		210224.679	6969300.476
Grevillea stenomera	P2	4		204128.7647	6980824.567
Grevillea stenomera	P2	1		212486.1827	6964938.251
Grevillea stenomera	P2	3		214684.5204	6956066.531
Grevillea stenomera	P2	2		204154.6449	6981227.914
Grevillea stenomera	P2	1		203999.2944	6981104.507
Grevillea stenomera	P2	5		204568.7556	6981225.671
Grevillea stenomera	P2	1		206122.2157	6981311.298
Grevillea stenomera	P2	20		215117.6492	6958848.037
Grevillea stenomera	P2	4		222425.847	6966185.703
Grevillea stenomera	P2	2		223130.1655	6966427.718
Grevillea stenomera	P2	5		222654.0745	6966191.936
Grevillea stenomera	P2	3		209973.6311	6973589.342
Grevillea stenomera	P2	2		207912.5665	6972786.652
Grevillea stenomera	P2	5		222721.1864	6966195.404
Grevillea stenomera	P2	1		221729.658	6966527.423
Grevillea stenomera	P2	1		222403.4528	6966195.262
Grevillea stenomera	P2	6		223232.353	6966177.794
Grevillea stenomera	P2	2		216975.6163	6949779.041
Grevillea stenomera	P2	1		216971.1621	6949803.053
Grevillea stenomera	P2	5		227132.8589	6968047.718
Grevillea stenomera	P2	4		227140.2613	6968083.546
Grevillea stenomera	P2	15		218159.4222	6945118.701
Grevillea stenomera	P2	5		210664.4811	6968358.33
Grevillea stenomera	P2	2		221377.5147	6954364.646
Grevillea stenomera	P2	1		220888.7198	6954461.905
Grevillea stenomera	P2	1		220882.3587	6954463.825

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Species	Status	# plants	% cover	Point X	Point Y
Grevillea stenomera	P2	1		221088.2977	6954449.668
Grevillea stenomera	P2	2		221066.7972	6954443.205
Grevillea stenomera	P2	2		221394.3455	6954374.223
Grevillea stenomera	P2	2		220612.4574	6954550.945
Grevillea stenomera	P2	4		221290.6202	6954396.04
Grevillea stenomera	P2	5		221000.4465	6954452.268
Grevillea stenomera	P2	13		217031.0199	6947936.913
Grevillea stenomera	P2	8		217064.2319	6949800.372
Grevillea stenomera	P2	20		217054.1888	6947935.319
Grevillea stenomera	P2	5		215709.3925	6955716.097
Grevillea stenomera	P2	6		222822.3822	6963734.824
Grevillea stenomera	P2	10		217728.3353	6957842.114
Grevillea stenomera	P2	2		222427.9247	6966189.031
Grevillea stenomera	P2	1		214725.7378	6956045.542
Grevillea stenomera	P2	3		223136.6615	6966069.802
Grevillea stenomera	P2	5		214005.1433	6955985.123
Grevillea stenomera	P2	2		222853.2037	6963841.539
Grevillea stenomera	P2	9		217709.4021	6957833.846
Grevillea stenomera	P2	2		215775.8499	6955779.546
Grevillea stenomera	P2	4		223130.8572	6966211.673
Grevillea stenomera	P2	2		222191.0482	6966186.51
Grevillea stenomera	P2	12		215718.783	6955730.326
Grevillea stenomera	P2	1		221033.6028	6954455.51
Grevillea stenomera	P2	1	1	216970.53	6949802.746
Grevillea stenomera	P2	1	1	209967.8815	6973578.438
Grevillea stenomera	P2	1	1	220882.3587	6954463.825
Grevillea stenomera	P2	1	1	218114.4181	6945087.539
Grevillea stenomera	P2	1	3	221371.7157	6954365.701
Grevillea stenomera	P2	1	5	227125.8864	6968037.606
Grevillea stenomera	P2	1	2	214664.209	6956021.597
Grevillea stenomera	P2	1	1	214690.1124	6956079.118
Grevillea stenomera	P2	1	1	214837.6412	6956097.595
Grevillea stenomera	P2	1	1	218019.7282	6956100.402
Grevillea stenomera	P2	1	1	206125.1155	6981307.69
Grevillea stenomera	P2	1	1	204575.9924	6981176.064
Grevillea stenomera	P2	1	<1	214124.9706	6956061.222
Hemiandra sp. Kalbarri (D. Bellairs 1505)	P2	2		229226.8113	6971229.83
Hemiandra sp. Kalbarri (D. Bellairs 1505)	P2	1		218654.5279	6981918.894
Hemigenia saligna	P3	1	1	215397.0348	6958258.286
Jacksonia dendrospinosa	P4, R.E.	1	2	217007.3398	6954351.257
Jacksonia velutina	P4	1		229244.6936	6971232.223
Jacksonia velutina	P4	2		231808.2907	6973762.08

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Species	Status	# plants	% cover	Point X	Point Y
Jacksonia velutina	P4	1		225222.6427	6972234.564
Jacksonia velutina	P4	1		228756.98	6970973.429
Jacksonia velutina	P4	1		229923.9283	6971461.953
Jacksonia velutina	P4	1		222516.1799	6966767.896
Jacksonia velutina	P4	1		229476.1043	6971305.935
Jacksonia velutina	P4	1		231035.3258	6982311.213
Jacksonia velutina	P4	1		228616.7068	6970915.607
Jacksonia velutina	P4	1	1	229926.8839	6971460.676
Lasiopetalum oppositifolium	P3	1	5	213876.6467	6955779.869
Lasiopetalum oppositifolium	P3	1	<1	217789.6579	6956373.21
Lasiopetalum oppositifolium	P3	1	1	204254.7141	6978215.646
Lepidium biplicatum	P3	1	1	208364.4975	6969690.468
Lepidium biplicatum	P3			202443.3599	6980837.69
Lepidobolus ? eurardyensis	P1, R.E.	1	1	221296.2104	6981935.283
Macarthuria ? intricata	P3	1	1	244917.6674	6973507.587
Macarthuria ? intricata	P3	1	<1	231236.6868	6966431.632
Macarthuria intricata	P3	3		235895.3999	6975326.015
Macarthuria intricata	P3	2		245062.5029	6973484.935
Macarthuria intricata	P3	1	1	248065.5166	6973578.395
Macarthuria intricata	P3	1	1	247989.1426	6973639.23
Macarthuria intricata	P3	1	1	218114.4181	6945087.539
Macarthuria intricata	P3	1	1	217246.19	6951393.605
Macarthuria intricata	P3	1	1	216186.8646	6956428.828
Malleostemon ?microphyllus	P2, R.E.	1		244486.1484	6973521.046
Malleostemon ?microphyllus	P2, R.E.	10		242546.8429	6974112.145
Malleostemon microphyllus	P2, R.E.	1		219131.7641	6961952.022
Malleostemon microphyllus	P2, R.E.	2		216920.8014	6954282.365
Malleostemon microphyllus	P2, R.E.	1	1	219723.2835	6960336.91
Malleostemon microphyllus	P2, R.E.	1	1	204925.0562	6978746.536
Malleostemon microphyllus	P2, R.E.	1	10	220638.2925	6966296.127
Malleostemon microphyllus	P2, R.E.	1	2	212033.3473	6974453.954
Malleostemon microphyllus	P2, R.E.	1	1	217182.8221	6949816.515
Malleostemon microphyllus	P2, R.E.	1	5	217119.2696	6951458.32
Malleostemon microphyllus	P2, R.E.	1	1	215917.2891	6967495.327
Malleostemon microphyllus	P2, R.E.	1	1	217007.3398	6954351.257
Malleostemon microphyllus	P2, R.E.	1	1	217246.19	6951393.605
Malleostemon microphyllus	P2, R.E.	1	1	216920.8014	6954282.365
Malleostemon microphyllus	P2, R.E.	1	1	223157.2133	6967285.23
Malleostemon microphyllus	P2, R.E.	1	1	220710.3381	6966185.821
Malleostemon microphyllus	P2, R.E.	1	1	222689.467	6963383.676
Malleostemon microphyllus	P2, R.E.	1	1	213685.7871	6978786.602
Malleostemon microphyllus	P2, R.E.	1	1	210644.3006	6973889.414
Malleostemon microphyllus	P2, R.E.	1	4	216929.6086	6955430.728

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Species	Status	# plants	% cover	Point X	Point Y
Malleostemon microphyllus	P2, R.E.	1	3	204575.9924	6981176.064
Malleostemon microphyllus	P2, R.E.	1	15	224361.1701	6969363.763
Malleostemon microphyllus	P2, R.E.	1	30	213692.736	6979431.518
Malleostemon microphyllus	P2, R.E.	1	20	225908.2899	6967982.665
Malleostemon microphyllus	P2, R.E.	1	<1	207952.479	6972696.614
Malleostemon microphyllus	P2, R.E.	1	1	213630.4455	6977067.108
Malleostemon microphyllus	P2, R.E.	1	<1	219496.1002	6954835.656
Malleostemon microphyllus	P2, R.E.	1	2	219415.8936	6954700.5
Melaleuca sp. (aff. *sclerophylla)*	Species of interest	1	15	214664.209	6956021.597
Melaleuca venusta	Other/Species of Interest	1		218630.27	6954896.687
Mirbelia corallina	P3	1	1	225274.7841	6972189.817
Pileanthus aurantiacus	P1	2		234664.6592	6982377.349
Pileanthus aurantiacus	P1	1		234662.3736	6982371.634
Pileanthus aurantiacus	P1	10		234641.9129	6982428.438
Pileanthus aurantiacus	P1	30		231658.2716	6974235.397
Pileanthus aurantiacus	P1	60		231705.237	6973712.213
Pileanthus aurantiacus	P1	80		231298.1996	6977246.78
Pileanthus aurantiacus	P1	45		231694.4225	6974239.983
Pileanthus aurantiacus	P1	75		231288.5716	6977379.605
Pileanthus aurantiacus	P1	40		231323.8073	6977183.895
Pileanthus aurantiacus	P1	3		231221.8431	6979546.6
Pileanthus aurantiacus	P1	7		231803.3943	6973580.406
Pileanthus aurantiacus	P1	25		231527.2841	6974241.699
Pileanthus aurantiacus	P1	25		231593.0427	6974245.799
Pileanthus aurantiacus	P1	60		231311.3111	6977216.932
Pileanthus aurantiacus	P1	60		231296.7172	6977300.975
Pileanthus aurantiacus	P1	30		231764.0596	6974402.615
Pileanthus aurantiacus	P1	40		231283.6732	6977347.411
Pileanthus aurantiacus	P1	20		231686.5633	6973897.124
Pileanthus aurantiacus	P1	25		231349.0092	6977165.616
Pileanthus aurantiacus	P1	8		231189.3897	6979662.74
Pileanthus aurantiacus	P1	50		231301.8513	6977432.88
Pileanthus aurantiacus	P1	30		231455.405	6977173.262
Pileanthus aurantiacus	P1	5		231456.8145	6974264.538
Pileanthus aurantiacus	P1	70		231398.8185	6977185.108
Pileanthus aurantiacus	P1	15		231533.0259	6975837.355
Pileanthus aurantiacus	P1	40		231655.5826	6974343.72
Pileanthus aurantiacus	P1	15		231767.5642	6973984.641
Pileanthus aurantiacus	P1	5		231112.9287	6980575.785
Pileanthus aurantiacus	P1	80		231668.2883	6974256.847
Pileanthus aurantiacus	P1	50		231625.8482	6975117.908

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Species	Status	# plants	% cover	Point X	Point Y
Pileanthus aurantiacus	P1	100		231496.7832	6977460.218
Pileanthus aurantiacus	P1	30		231736.8482	6973576.288
Pileanthus aurantiacus	P1	25		231753.991	6974260.578
Pileanthus aurantiacus	P1	6		231705.9067	6974345.925
Pileanthus aurantiacus	P1	25		231686.675	6974348.369
Pileanthus aurantiacus	P1	60		231488.04	6977266.861
Pileanthus aurantiacus	P1	50		231392.7096	6976815.365
Pileanthus aurantiacus	P1	10		231614.2956	6973640.997
Pileanthus aurantiacus	P1	5		231071.7737	6981748.575
Pileanthus aurantiacus	P1	50		231563.9681	6973747.025
Pileanthus aurantiacus	P1	50		231306.3953	6978019.123
Pileanthus aurantiacus	P1	70		231336.3884	6977475.99
Pileanthus aurantiacus	P1	100		231462.7394	6977493.687
Pileanthus aurantiacus	P1	50		231341.2475	6977304.473
Pileanthus aurantiacus	P1	60		231488.549	6977432.74
Pileanthus aurantiacus	P1	10		231170.9773	6979010.831
Pileanthus aurantiacus	P1	65		231693.3748	6973616.07
Pileanthus aurantiacus	P1	20		231691.8579	6973758.522
Pileanthus aurantiacus	P1	60		231763.3339	6973573.334
Pileanthus aurantiacus	P1	30		231490.0311	6977173.81
Pileanthus aurantiacus	P1	15		231539.7418	6973677.149
Pileanthus aurantiacus	P1	100		231383.1872	6977495.428
Pileanthus aurantiacus	P1	40		231609.9	6974335.751
Pileanthus aurantiacus	P1	50		231183.7729	6978802.295
Pileanthus aurantiacus	P1	50		231692.6068	6973759.679
Pileanthus aurantiacus	P1	30		231528.5175	6974268.47
Pileanthus aurantiacus	P1	40		231592.292	6973653.152
Pileanthus aurantiacus	P1	20		231746.9102	6974601.093
Pileanthus aurantiacus	P1	4		231720.231	6974344.623
Pileanthus aurantiacus	P1	50		231495.8822	6974290.895
Pileanthus aurantiacus	P1	12		231709.7206	6973587.049
Pileanthus aurantiacus	P1	10		231031.1256	6982253.456
Pileanthus aurantiacus	P1	50		231612.1807	6974669.668
Pileanthus aurantiacus	P1	60		231085.9996	6979151.85
Pileanthus aurantiacus	P1	35		231490.2771	6974272.82
Pileanthus aurantiacus	P1	20		231624.0744	6973763.178
Pileanthus aurantiacus	P1	50		231753.8482	6974260.538
Pileanthus aurantiacus	P1	20		231579.4575	6975516.142
Pileanthus aurantiacus	P1	50		231593.1522	6974265.359
Pileanthus aurantiacus	P1	70		231337.6709	6977445.517
Pileanthus aurantiacus	P1	70		231384.6953	6977493.729

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Species	Status	# plants	% cover	Point X	Point Y
Pileanthus aurantiacus	P1	60		231508.8442	6977235.342
Pileanthus aurantiacus	P1	50		231545.2351	6974318.306
Pileanthus aurantiacus	P1	10		231639.8715	6973639.663
Pileanthus aurantiacus	P1	25		231534.3288	6973727.626
Pileanthus aurantiacus	P1	50		231058.3321	6980905.808
Pileanthus aurantiacus	P1	70		231346.0716	6977492.548
Pileanthus aurantiacus	P1	60		231169.354	6979725.053
Pileanthus aurantiacus	P1	20		231780.6512	6973590.488
Pileanthus aurantiacus	P1	100		231487.3637	6977434.71
Pileanthus aurantiacus	P1	80		231486.2294	6977304.966
Pileanthus aurantiacus	P1	50		231145.8586	6978509.889
Pileanthus aurantiacus	P1	40		231784.8248	6974266.327
Pileanthus aurantiacus	P1	80		231670.0705	6973632.942
Pileanthus aurantiacus	P1	50		231186.4503	6978191.136
Pileanthus aurantiacus	P1	60		231767.2957	6973987.502
Pileanthus aurantiacus	P1	22		231746.1709	6973569.582
Pileanthus aurantiacus	P1	30		231398.6284	6977184.815
Pileanthus aurantiacus	P1	50		231610.2958	6974335.769
Pileanthus aurantiacus	P1	18		231819.255	6973592.392
Pileanthus aurantiacus	P1	60		231487.6372	6977346.768
Pileanthus aurantiacus	P1	40		231553.4422	6973655.107
Pileanthus aurantiacus	P1	80		231488.04	6977266.861
Pileanthus aurantiacus	P1	12		224050.6151	6968596.077
Pileanthus aurantiacus	P1	1		229915.2023	6971480.379
Pileanthus aurantiacus	P1	1		231596.7393	6982392.501
Pileanthus aurantiacus	P1	25		224625.6027	6972005.33
Pileanthus aurantiacus	P1	10		224638.7162	6971959.183
Pileanthus aurantiacus	P1	25		224617.6041	6972006.984
Pileanthus aurantiacus	P1	2		224686.9174	6971817.477
Pileanthus aurantiacus	P1	1		225261.787	6972213.066
Pileanthus aurantiacus	P1	1		224598.7069	6972004.165
Pileanthus aurantiacus	P1	2		224656.9315	6971978.119
Pileanthus aurantiacus	P1	30		230899.507	6979782.649
Pileanthus aurantiacus	P1	1		231113.8784	6980021.025
Pileanthus aurantiacus	P1	30		230745.3974	6979789.236
Pileanthus aurantiacus	P1	5		230846.4921	6980042.879
Pileanthus aurantiacus	P1	30		230713.0716	6979805.938
Pileanthus aurantiacus	P1	30		231030.6751	6979893.912
Pileanthus aurantiacus	P1	30		230841.895	6979788.082
Pileanthus aurantiacus	P1	10		230949.8315	6980130.242
Pileanthus aurantiacus	P1	20		231014.2826	6980009.801

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Species	Status	# plants	% cover	Point X	Point Y
Pileanthus aurantiacus	P1	30		230959.6622	6979805.896
Pileanthus aurantiacus	P1	15		231037.8905	6980032.609
Pileanthus aurantiacus	P1	30		230769.5992	6979751.717
Pileanthus aurantiacus	P1	10		231135.8681	6979939.832
Pileanthus aurantiacus	P1	30		231050.3079	6980026.429
Pileanthus aurantiacus	P1	10		230882.3836	6980116.333
Pileanthus aurantiacus	P1	1		225665.0325	6972884.947
Pileanthus aurantiacus	P1	20		224490.0197	6971829.749
Pileanthus aurantiacus	P1	4		225760.9142	6972820.253
Pileanthus aurantiacus	P1	1		225687.1117	6972864.032
Pileanthus aurantiacus	P1	10		225590.3382	6972542.398
Pileanthus aurantiacus	P1	15		225720.9686	6972750.413
Pileanthus aurantiacus	P1	11		225624.9875	6972611.962
Pileanthus aurantiacus	P1	20		231397.95	6976874.057
Pileanthus aurantiacus	P1	20		231719.3803	6974455.689
Pileanthus aurantiacus	P1	10		231243.0721	6978013.882
Pileanthus aurantiacus	P1	20		231182.6637	6978828.5
Pileanthus aurantiacus	P1	5		231368.1927	6982306.7
Pileanthus aurantiacus	P1	1		231375.8536	6982326.278
Pileanthus aurantiacus	P1	5		231163.5024	6979280.87
Pileanthus aurantiacus	P1	1		231267.3228	6982303.774
Pileanthus aurantiacus	P1	5		231707.1735	6974871.68
Pileanthus aurantiacus	P1	1		232372.4605	6982401.314
Pileanthus aurantiacus	P1	3		231643.5776	6982346.742
Pileanthus aurantiacus	P1	20		231283.579	6977640.477
Pileanthus aurantiacus	P1	10		231029.5686	6981869.058
Pileanthus aurantiacus	P1	20		231098.1225	6980700.348
Pileanthus aurantiacus	P1	2		231393.522	6982326.697
Pileanthus aurantiacus	P1	10		231324.8565	6982303.412
Pileanthus aurantiacus	P1	5		231160.9479	6979749.998
Pileanthus aurantiacus	P1			231418.7753	6977289.387
Pileanthus aurantiacus	P1			231620.6289	6974303.275
Pileanthus aurantiacus	P1			231616.2985	6973675.526
Pileanthus aurantiacus	P1	1	1	231214.258	6979536.314
Pterostylis macrocalymma	P1, R.E.	1	1	240606.3135	6973340.669
Ptilotus alexandri	P2	1		216943.4667	6947600.384
Ptilotus alexandri	P2	5		217286.0158	6947126.115
Ptilotus alexandri	P2	1	1	208364.4975	6969690.468
Ptilotus alexandri	P2	1	1	217284.856	6947125.569
Scaevola chrysopogon	P2, R.E.	21		241871.6456	6973408.93
Scaevola chrysopogon	P2, R.E.	8		244925.0253	6973479.947

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Scaevola chrysopogon	P2, R.E.	35		241893.2371	6973410.441
Scaevola chrysopogon	P2, R.E.	35		244995.5132	6973443.805
Scaevola chrysopogon	P2, R.E.	50		241881.9422	6973427.278
Scaevola chrysopogon	P2, R.E.	20		241875.0472	6973415.655
Scaevola chrysopogon	P2, R.E.	13		241877.8051	6973405.03
Scaevola chrysopogon	P2, R.E.	50		244985.9	6973455.744
Scaevola chrysopogon	P2, R.E.	7		244925.6083	6973486.015
Scaevola chrysopogon	P2, R.E.	13		244976.3673	6973516.201
Scaevola chrysopogon	P2, R.E.	13		245029.0522	6973533.423
Scaevola chrysopogon	P2, R.E.	35		241878.36	6973408.146
Scaevola chrysopogon	P2, R.E.	4		241890.6229	6973390.463
Scaevola chrysopogon	P2, R.E.	6		244978.1858	6973488.936
Scaevola chrysopogon	P2, R.E.	50		245001.8687	6973447.025
Scaevola chrysopogon	P2, R.E.	50		244996.5002	6973450.263
Scaevola chrysopogon	P2, R.E.	50		245003.5	6973449.421
Scaevola sp. ?Golden hairs (D. & B. Bellairs 1450 A)	P1, R.E.	1	1	216970.53	6949802.746
Scaevola sp. ?Golden hairs (D. & B. Bellairs 1450 A)	P1, R.E.	1	1	216186.8646	6956428.828
Scaevola sp. ?Golden hairs (D. & B. Bellairs 1450 A)	P1, R.E.	1	1	218289.289	6945172.862
Schoenus badius	P2, R.E.	1	<1	223936.6051	6971780.276
Schoenus badius	P2, R.E.	1	1	221685.4247	6967969.207
Scholtzia oleosa	P3	1	60	225153.9806	6972454.464
Scholtzia oleosa	P3	1	20	225694.629	6973483.316
Scholtzia oleosa	P3	1	40	221685.4247	6967969.207
Scholtzia oleosa	P3	1	20	221179.3349	6968388.198
Scholtzia oleosa	P3	1	30	221417.7174	6981937.338
Scholtzia oleosa	P3	1	1	221296.2104	6981935.283
Scholtzia oleosa	P3	1	2	224549.6612	6972018.27
Scholtzia sp. Folly Hill (M.E. Trudgen 12.9097)	P2	1		230269.8603	6963559.413
Stenanthemum divaricatum	P3	1	1	234781.0217	6973328.198
Stenanthemum divaricatum	P3	1	20	217121.3554	6947508.085
Stenanthemum divaricatum	P3	1	1	215221.6824	6959178.122
Stenanthemum divaricatum	P3	1	1	216920.8014	6954282.365
Thryptomene caduca	P3	1		220426.5956	6981989.676
Thryptomene calcicola	P2	1	1	213681.2206	6955792.841
Thryptomene johnsonii	P2, R.E.	5		225551.3757	6972964.685
Thryptomene johnsonii	P2, R.E.	10		225574.8148	6972965.807
Thryptomene johnsonii	P2, R.E.	30		223278.4859	6967906.253
Thryptomene johnsonii	P2, R.E.	30		223569.3745	6967957.135
Thryptomene johnsonii	P2, R.E.	1	1	225153.9806	6972454.464
Thryptomene johnsonii	P2, R.E.	1	60	223936.6051	6971780.276

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Thryptomene johnsonii	P2, R.E.	1	55	223071.77	6970533.908
Thryptomene ? sp. Carrarang (M.E Trudgen 7420)	P1, R.E.	1	<1	217789.6579	6956373.21
Thryptomene sp. Carrarang (M.E Trudgen 7420)	P1, R.E.	1	2	203385.3539	6977527.858
Thryptomene sp. Carrarang (M.E Trudgen 7420)	P1, R.E.	1	10	203554.1302	6977526.13
Thryptomene sp. Carrarang (M.E Trudgen 7420)	P1, R.E.	1	2	224549.6612	6972018.27
Thryptomene sp. Carrarang (M.E Trudgen 7420)	P1, R.E.	1	40	204003.722	6978150.133
Thryptomene sp. Carrarang (M.E Trudgen 7420)	P1, R.E.	1		203727.8881	6977879.256
Thryptomene sp. Eagle Gorge (A.G. Gunness 2360)	P2	1	5	203644.8948	6981155.661
Thryptomene sp. Eagle Gorge (A.G. Gunness 2360)	P2	1	2	225274.7841	6972189.817
Thysanotus fragrans	P2	1	1	219415.8936	6954700.5
Triodia aff. *dielsii*	Species of interest	1	1	241490.9773	6973426.147
Triodia aff. *dielsii*	Species of interest	1	15	244917.6674	6973507.587
Triodia aff. *dielsii*	Species of interest	1	2	235874.7501	6975321.452
Triodia bromoides	P4	15		218501.0566	6961736.258
Triodia bromoides	P4	4		220346.5614	6961446.137
Triodia bromoides	P4	1		219863.1622	6961604.052
Triodia bromoides	P4	6		223810.2787	6955952.574
Triodia bromoides	P4	1	1	219249.3621	6960448.592
Triodia bromoides	P4	1	2	235206.627	6982351.936
Triodia bromoides	P4	1	2	236918.9263	6973226.793
Triodia bromoides	P4	1	30	234781.0217	6973328.198
Triodia bromoides	P4	1	15	230459.1365	6971864.694
Triodia bromoides	P4	1	1	221179.3349	6968388.198
Triodia bromoides	P4	1	5	217315.8351	6946631.396
Triodia bromoides	P4	1	1	217121.3554	6947508.085
Triodia bromoides	P4	1	15	216970.53	6949802.746
Triodia bromoides	P4	1	1	228349.5298	6967442.423
Triodia bromoides	P4	1	2	232726.9661	6964389.607
Triodia bromoides	P4	1	1	215221.6824	6959178.122
Triodia bromoides	P4	1	1	230426.6982	6971958.527
Triodia bromoides	P4	1	3	210364.2734	6969086.888
Triodia bromoides	P4	1	1	218114.4181	6945087.539
Triodia bromoides	P4	1	2	217812.1451	6945657.994
Triodia bromoides	P4	1	3	216968.5835	6948394.632
Triodia bromoides	P4	1	1	230322.2277	6967231.591
Triodia bromoides	P4	1	<1	231236.6868	6966431.632
Triodia bromoides	P4	1	1	216073.4231	6956390.907
Triodia bromoides	P4	1	5	217246.19	6951393.605
Triodia bromoides	P4	1	2	214664.209	6956021.597

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Triodia bromoides	P4	1	1	214690.1124	6956079.118
Triodia bromoides	P4	1	1	216929.6086	6955430.728
Triodia bromoides	P4	1	1	218118.3412	6963180.618
Triodia bromoides	P4	1	1	225274.7841	6972189.817
Triodia bromoides	P4	1	1	224830.4518	6971802.069
Triodia bromoides	P4	1	1	224361.1701	6969363.763
Triodia bromoides	P4	1	1	230984.8807	6982223.702
Triodia bromoides	P4	1	1	231032.7268	6981740.948
Triodia bromoides	P4	1	1	231052.8179	6981394.012
Triodia bromoides	P4	1	1	231214.258	6979536.314
Triodia bromoides	P4	1	1	231543.039	6976254.554
Triodia bromoides	P4	1	20	218223.5088	6961794.603
Triodia bromoides	P4	1	<1	207952.479	6972696.614
Triodia bromoides	P4	1	10	213630.4455	6977067.108
Triodia bromoides	P4	1	20	218289.289	6945172.862
Triodia bromoides	P4	1	1	218093.5797	6961612.225
Triodia bromoides	P4	1	1	204925.0562	6978746.536
Triodia bromoides	P4	1	15	217284.856	6947125.569
Triodia bromoides	P4	1	10	216992.9621	6947937.947
Verticordia capillaris	P4	100		220974.339	6981759.643
Verticordia capillaris	P4	6		231043.0739	6982235.126
Verticordia capillaris	P4	1		232250.398	6973153.87
Verticordia capillaris	P4	1		213757.1716	6980417.184
Verticordia capillaris	P4	1		226873.7448	6969237.362
Verticordia capillaris	P4	4		229761.3014	6967304.098
Verticordia capillaris	P4	1		227204.2013	6969569.682
Verticordia capillaris	P4	1		224974.1044	6972083.796
Verticordia capillaris	P4	1	1	225153.9806	6972454.464
Verticordia capillaris	P4	1		230733.7569	6979820.105
Verticordia capillaris	P4	13		222144.3238	6967564.498
Verticordia capillaris	P4	1		222108.5727	6967636.254
Verticordia capillaris	P4	1		223383.1759	6967966.818
Verticordia capillaris	P4	2		220734.1366	6966179.611
Verticordia capillaris	P4	1		213749.8231	6979383.607
Verticordia capillaris	P4	1		224167.9623	6968613.147
Verticordia capillaris	P4	1		222113.7764	6967054.556
Verticordia cooloomia	P3	80		230768.6181	6979908.657
Verticordia cooloomia	P3	55		230913.0504	6980146.074
Verticordia cooloomia	P3	35		231114.2475	6980021.745
Verticordia cooloomia	P3	100		231090.0028	6980172.381
Verticordia cooloomia	P3	20		231074.4232	6981383.398
Verticordia cooloomia	P3	35		231025.4976	6979883.231

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Species	Status	# plants	% cover	Point X	Point Y
Verticordia cooloomia	P3	10		230899.2265	6979774.593
Verticordia cooloomia	P3	75		230805.7949	6979987.586
Verticordia cooloomia	P3	15		231014.128	6980185.483
Verticordia cooloomia	P3	35		231016.0918	6980018.581
Verticordia cooloomia	P3	60		230780.6735	6979742.373
Verticordia cooloomia	P3	10		231102.5422	6980290.634
Verticordia cooloomia	P3	31		231078.6863	6980080.838
Verticordia cooloomia	P3	45		231231.6569	6979597.164
Verticordia cooloomia	P3	40		231193.3377	6979740.646
Verticordia cooloomia	P3	35		231208.5199	6979535.555
Verticordia cooloomia	P3	10		231146.7741	6980066.289
Verticordia cooloomia	P3	20		231251.355	6979468.762
Verticordia cooloomia	P3	30		231165.6332	6979953.84
Verticordia cooloomia	P3	30		231188.5658	6979661.367
Verticordia cooloomia	P3	25		231164.4516	6979831.809
Verticordia cooloomia	P3	50		221225.719	6968321.487
Verticordia cooloomia	P3	100		221227.6991	6968314.791
Verticordia cooloomia	P3	100		231841.1545	6973650.019
Verticordia cooloomia	P3	1		231035.949	6982381.664
Verticordia cooloomia	P3			230942.8824	6979981.45
Verticordia cooloomia	P3	1	40	231052.8179	6981394.012
Verticordia cooloomia	P3	1	30	231214.258	6979536.314
Verticordia dichroma var. *dichroma*	P3	1		232757.8899	6964269.521
Verticordia dichroma var. *dichroma*	P3	2		225049.5553	6972124.406
Verticordia dichroma var. *dichroma*	P3	1		232754.4359	6964265.483
Verticordia dichroma var. *dichroma*	P3	2		242497.4844	6973417.811
Verticordia lepidophylla var. *quantula*	P1	25		223518.55	6966169.023
Verticordia lepidophylla var. *quantula*	P1	2		233087.9018	6973169.365
Verticordia lepidophylla var. *quantula*	P1	2		232995.1616	6973166.705
Verticordia lepidophylla var. *quantula*	P1	2		231655.3673	6982393.571
Verticordia lepidophylla var. *quantula*	P1	2		233247.1924	6982419.847
Verticordia lepidophylla var. *quantula*	P1	4		216185.1376	6956424.818
Verticordia lepidophylla var. *quantula*	P1	1		227851.7212	6967734.087
Verticordia lepidophylla var. *quantula*	P1	3		232031.9692	6964532.592
Verticordia lepidophylla var. *quantula*	P1	1		232749.1572	6964301.446
Verticordia lepidophylla var. *quantula*	P1	5		228497.4542	6967460.839
Verticordia lepidophylla var. *quantula*	P1	5		227918.7116	6967672.966
Verticordia lepidophylla var. *quantula*	P1	1		232726.8702	6964336.505
Verticordia lepidophylla var. *quantula*	P1	3		232730.4481	6964325.908
Verticordia lepidophylla var. *quantula*	P1	1		232785.8261	6964253.229
Verticordia lepidophylla var. *quantula*	P1	2		233042.1982	6964024.851

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Species	Status	# plants	% cover	Point X	Point Y
Verticordia lepidophylla var. *quantula*	P1	1	2	228349.5298	6967442.423
Verticordia lepidophylla var. *quantula*	P1	1	2	224409.4397	6982157.87
Verticordia lepidophylla var. *quantula*	P1	1	1	220710.3381	6966185.821
Verticordia lepidophylla var. *quantula*	P1	1	4	225274.7841	6972189.817
Verticordia lepidophylla var. *quantula*	P1	1	1	229926.8839	6971460.676
Verticordia lepidophylla var. *quantula*	P1	5		231538.0358	6974334.783
Verticordia lepidophylla var. *quantula*	P1	3		231786.8853	6973581.672
Verticordia lepidophylla var. *quantula*	P1	15		231488.5113	6974227.896
Verticordia lepidophylla var. *quantula*	P1	20		231329.3329	6977322.985
Verticordia lepidophylla var. *quantula*	P1	7		231527.1576	6974242.218
Verticordia lepidophylla var. *quantula*	P1	5		231699.4221	6973734.754
Verticordia lepidophylla var. *quantula*	P1	12		231805.8666	6973582.028
Verticordia lepidophylla var. *quantula*	P1	7		231762.7404	6973574.023
Verticordia lepidophylla var. *quantula*	P1	5		231686.5801	6973896.696
Verticordia lepidophylla var. *quantula*	P1	10		231738.9643	6973568.151
Verticordia lepidophylla var. *quantula*	P1	5		231738.8322	6973968.172
Verticordia lepidophylla var. *quantula*	P1	3		231627.5791	6974244.491
Verticordia lepidophylla var. *quantula*	P1	30		231308.0683	6977212.185
Verticordia lepidophylla var. *quantula*	P1	6		231594.0709	6974245.489
Verticordia lepidophylla var. *quantula*	P1	10		231287.6045	6977355.191
Verticordia lepidophylla var. *quantula*	P1	6		231690.9253	6973753.063
Verticordia lepidophylla var. *quantula*	P1	3		231325.106	6972647.973
Verticordia lepidophylla var. *quantula*	P1	10		230103.2542	6971642.369
Verticordia lepidophylla var. *quantula*	P1	8		231228.4139	6972575.58
Verticordia lepidophylla var. *quantula*	P1	10		231721.7567	6972953.412
Verticordia lepidophylla var. *quantula*	P1	30		231588.7384	6972851.986
Verticordia lepidophylla var. *quantula*	P1	5		231615.1808	6973645.45
Verticordia lepidophylla var. *quantula*	P1	1		231253.0745	6972603.257
Verticordia lepidophylla var. *quantula*	P1	35		231527.8807	6974268.833
Verticordia lepidophylla var. *quantula*	P1	15		231540.1519	6973678.404
Verticordia lepidophylla var. *quantula*	P1	1		229931.1219	6971479.618
Verticordia lepidophylla var. *quantula*	P1	1		235897.7849	6975330.58
Verticordia lepidophylla var. *quantula*	P1	10		233279.9882	6973174.324
Verticordia lepidophylla var. *quantula*	P1	20		231554.4647	6973655.678
Verticordia lepidophylla var. *quantula*	P1	10		231489.5786	6977327.861
Verticordia lepidophylla var. *quantula*	P1	30		231485.7518	6977307.72
Verticordia lepidophylla var. *quantula*	P1	20		231523.6221	6972790.371
Verticordia lepidophylla var. *quantula*	P1	2		229017.8129	6971107.676
Verticordia lepidophylla var. *quantula*	P1	2		228629.6848	6970916.961
Verticordia lepidophylla var. *quantula*	P1	15		231744.1735	6972976.882
Verticordia lepidophylla var. *quantula*	P1	12		231656.17	6974259.327

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Species	Status	# plants	% cover	Point X	Point Y
Verticordia lepidophylla var. *quantula*	P1	6		231593.2085	6974266.035
Verticordia lepidophylla var. *quantula*	P1	5		230155.6484	6971687.714
Verticordia lepidophylla var. *quantula*	P1	2		231544.6854	6974318.915
Verticordia lepidophylla var. *quantula*	P1	10		231782.0592	6973771.392
Verticordia lepidophylla var. *quantula*	P1	9		230031.0772	6971576.134
Verticordia lepidophylla var. *quantula*	P1	3		231155.4316	6972526.765
Verticordia lepidophylla var. *quantula*	P1	5		231796.6983	6973029.117
Verticordia lepidophylla var. *quantula*	P1	15		231562.5707	6973748.665
Verticordia lepidophylla var. *quantula*	P1	30		231558.8279	6972824.681
Verticordia lepidophylla var. *quantula*	P1	8		233180.8752	6973173.139
Verticordia lepidophylla var. *quantula*	P1	1		231816.1713	6973044.934
Verticordia lepidophylla var. *quantula*	P1	10		229244.6936	6971232.223
Verticordia lepidophylla var. *quantula*	P1	7		235877.5197	6975324.476
Verticordia lepidophylla var. *quantula*	P1	2		229540.4608	6971334.179
Verticordia lepidophylla var. *quantula*	P1	25		231838.7011	6973598.024
Verticordia lepidophylla var. *quantula*	P1	2		227877.9402	6970265.4
Verticordia lepidophylla var. *quantula*	P1	2		231848.2136	6973075.727
Verticordia lepidophylla var. *quantula*	P1	10		231462.829	6972744.817
Verticordia lepidophylla var. *quantula*	P1	10		233334.8217	6973174.892
Verticordia lepidophylla var. *quantula*	P1	10		229607.85	6971353.619
Verticordia lepidophylla var. *quantula*	P1	15		231362.7666	6972674.409
Verticordia lepidophylla var. *quantula*	P1	5		231629.1424	6972891.727
Verticordia lepidophylla var. *quantula*	P1	15		231463.8678	6972752.452
Verticordia lepidophylla var. *quantula*	P1	15		230081.3105	6971621.257
Verticordia lepidophylla var. *quantula*	P1	15		231536.0745	6973728.184
Verticordia lepidophylla var. *quantula*	P1	2		227011.7838	6969364.196
Verticordia lepidophylla var. *quantula*	P1	10		231766.3924	6973000.909
Verticordia lepidophylla var. *quantula*	P1	8		233226.8873	6973175.835
Verticordia lepidophylla var. *quantula*	P1	3		228473.8095	6967459.775
Verticordia lepidophylla var. *quantula*	P1	1	1	235874.7501	6975321.452

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Significant flora locations outside DE

Species	Status	# plants	% cover	Point X	Point Y
Caladenia barbarella	T	4		224303.09	6982232.3
Caladenia barbarella	T	6		223815.07	6982481.3
Caladenia barbarella	T	2		224339.87	6982221.6
Caladenia barbarella	T	1		223826.02	6982462.4
Caladenia barbarella	T	2		224306.37	6982235.5
Caladenia barbarella	T	4		224312.08	6982236.6
Caladenia barbarella	T	1		224328.56	6982246.6
Caladenia barbarella	T	4		223837.1	6982431.1
Caladenia barbarella	T	2		223818.44	6982421.7
Caladenia barbarella	T	5		223823.03	6982483.5
Caladenia barbarella	T	2		223834.2	6982429.6
Caladenia barbarella	T	9		224311.21	6982230.5
Caladenia barbarella	T	4		224320.92	6982246
Caladenia barbarella	T	2		223848.71	6982442
Caladenia barbarella	T	1		223827.25	6982427.3
Caladenia barbarella	T	2		223837.58	6982458.9
Caladenia barbarella	T	6		223819.91	6982485.4
Caladenia barbarella	T	9		224311.26	6982227.3
Caladenia barbarella	T	5		223815.12	6982487
Pileanthus aurantiacus	P1	2		234640.48	6982447.1
Pileanthus aurantiacus	P1	5		230922	6984729.6
Pileanthus aurantiacus	P1	10		230893.54	6984393.4
Pileanthus aurantiacus	P1	1		230888.54	6985191.3
Pileanthus aurantiacus	P1	1		230884.82	6985350
Pileanthus aurantiacus	P1	1		230916.33	6984398.9
Pileanthus aurantiacus	P1	5		230928.38	6984465
Pileanthus aurantiacus	P1	1		230865.59	6985191.3
Pileanthus aurantiacus	P1	1		230852.58	6985189.5
Pileanthus aurantiacus	P1	1		230490.63	6985211.6
Pileanthus aurantiacus	P1	1		231420.32	6982455.1
Pileanthus aurantiacus	P1	1		231474.51	6982426.6
Pileanthus aurantiacus	P1	4		231415.94	6982437.8
Scaevola sp. ?Golden hairs (D. & B. Bellairs 1450 A)	P1, R.E.	2		226380.84	6996997.5
Verticordia lepidophylla var. *quantula*	P1	3		231698.58	6982395.6
Verticordia lepidophylla var. *quantula*	P1	1		255768.14	6960202.3
Verticordia lepidophylla var. *quantula*	P1	1	10	227044.76	6996996.1
Verticordia lepidophylla var. *quantula*	P1	1	1	226141.89	6997032.9

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Flora likelihood of occurrence	Guideline
Known	Known to occur within the survey area from previous record or recorded during current survey
Likely	Species previously recorded within the study area within 2 km and large areas of suitable habitat occur in the survey area.
Possible	Species previously recorded within the study area and areas of suitable habitat occur/may occur in the survey area.
Unlikely	Species previously recorded within the study area and areas of suitable habitat occur/may occur however suitable search effort during the preferred season did not record the species
Highly unlikely	Species not previously recorded within the study area, suitable habitat does not occur in the survey area and/or the survey area is outside the natural distribution of the species or suitable search effort during the preferred season did not record the species.
Other considerations	Intensity of survey, availability of access, growth form type, recorded flowering times, cryptic nature of species
Source information - desktop searches	PMST – DAWE Protected Matters Search Tool (PMST) to identify flora listed under the EPBC Act potentially occurring within the study area TPFL and WAHERB – records of threatened flora from TPFL and WAHERB database searches within the study area NM – DBCA *NatureMap* (accessed October 2021)

Family	Taxon	Status		Description and habitat (WA Herbarium 1998 –)	Nearest record	Likelihood of Occurrence		Source
		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Malvaceae	*Androcalva bivillosa*	CR	CR	Dry white / yellow sand on sandplain slope. Low shrubland *Grevillea leucopterus* and *Acacia spathulata*.	13.6 km south east	Possible, suitable habitat may occur	Unlikely. Lack of suitable habitat.	*NatureMap*, PMST, WA Herb, TPFL
Euphorbiaceae	*Beyeria lepidopetala*	EN	VU	Erect, open shrub, approx. 0.3 m high. Flower is green, July to August. Yellow sand over limestone, yellow sandplain. Gully. Small cliff with dry yellow sand over sandstone.	18.5 km south east	Possible, suitable habitat may occur	Unlikely. Lack of suitable habitat.	TPFL, WA Herb, PMST
Orchidaceae	*Caladenia barbarella*	EN	EN	Tuberous, perennial, herb, 0.08-0.25 m high. Flower is green, August to September. Preferred soil is shallow, grey, dark	Within DE, along northern boundary.	Known from previous record	Known. Recorded during current survey	TPFL, WA Herb, PMST

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Family	Taxon	Status		Description and habitat (WA Herbarium 1998 –)	Nearest record	Likelihood of Occurrence		Source
		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				brown, sandy clayey loam. Rocky ledges, alongside seasonal creeklines, in winter-wet depressions. *Melaleuca* and *Acacia* shrublands sandy loam, pale yellow sand, on winter wet flats and near claypans.				
Orchidaceae	*Caladenia bryceana* subsp. *cracens*	VU	EN	Tuberous, perennial, herb, 0.03-0.08 m high. Flower is green-yellow, August to September. Sand over limestone. South of Kalbarri in low heath on limestone hills/ridges; north in winter-moist flats. *Melaleuca, Actinostrobus* and *Acacia* shrublands, sides of seasonal creek beds. Dense heath to scrub of *Melaleuca cardiophylla* and *Allocasuarina campestris*	Within DE	Known from previous record	Known. Recorded during current survey	*NatureMap*, PMST, WA Herb, TPFL
Orchidaceae	*Caladenia elegans*	EN	CR	Tuberous, perennial, herb, 0.2-0.3 m high. Flower is yellow, July to August. Clayey loam. Winter-wet clay flats. Red sandy clay over granite. Wet clay swamp at foot of lateritic hill. In brown clay loam over laterite, winter wet. Base of tall dune - seepage area.	7 km east	Possible, suitable habitat may occur	Unlikely, lack of suitable habitat	PMST, TPFL

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Family	Taxon	Status		Description and habitat (WA Herbarium 1998 –)	Nearest record	Likelihood of Occurrence		Source
		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Orchidaceae	*Caladenia hoffmanii*	EN	EN	Tuberous, perennial, herb, 0.13-0.3 m high. Flowers green and yellow; red, August to October. Clay, loam, laterite, granite. Rocky outcrops and hillsides, ridges, swamps and gullies.	Not recorded on DBCA database search area (2021b)	Unlikely. Lack of suitable habitat.	Unlikely. Lack of suitable habitat.	*NatureMap*, PMST
Orchidaceae	*Caladenia wanosa*	VU	EN	Tuberous, perennial, herb, 0.12-0.2 m high. Flower is cream & red, August to September. Sandy soil. Sandstone outcrops, top edges of gorges. Shrublands.	22 km east	Possible, suitable habitat may occur	Unlikely. Lack of suitable habitat.	PMST, WA Herb, TPFL. *NatureMap*
Rutaceae	*Drummondita ericoides*	EN	VU	Divaricately branched shrub, 0.3-1 m high. Flowers yellow and violet/purple, September to October. Rocky places.	Not recorded on DBCA database search area (2021b)	Unlikely. Lack of suitable habitat.	Unlikely. Lack of suitable habitat.	PMST
Orchidaceae	*Drakaea concolor*	VU	EN	Tuberous, perennial, herb, 0.25-0.3 m high. Flower is red & yellow, August to September. Sandy soil.	18 km east.	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap,* PMST, TPFL, WA Herb
Myrtaceae	*Eucalyptus beardiana*	VU	EN	3-5 m high, bark smooth. Flower is cream-white, August to September. Red or yellow sand. Sand dunes & ridges. Sand dune on rise. Yellow-reddish sand. With *Callitris, Banksia, Eucalyptus jucunda.*	22 km north east	Possible, suitable habitat may occur	Possible, suitable habitat may occur	PMST, TPFL, WA Herb

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Family	Taxon	Status		Description and habitat (WA Herbarium 1998 –)	Nearest record	Likelihood of Occurrence		Source
		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Myrtaceae	*Eucalyptus cuprea*	EN	EN	Mallee, 2.5-5 m high, bark rough to 1.5 m, box-type. Flowers white, August to November. Shallow soils over granite.	Not recorded on DBCA database search area (2021b)	Unlikely. Lack of suitable habitat.	Unlikely. Lack of suitable habitat.	PMST
Poaceae	*Glyceria drummondii*	EN	EN	Annual, grass-like or herb. Flowers green, July to October. Brown to grey clay. Localised hollows in claypans in seasonally flooded areas.	Not recorded on DBCA database search area (2021b)	Unlikely. Lack of suitable habitat.	Unlikely. Lack of suitable habitat.	PMST
Myrtaceae	*Hypocalymma longifolium*	VU	VU	Open shrub, to 1 m high. Flower is white/cream, August to September. Grey sand or clay, sandstone. Rocky breakaways, swampland.	5.7 km east	Possible, suitable habitat may occur	Unlikely. Lack of suitable habitat.	PMST, *NatureMap*, WA Herb, TPFL
Goodeniaceae	*Lechenaultia chlorantha*	VU	EN	Diffuse, ascending, much-branched shrub, to 0.3 m high. Flower is blue-green-yellow, August to September. Rocky sandstone gullies & on ledges.	9.7 km east	Unlikely. Lack of suitable habitat.	Unlikely. Lack of suitable habitat.	PMST, *NatureMap*, WA Herb, TPFL
Colchicaceae	*Wurmbea tubulosa*	EN	VU	Cormous, perennial, herb, 0.01-0.03 m high, dioecious or sometimes andromonoecious. Flowers white-pink, June to August. Clay, loam. River banks, seasonally-wet places.	Not recorded on DBCA database search area (2021b)	Unlikely. Lack of suitable habitat.	Unlikely. Lack of suitable habitat.	PMST

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Myrtaceae	*Chamelaucium* sp. Coolcalalaya (A.H. Burbidge 4233)	-	P1	Erect, woody shrub, 1.5 m, flowers white and red. Undulating dunes, white sandplains. Mustard yellow sandy loam.	Within DE	Known from previous record	Known. Recorded during current survey	WA Herb, TPFL, *NatureMap*
Asteraceae	*Chthonocephalus oldfieldianus*	-	P1	Annual, herb (with basal rosette). Fl. August to October. Red sand dunes.	Not recorded on DBCA database search area (2021b)	Unlikely. Lack of suitable habitat.	Unlikely. Lack of suitable habitat.	*NatureMap*
Hemerocallidaceae	*Corynotheca acanthoclada*	-	P1	Erect herb. Flowers white. Foliage olive-green. Greenough alluvium (flood plain). Slope foot. Brown grey sandy loam. At very edge of Greenough Flats. Roadside, along edge of sandy rise. Sandplain, adjacent to small creekline and sandstone breakaway area.	13.5 km south	Unlikely, lack of potential habitat	Unlikely. Lack of suitable habitat.	WA Herb
Restionaceae	*Desmocladus ferruginipes*	-	P1	Forming fairly compact tussocks to 30 cm across at base and rings (dying out in centre) to 1 m across. Male and female inflorescences similar, posture (male inflorescences only) More or less erect. Flowering Time April or May. Dark grey sand over grey sand at 10 cm, also described on yellow sand.	3.8 km south	Possible, suitable habitat may occur	Known. Recorded during current survey	WA Herb, TPFL

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Restionaceae	*Lepidobolus eurardyensis*	-	P1	Sedge, yellow sand to yellow sandy loam. Shrubland or with *Ecdeiocolea.*		Possible, suitable habitat may occur	Known. Recorded during current survey	*NatureMap*
Macarthuriaceae	*Macarthuria georgeana*	-	P1	Erect, many-stemmed perennial, herb or shrub, 0.15-0.4 m high. Flowers are white-cream, August to September. Yellow sand. Sandplains & sand dunes.	Within DE	Known from previous record. Last collected in 1976	Known from previous record. Current survey did not record the species.	WA Herb, *NatureMap*
Myrtaceae	*Malleostemon nerrenensis*	-	P1	Open spreading shrub 1.5 m tall with long stems from the ground. The stems few branched and with small leafy branches along them. Petals white to pale pink. Calyx lobes herbaceous, green or reddish. Lower part of the hypanthium light green, upper part reddish. South-easterly facing lower to mid-slope of a sand dune. Soil: light orange-brown sand.	9.5 km north	Unlikely, lack of potential habitat	Known from previous record.	TPFL,
Myrtaceae	*Micromyrtus greeniana*	-	P1	Shrub with white flowers. *Grevillea commutata, Grevillea eriostachya* Open Heath over a mixed Low Shrubland over	Approximately 30 km southeast	Possible, suitable habitat may occur	Unlikely. Lack of suitable habitat.	*NatureMap*

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				Ecdeiocolea monostachya				
Asteraceae	*Millotia depauperata*	-	P1	Slender annual, herb, to 0.2 m high. Flowers yellow, August to September. Sandy loam. Granite outcrops.	Approximately 35 km southeast	Unlikely, lack of potential habitat	Unlikely, lack of potential habitat	*NatureMap*
Fabaceae	*Mirbelia* sp. Zuytdorp (G.J. Keighery & N. Gibson 1688)	-	P1	Sloping limestone upland. Yellow sand over limestone.	Within DE	Known from previous record	Known from previous record, current survey did not record the taxon	WA Herb
Myrtaceae	*Pileanthus aurantiacus*	-	P1	Upright, woody shrub, to 2 m high. Flowers are orange, October. Yellow sand over yellow sandy clay, red sand over limestone. Flats, undulating sandplains, low dune slopes.	Within DE, northern boundary	Known from previous record	Known. Recorded during current survey	WA Herb, TPFL,
Orchidaceae	*Pterostylis macrocalymma*	-	P1	Tuberous, perennial, herb, to 0.25 m high. Fl. green-brown, September to October. Rocky red clay-loam. Flats.	Occurs outside desktop search area	Not previously known from desktop search area	Known. Recorded during current survey	-
Goodeniaceae	*Scaevola* sp. Golden hairs (D. & B. Bellairs 1450 A)	-	P1	Erect, open, branching shrub 0.45 m high x 0.3 m wide. Flowers white. Plain. Dry, white sand.	12 km south	Possible, suitable habitat may occur	Known. Recorded during current survey as a tentative record	*NatureMap,* WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Myrtaceae	*Scholtzia peltigera*	-	P1	Scattered *Eucalyptus* small trees over *Acacia* - *Scholtzia* tall shrubs. In yellow sand above a creekline.	Approximately 35 km southeast	Unlikely, lack of potential habitat	Unlikely, lack of potential habitat	*NatureMap*
Myrtaceae	*Thryptomene* sp. Carrarang (M.E. Trudgen 7420)	-	P1	Shrub, 0.5-3 m high. Lower bark coarsely fibrous dark grey, upper bark light grey. Petals pink, disc cream coloured. Calcareous sand. Sand dunes.	2.1 km north	Likely, suitable habitat occurs	Known. Recorded during current survey	WA Herb
Myrtaceae	*Verticordia lepidophylla* var. *quantula*	-	P1	Erect or spreading, straggly shrub, 1-2.3 m high. Flowers cream-yellow-green, October to November. Red sand over limestone, yellow sand.	Within DE, northern boundary	Known from previous record	Known. Recorded during current survey	WA Herb
Myrtaceae	*Verticordia x eurardyensis*	-	P1	Shrub, 0.3-1 m high. Flower pink-purple-red/brown, January. Yellow sand.	Approximately 35 km southeast	Possible, suitable habitat occurs	Possible, suitable habitat occurs	*NatureMap*
Fabaceae	*Acacia gelasina*	-	P2	Dense, spreading shrub, 0.4 - 2.5 m high. Flowers yellow, June to September. Yellow sand. Sandplains, low rises.	6.6 km north	Possible, suitable habitat may occur	Possible, suitable habitat occurs	*NatureMap,* WA Herb
Fabaceae	*Acacia leptospermoides* subsp. *obovata*	-	P2	Openly branched shrub, 0.4-1.5 m high, phyllodes obovate to broadly obovate. Flowers yellow, July to August. Yellow/brown sand. Sandplains, sand ridges.	1.3 km east	Likely, suitable habitat occurs	Likely, suitable habitat occurs	WA Herb, TPFL

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Fabaceae	*Acacia ryaniana*	-	P2	Prostrate, straggly or domed, spinescent shrub, 0.1-0.4 m high. Flowers yellow, June to November. White or red sand. Coastal sand dunes.	Approximately 35 km southeast	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap*
Fabaceae	*Acacia stereophylla* var. *cylindrata*	-	P2	Shrub or tree, 1-4 m high, phyllodes terete to subterete. Flower is yellow, August to September. Sand. Sandstone cliffs.	22 km east	Possible, suitable habitat may occur	Known. Recorded during current survey	*NatureMap,* WA Herb.
Proteaceae	*Adenanthos acanthophyllus*	-	P2	Robust shrub, 2-6 m high. Flower is red/pink & green, April to July or December. Red or orange-brown sand.	15 km north	Possible, suitable habitat may occur	Possible, suitable habitat may occur	WA Herb
Malvaceae	*Androcalva microphylla*	-	P2	Spindly shrub. Flowers small white. Leaves small fleshy. Heath. Sand	Approximately 35 km southeast	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap*
Asteraceae	*Angianthus microcephalus*	-	P2	Decumbent or ascending annual, herb, 0.06-0.2 m high. Flower is yellow, September to December. Sandy or clayey soils. Salt swamps & pans.	8.5 km south east	Possible, suitable habitat may occur	Unlikely, lack of habitat	*NatureMap,* WA Herb
Myrtaceae	*Baeckea subcuneata*	-	P2	Shrub, 0.8-1.5 m high. Flower is white-pink, August to November. Red/yellow sand. Sandstone outcrops, dunes.	17 km south	Unlikely, lack of potential habitat	Unlikely, lack of habitat	*NatureMap,* WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Fabaceae	*Bossiaea inundata*	-	P2	Open, spreading shrub, to 1 m high. Flower is red-yellow, May to September. Sand, sandstone. River beds and banks, seasonally inundated areas.	8.6 km south east	Unlikely, lack of potential habitat. Closest record historic (1961)	Unlikely, lack of habitat	*NatureMap,* WA Herb
Ericaceae	*Brachyloma pirara*	-	P2	Small rounded shrub, narrow leaves. *Actinostrobus* sp. over *Scholtzia* sp. low scrub. Broad swale. Yellow/cream clayey sand.	Approximately 40 km southeast	Possible, suitable habitat may occur	Unlikely, lack of habitat	
Orchidaceae	*Caladenia longicauda* subsp. *minima*	-	P2	Red loam with ironstone outcrops and yellow sandy creek lines.	11 km south	Unlikely, no potential habitat present	Unlikely, lack of habitat	*NatureMap,* WA Herb
Montiaceae	*Calandrinia vernicosa*	-	P2	*Melaleuca* sp. and *Hakea stenophylla* Open Low Woodland A over *Rhagodia* sp. and *Olearia axillaris.* Gentle W-facing slope of dune near swale. Orange/red clayey sand	Approximately 25 km north	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap*
Dasypogonaceae	*Calectasia browneana*	-	P2	Spreading, caespitose perennial, herb, 0.2-0.5 m high, to 0.4 m wide. Flowers blue-purple, June to August. White-grey sand, laterite. Adjacent to wet areas of creekline.	Approximately 40 km southeast	Unlikely, no potential habitat present	Unlikely, no potential habitat present	*NatureMap*

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Myrtaceae	*Calothamnus cupularis*	-	P2	Kwongan, yellow sand.	Approximately 25 km southeast	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap*
Myrtaceae	*Calytrix harvestiana*	-	P2	Shrub, 0.3-0.7 m high. Flower is purple-pink/violet, September to December. White or yellow sand. Flats.	Within DE	Known from previous record	Known. Recorded during current survey	*NatureMap,* WA Herb
Myrtaceae	*Calytrix paucicostata*	-	P2	Shrub, 0.5-2 m high. Flower is pink & yellow, September to October. Yellow or grey sand. Sand dunes.	10.9 km south	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap,* WA Herb
Myrtaceae	*Calytrix purpurea*	-	P2	Spreading shrub, 0.3-0.6 m high. Flower is purple, September to October or December. White, grey or yellow sand, often over laterite. Sandplains, sand dunes.	15.3 km east	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap,* WA Herb
Asteraceae	*Chthonocephalus muellerianus*	-	P2	Prostrate to ascending annual, herb, 0.02-0.07 m high. Flowers September. Red sand.	Approximately 30 km east	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap*
Asteraceae	*Chthonocephalus tomentellus*	-	P2	Prostrate to ascending annual, herb. Flowers yellow, August to November. Red sand. Undulating plains, sand dunes, near saline depressions.	Approximately 20 km south	Possible, suitable habitat may occur	Known. Recorded during current survey	*NatureMap*
Asteraceae	*Stenanthemum divaricatum*	-	P3	Prostrate to ascending annual, herb. Flower is yellow, August to November. Red sand.	12 km south	Possible, suitable habitat may occur	Known. Recorded during	*NatureMap,* WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				Undulating plains, sand dunes, near saline depressions.			current survey	
Rhamnaceae	*Cryptandra glabriflora*	-	P2	Low shrub, 0.05-0.5 m high. Flower is white/pink, May to August. Yellow or grey sand, gravelly soils. Plains.	20.7 km south east	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap,* WA Herb
Myrtaceae	*Enekbatus cristatus*	-	P2	Open, sprawling shrub, to 0.3 m high. Flower is pale pink/mauve. Yellow sand, sandy gravel, clay over sandstone. Sloping sand plains.	14 km south	Possible, suitable habitat may occur	Unlikely, no potential habitat present	*NatureMap,* WA Herb
Rutaceae	*Geleznowia amabilis*	-	P2	Shrub to 1 m. Flowers large, yellow and terminal. Dense rounded head. Silty sand. Scattered outcrops of light red sandstone.	11.1 km south	Unlikely, no potential habitat present	Known. Recorded during current survey as a tentative record	WA Herb
Proteaceae	*Grevillea stenomera*	-	P2	Grey, lignotuberous shrub, 0.9-2.2 m high. Flower is orange & red & pink, May to June or August to October or December. Red or yellow sand on limestone. Coastal areas.	Within DE	Known from previous record	Known. Recorded during current survey	*NatureMap,* WA Herb
Lamiaceae	*Hemiandra* sp. Kalbarri (D. Bellairs 1505)	-	P2	Shrub, flowers mauve. Sandplain, grey sand.	Approximately 35 km south	Possible, suitable habitat may occur	Known. Recorded during current survey	*NatureMap*

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Asteraceae	*Hyalosperma stoveae*	-	P2	Much-branched, semi-prostrate annual, herb. Sand or sandy clay.	Approximately 40 km southeast	Possible, suitable habitat may occur	Unlikely, no potential habitat present	*NatureMap*
Myrtaceae	*Malleostemon costatus*	-	P2	Compact shrub, 80 cm x 1.2 m wide, flowers pink. Seasonally wet plain, stony, brown sandy-clay.	13.6 km south east	Unlikely, no potential habitat present. Closest record historic (1963)	Unlikely, no potential habitat present	*NatureMap,* WA Herb
Myrtaceae	*Malleostemon microphyllus*	-	P2	Shrub to 1 m, Flowers white and pink. Plain, yellow-brown, loamy-sand. Over limestone.	Within DE, along northern boundary	Known from previous record	Known. Recorded during current survey	*NatureMap,* WA Herb
Myrtaceae	*Malleostemon pustulatus*	-	P2	Rounded shrub 1 m high. Petals white suffused pink - disc deep pink. *Baeckea - Calothamnus - Verticordia - Melaleuca.* Closed heath. Pale brown loamy sand. Flat.	Approximately 40 km southeast	Possible, suitable habitat may occur	Unlikely, no potential habitat present	*NatureMap*
Myrtaceae	*Melaleuca boeophylla*	-	P2	Erect shrub, to 2 m high, Description unknown. Flower is pink, November. Yellow sand. Rises.	Within DE	Known from previous record	Known from previous record, current survey did not record the taxon	WA Herb
Myrtaceae	*Melaleuca oldfieldii*	-	P2	Spreading shrub, 0.3-1.5 m high. Flower is	12.5 km south	Possible, suitable	Possible, suitable	*NatureMap,* WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				pink-purple/white, August or October to December. Red or brown sand over sandstone or limestone, sandy clay.		habitat may occur	habitat may occur	
Asteraceae	*Millotia jacksonii*	-	P2	Ascending to erect annual, herb. Flower is cream, September. Shallow sandy soils. In depressions on sandstone.	19.3 km east	Unlikely, no potential habitat present	Unlikely, no potential habitat present	*NatureMap,* WA Herb
Orchidaceae	*Paracaleana alcockii*	-	P2	Tuberous, perennial, herb, scape to 0.16 m high. Deep well-drained sand. Kwongan, sedgelands. Yellow sand with sedges.	41 km south-east. Included in search area given proximity.	Possible, suitable habitat may occur	Possible, suitable habitat may occur	WANOSCG *database*
Proteaceae	*Persoonia brachystylis*	-	P2	Erect, spreading shrub, 1-1.5 m high. Flower is yellow, November to December/January. Yellow or grey sand, often over laterite. Sandplains.	11.5 km south	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap,* WA Herb
Rutaceae	*Philotheca kalbarriensis*	-	P2	Shrub, to 1 m high, leaves narrowly fusiform, ca 4 mm long; flowers solitary, axillary; staminal filaments ciliate. Flowers white, August. Yellow sandy clay. *Acacia acuminata* scrub.	Approximately 40 km southeast	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap*
Amaranthaceae	*Ptilotus alexandri*	-	P2		Occurs outside	Not previously	Known. Recorded	-

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
					desktop search area	known from desktop search area	during current survey	
Apiaceae	*Platysace* sp. Kalbarri (D. & B. Bellairs 1383)	-	P2	Open, straggly shrub, approx. 0.3 m high. Flower is cream, October to November. Red gravelly soils & sandstone. Coastal areas.	12 km south	Possible, suitable habitat may occur – coastal heath	Possible, suitable habitat may occur	*NatureMap,* WA Herb
Lamiaceae	*Prostanthera scutata*	-	P2	Erect, compact shrub, 0.2-0.3 m high. Flowers blue-violet, October or December or January. Gravelly sand.	Approximately 40 km southeast	Unlikely, no potential habitat present	Unlikely, no potential habitat present	*NatureMap*
Goodeniaceae	*Scaevola chrysopogon*	-	P2	Perennial, herb or shrub, 0.3-0.6 m high. Flower is white-cream, August to October. Red/brown sand. Sandplains.	14.2 km south	Possible, suitable habitat occurs	Known. Recorded during current survey	WA Herb
Cyperaceae	*Schoenus* sp. Kalbarri (K.R. Newbey 9352)	-	P2	Tufted, spreading annual, grass-like or herb (sedge), 0.05-0.08 m high. Sand. Drainage line. Red brown sand with granite boulders. Plants occur in damp patches amongst herb swards between granite boulders along creek edge.	23.1 km southeast	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Myrtaceae	*Scholtzia cordata*	-	P2	Shrub 60 cm tall, 1.8 m across. Slope of a sand dune. Light yellow sand.	Approximately 40 km southeast	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap*
Myrtaceae	*Scholtzia corrugata*	-	P2	Perennial, erect shrub. 170 cm high. Flowers pink. Gentle SW sloping limestone upland. Yellow sand over limestone.	Within DE, along northern boundary	Known from previous record	Known. Recorded during current survey	WA Herb
Myrtaceae	*Scholtzia kalbarri*	-	P2	Shrub to 2 m tall, pink flowers. Murchison River Gorge	Approximately 35 km southeast	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	*NatureMap*
Myrtaceae	*Scholtzia* sp. Folly Hill (M.E. Trudgen 12097)	-	P2	Open to diffuse shrub, 0.6-1 m high. Flower is pink/white, August or October. Yellow or red sand. Sand dunes.	Within DE, along northern boundary	Known from previous record	Known. Recorded during current survey	WA Herb
Cyperaceae	*Schoenus badius*	-	P2	Slender annual, grass-like herb (sedge), 0.05 to 0.12 m tall. Flowering brown-green from September to October in grey sand and moist areas	Occurs outside desktop search area	Not previously known from desktop search area	Known. Recorded during current survey	-
Myrtaceae	*Scholtzia tenuissima*	-	P2	Dense shrub 1 m high x 1 m wide. Pink flowers. Flat winter wet area. Damp brown sandy clay.	18 km south west	Possible, suitable habitat occurs	Possible, suitable habitat occurs	*NatureMap,* WA Herb
Myrtaceae	*Scholtzia truncata*	-	P2	1.5 m high. Flowers pink. Yellow sand.	7.7 km south	Possible, suitable habitat occurs	Possible, suitable habitat occurs	WA Herb

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Family	Taxon	Status		Description and habitat (WA Herbarium 1998 –)	Nearest record	Likelihood of Occurrence		Source
		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Malvaceae	*Seringia saxatilis*	-	P2	Spreading shrub 0.6 m x 1.1 m. Flowering time September or October. In sandstone slab in red brown clayey sand	20.8 km south east	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	*NatureMap,* WA Herb
Ericaceae	*Styphelia cernua*	-	P2	Shrub, 1 m high, flowers white. Yellow sandplain.	15.4 km south east	Possible, suitable habitat occurs	Possible, suitable habitat occurs	WA Herb
Myrtaceae	*Thryptomene calcicola*	-	P2	Low, spreading shrub. Up to 1.6 m tall and 3 m across. Dense woody compact shrub, mauve flowers, minute foliage. Flat, limestone, grey clay.	1.9 km east	Likely, suitable habitat	Known. Recorded during current survey	*NatureMap,* WA Herb
Myrtaceae	*Thryptomene johnsonii*	-	P2	Bushy shrub (with rigid branches), 2 m high. Flower is pink, September to October. Grey sand, sandstone. Sandplain slopes. Coastal heath	13 km south	Possible, suitable habitat occurs	Known. Recorded during current survey	*NatureMap,* WA Herb
Myrtaceae	*Thryptomene pinifolia*	-	P2	Shrub 50 cm high. Flowers pale pink. Yellow sand. Sandplain.	Approximately 35 km southeast	Possible, suitable habitat occurs	Possible, suitable habitat occurs	*NatureMap*
Myrtaceae	*Thryptomene* sp. Eagle Gorge (A.G. Gunness 2360)	-	P2	Rounded shrub, 0.3-0.9 m high, to 1 m wide. Flower is pink-white, August. Shallow sandy soils. Coastal limestone cliffs, stream beds.	13.6 km north	Possible, suitable habitat occurs	Known. Recorded during current survey	*NatureMap,* WA Herb
Myrtaceae	*Thryptomene striata*	-	P2	Erect, compact shrub, 0.5-1 m high. Flowers pink-purple,	Approximately 25 km southeast	Unlikely, lack of	Unlikely, lack of	*NatureMap*

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				September. Sandy; loamy soils with ironstone pebbles.		suitable habitat	suitable habitat	
Asparagaceae	*Thysanotus fragrans*	-	P2	Tuberous herb, to 10 cm. Flower is purple. Flat sandplain. Yellow sand.	Within DE	Known from previous record	Known. Recorded during current survey	*NatureMap,* WA Herb
Asparagaceae	*Thysanotus kalbarriensis*	-	P2	Branched sterile stems soft, not pungent. Leaves present, soft. Erect perennial herb, flowers violet. Flat plain. Soil: yellow sand.	16.8 km south east	Possible, suitable habitat occurs	Possible, suitable habitat occurs	*NatureMap,* WA Herb
Myrtaceae	*Verticordia dasystylis* subsp. *kalbarriensis*	-	P2	Shrub, 0.2-0.4 m high. Flower is yellow/cream, from October to November. Clay-silt. Winter-wet areas.	15.4 km east	Possible, suitable habitat may occur	Possible, suitable habitat occurs	*NatureMap,* WA Herb
Myrtaceae	*Verticordia galeata*	-	P2	Erect, rounded shrub, 0.25-1 m high. Flower is yellow, from August to October. Red sand. Sandstone gorges.	4.4 km south	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	*NatureMap,* WA Herb
Fabaceae	*Acacia isoneura* subsp. *nimia*	-	P3	Shrub, 1-4 m high. Flowers yellow, July to August. Yellow/brown or red sand, stony soils. Sandplains, sand ridges.	Approximately 30 km east	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap*
Fabaceae	*Acacia plautella*	-	P3	Spreading, pungent shrub, 0.6-1 m high. Flower is yellow. Yellow sand. Sandplains.	4.6 km north	Possible, suitable habitat occurs	Known. Recorded during current survey	WA Herb
Asparagaceae	*Acanthocarpus parviflorus*	-	P3	Rhizomatous, tufted perennial, herb, 0.15-	1.3 km east	Unlikely, potential	Known. Recorded	*NatureMap,* WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				0.4 m high. Flower is white, from May to June. Sand over limestone or sandstone.		habitat may not be present	during current survey	
Solanaceae	*Anthocercis intricata*	-	P3	Dense, spinescent shrub, 0.9-3 m high. Flowers white-cream, June to September. Sand or loam over limestone. Consolidated sand dunes.	Approximately 35 km south	Possible, suitable habitat occurs	Known. Recorded during current survey	*NatureMap*
Solanaceae	*Anthotroche myoporoides*	-	P3	Erect, rounded, often intricately branched shrub, 0.6-3 m high. Flower is white-cream-green, from August to November or January. Yellow or red sand. Sandplains.	2.4 km east	Likely, suitable habitat occurs	Known. Recorded during current survey	WA Herb, TPFL
Hemerocallidaceae	*Arnocrinum drummondii*	-	P3	Rhizomatous, perennial, herb, 0.15-0.5 m high. Flower is purple, September to December. White or yellow sand.	4.3 km north	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap,* WA Herb
Euphorbiaceae	*Beyeria cinerea* subsp. *cinerea*	-	P3	Low, spreading shrub, to 30 cm high and 40 cm wide. Flowers yellowish. Limestone ridge. Dry, rocky, brown sand over limestone.	17.3 km south	Possible, suitable habitat occurs	Unlikely, lack of suitable habitat	TPFL
Euphorbiaceae	*Beyeria gardneri*	-	P3	Shrub, 0.25-0.5 m high. Flower is yellow, August to September.	20.7 km east	Possible, suitable habitat occurs	Possible, suitable habitat occurs	*NatureMap,* WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				Flat sandplain. Yellow sand.				
Fabaceae	*Bossiaea calcicola*	-	P3	Compact, spinescent shrub, to 0.7 m high. Flower is yellow-red, July to September. Compacted sand over limestone. Exposed sites on coastal cliffs and slopes.	17.2 km south	Possible, suitable habitat occurs	Known. Recorded during current survey	*NatureMap,* WA Herb
Ericaceae	*Brachyloma djerral*	-	P3	Small dense shrub to 0.5 m high; flowers red. *Eucalyptus gittinsii, E. jucunda, E. beardiana* and *Banksia sceptrum*. Yellow sand.	20 km east	Possible, suitable habitat occurs	Possible, suitable habitat occurs	*NatureMap*
Myrtaceae	*Calytrix formosa*	-	P3	Shrub, 0.3-0.8 m high. Flower is pink & yellow, September to November. White or yellow sand. Sandplains.	13.3 km south east	Possible, suitable habitat occurs	Possible, suitable habitat occurs	NatureMap, WA Herb
Myrtaceae	*Calytrix pimeleoides*	-	P3	Loose, erect shrub, 0.5-1.6 m high. Flowers cream; yellow, August to October. Grey or yellow-brown sand, laterite. Sandplains, flats, hills, outcrops.	30 km southeast	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	NatureMap
Aizoaceae	*Carpobrotus* sp. Thevenard Island (M. White 050)	-	P3	Prostrate, succulent perennial, herb, leaves sessile, triangular in cross-section; fruit turbinate. Flower is cream, August. Coarse white sand. Dune tops, disturbed areas.	0.02 km north	Likely, suitable habitat and close record	Known. Recorded during current survey	NatureMap, WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Centrolepidaceae	*Centrolepis cephaloformis* subsp. *murrayi*	-	P3	Annual, herb (forming dense, rounded tufts 4-25 mm across), to 0.01 m high. Flowers from Aug to Oct. Slopes of cliffs adjacent to ocean. Shallow rocky soil over Tumblagooda Sandstone. Soils: dry, red-brown gravelly sand to mud.	17 km south	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	NatureMap, WA Herb
Myrtaceae	*Chamelaucium marchantii*	-	P3	Much-branched, dense, rounded shrub, 1-1.8 m high. Flower is yellow-green, October. Sand. Breakaway slopes, near creeks.	8.1 km south	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	NatureMap, WA Herb
Myrtaceae	*Chamelaucium* sp. Wongan Hills (B.H. Smith 1140)	-	P3	Low, spreading shrub, 40 cm high x 3 m wide. Deep purple-pink flower. Dry, winter-wet, grey-white sand.	4.9 km north	Possible, suitable habitat may occur	Possible, suitable habitat may occur	WA Herb
Lamiaceae	*Dasymalla glutinosa*	-	P3	Shrub slightly sprawling 1.0 m high x 2.0 m wide. Flowers white. Sandplain, relatively flat. Soil yellow dry sand.	Within DE	Known from previous record	Known. Recorded during current survey	WA Herb
Lamiaceae	*Dicrastylis micrantha*	-	P3	Spreading shrub, 0.4-1 m high, stem hairs dentritic, to 1.3 mm long, with a single terminal gland and sub-basal whorl of branches. Fl. white, September to December. Red sand. Sandplains.	30 km east	Possible, suitable habitat occurs	Known. Recorded during current survey	NatureMap

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
Droseraceae	*Drosera radicans*	-	P3	Erect tuberous, perennial, herb, 0.07-0.18 m high. White flowers from August to September. Sand or sandy clay. Winter-wet areas.	12.1 km south	Possible, suitable habitat occurs	Possible, suitable habitat may occur	WA Herb
Droseraceae	*Drosera rechingeri*	-	P3	Fibrous-rooted, rosetted perennial, herb, to 0.04 m high, to 0.015 m wide. Yellow flowers from September to October. Pale yellow or grey sand.	11. km east	Possible, suitable habitat occurs	Possible, suitable habitat may occur	WA Herb
Rutaceae	*Geleznowia* sp. Binnu (K.A. Shepherd & J. Wege KS 1301)	-	P3	Small erect shrub to 60 cm high. Proteaceae heath. Flat. Gentle undulations. Deep yellow sand.	40 km east	Possible, suitable habitat occurs	Possible, suitable habitat may occur	NatureMap
Goodeniaceae	*Goodenia sericostachya*	-	P3	Erect, short-lived annual or perennial, herb, 0.2-0.5 m high. Flowers purple-blue/pink-purple, October to December or January. Red sand. Sandplains.	30 km southeast	Possible, suitable habitat occurs	Possible, suitable habitat may occur	NatureMap
Proteaceae	*Grevillea candicans*	-	P3	Bushy, non-lignotuberous shrub, 1-5 m high. Flowers white/cream-white, August to October. Deep yellow sand. Sandplains.	25 km east	Possible, suitable habitat occurs	Possible, suitable habitat may occur	NatureMap
Proteaceae	*Grevillea costata*	-	P3	Much-branched spreading shrub, 0.8-1.5 m high. White-	15.4 km east	Unlikely, lack of	Unlikely, lack of	NatureMap, WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				cream flowers from May or July to September. Alluvial sand, clay. In or near riverbeds among sandstone or granite rocks.		suitable habitat	suitable habitat	
Proteaceae	*Grevillea leptopoda*	-	P3	Spreading to erect shrub, 0.6-1.5 m high. Flowers white-cream, August to September. Loam; lateritic gravel, sand, clay.	20 km southeast	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	NatureMap
Proteaceae	*Grevillea leucoclada*	-	P3	Spreading, intricate shrub, 0.8-2 m high. Cream-white flowers from June or August to September or December. Red or yellow sand over sandstone. River gorges.	12 km south	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	NatureMap, WA Herb
Proteaceae	*Grevillea rogersoniana*	-	P3	Erect, many-stemmed, non-lignotuberous shrub or tree, 1-4(-8) m high. Red/pink/purple flowers from August to October. Red sand.	19 km north	Possible, suitable habitat may occur	Known. Recorded during current survey	WA Herb
Malvaceae	*Guichenotia impudica*	-	P3	Shrub, 0.25-1 m high. Pink-purple flowers from August to October. Undulating plain. Brown sand, loam, laterite.	23.4 km east	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	*NatureMap*, TPFL, WA Herb
Lamiaceae	*Hemigenia saligna*	-	P3	Shrub, 0.3-1 m high. Blue-purple/violet flowers from July to October. Lateritic &	Within DE	Known from previous record	Known. Recorded during	WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				sandy soils. Sloping limestone upland. Yellow sand over limestone.			current survey	
Malvaceae	*Lasiopetalum oldfieldii*	-	P3	Shrub, 0.2-1.5 m high. Pink/white flowers from April or August to November. White, grey or yellow sand, gravel, laterite. Sandplains, rises.	11.7 km south east	Possible, suitable habitat occurs	Possible, suitable habitat occurs	*NatureMap*, TPFL, WA Herb
Malvaceae	*Lasiopetalum oppositifolium*	-	P3	Multi-stemmed shrub, 0.3-1 m high. Pink flowers from July to September. Sandy soils over sandstone or limestone. Sandstone cliffs & crevices.	17 km south	Possible, suitable habitat occurs	Known. Recorded during current survey	*NatureMap*, WA Herb
Brassicaceae	*Lepidium biplicatum*	-	P3	Erect shrub. White flowers in September. Coastal regions. Pale sand over limestone.	Within DE	Known from previous record	Known. Recorded during current survey	WA Herb
Macarthuriaceae	*Macarthuria intricata*	-	P3	Intricately branched shrub, 0.4-1 m high, to 3 m wide. White-cream-yellow flowers from September to December. Red or black soil over limestone, grey sand over sandstone, sandy clay. Sandplains & sand dunes.	8.1 km north	Possible, suitable habitat occurs	Known. Recorded during current survey	*NatureMap*, WA Herb
Myrtaceae	*Malleostemon pentagonus*	-	P3	Shrub 1 m high, petals white. Gentle slope on large sand dune. Fine, red-brown sand	8.2 km north	Possible, suitable habitat occurs	Possible, suitable habitat occurs	WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				(siliceous). Also noted in yellow sand.				
Fabaceae	*Mirbelia corallina*	-	P3	Woody herb 40 cm high. Orange/pink flowers. Flowers August to October. Flat sandplain. White-yellow clayey sand over limestone.	11.2 km south east	Possible, suitable habitat occurs	Known. Recorded during current survey	*NatureMap*, WA Herb
Lamiaceae	*Physopsis chrysophylla*	-	P3		Occurs outside desktop search area	Not previously known from desktop search area	Known. Recorded during current survey	-
Myrtaceae	*Pileanthus bellus*	-	P3	Erect shrub, to 3 m high. Pink flowers from October to December. Yellow sand or shallow grey sand over sandstone. Sand dunes.	13.9 km south east	Possible, suitable habitat occurs	Unlikely, lack of suitable habitat	*NatureMap*, WA Herb
Myrtaceae	*Scholtzia bellairsiorum*	-	P3	Spindly spicate shrub 6 ft, flowers white, clustered. Flat, dry grey sandy clay over laterite.	24.4 km north	Unlikely, lack of suitable habitat	Unlikely, lack of suitable habitat	*NatureMap*, WA Herb
Myrtaceae	*Scholtzia oleosa*	-	P3	Erect, perennial, compact shrub 1.5 m high x 1.3 m wide. Flowers pink. Yellow sand. No exposed rock. Well drained.	Within DE	Known from previous record	Known. Recorded during current survey	*NatureMap*, WA Herb
Rhamnaceae	*Stenanthemum divaricatum*	-	P3	Small, much-branched shrub. White or yellow sand over sandstone.	11.8 km south east	Unlikely, suitable habitat	Known. Recorded during	*NatureMap*, WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
						may not occur	current survey	
Myrtaceae	*Thryptomene caduca*	-	P3	Sprawling shrub, 0.5-0.7m. Flowers pink. Orange/brown/cream sand over limestone sand.	0.02 km north	Likely, suitable habitat occurs and close record	Known. Recorded during current survey	WA Herb
Poaceae	*Triodia dielsii*	-	P3	Tussock-forming perennial, grass-like or herb, 0.6-2.5 m high, habit extremely robust, panicle large, spreading, spikelet few-flowered with shorter glumes. Flowers from July to September. White/grey sand over sandstone or with lateritic gravel. Sandplains, near gorges.	13.2 km south	Possible, suitable habitat may occurs	Unlikely, lack of suitable habitat. Entity under taxonomic review	*NatureMap*, WA Herb
Myrtaceae	*Verticordia cooloomia*	-	P3	Erect, spindly shrub, 1.5-3 m high. Yellow flowers from September to November. Yellow sand. Undulating terrain, ridges.	Within DE	Known from previous record	Known. Recorded during current survey	TPFL, WA Herb
Myrtaceae	*Verticordia densiflora* var. *roseostella*	-	P3	Open shrub, 0.4-1.3 m high. Pink-white flowers from September to December. Sandy gravelly soils.	13.5 km south	Possible, suitable habitat may occur	Unlikely, lack of suitable habitat.	*NatureMap*, WA Herb
Myrtaceae	*Verticordia dichroma* var. *dichroma*	-	P3	Erect, spindly or spreading shrub, 0.3-3 m high. Yellow, orange	Within DE	Known from	Known. Recorded during	*NatureMap*, WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				and red flowers from October to December. Yellow sand. Sandplains.		previous record	current survey	
Myrtaceae	*Verticordia dichroma* var. *syntoma*	-	P3	Shrub, 0.4-1.7 m high. Yellow, orange and red flowers from October to November. Yellow or red sand. Sandplains.	0.01 km north	Likely, suitable habitat occurs and close record	Known. Recorded during current survey	*NatureMap*, WA Herb
Orchidaceae	*Caladenia integra*	-	P4	Tuberous, perennial, herb, 0.2-0.5 m high. Green & red flowers from September to October. Clayey loam. Granite outcrops, rocky slopes.	11.7 km east	Unlikely, no potential habitat present. Nearest record historic (1948)	Unlikely, lack of suitable habitat.	*NatureMap*, WA Herb
Scrophulariaceae	*Eremophila microtheca*	-	P4	Erect shrub, 0.7-1.6 m high. Blue-purple flowers from August to September. Sandy clay. Winter wet flats, saline flats, sandplains.	2.8 km east	Likely, suitable habitat occurs and close record	Likely, suitable habitat occurs and close record	*NatureMap*, TPFL, WA Herb
Myrtaceae	*Eucalyptus zopherophloia*	-	P4	(Spreading mallee), 2.5-4(-6) m high, bark rough, fibrous. Cream-white flowers from October to December or January. Grey/white sand with limestone rubble. Coastal areas.	Within DE	Known from previous record	Known. Recorded during current survey	WA Herb
Frankeniaceae	*Frankenia confusa*	-	P4	Low, diffuse shrub, to 0.75 m high, to 0.75 wide. Pink flowers from September. Wet pale brown sand, brown	9.7 km south	Possible, suitable habitat may occur	Unlikely, lack of suitable habitat.	*NatureMap*, TPFL, WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				clay, grey soil. Banks of rivers & waterholes, river floodplains.				
Fabaceae	*Jacksonia dendrospinosa*	-	P4	Dense, erect, shrub, 1.5 to 3.3 m high. Flowering yellow in November. It is known to occur on sandy clay and flat sandplains with Eucalyptus and Allocasuarina species	Occurs outside desktop search area	Not previously known from desktop search area	Known. Recorded during current survey	-
Fabaceae	*Jacksonia velutina*	-	P4	Erect, broom-like shrub, 0.3-1.5 m high. Yellow/orange & red flowers from August to September. Yellow sand. Sandplains & sandhills.	Within DE	Known from previous record	Known. Recorded during current survey	*NatureMap*, TPFL, WA Herb
Brassicaceae	*Lepidium puberulum*	-	P4	Erect annual, herb, 0.1-0.35 m high. White-green flowers from July to August or October to November. Sandy soils.	2 km north	Likely, suitable habitat occurs and close record	Likely, suitable habitat occurs and close record	WA Herb
Restionaceae	*Lepidobolus densus*	-	P4	Rhizomatous, caespitose perennial, herb (sedge-like), to 0.4 m high. Yellow lateritic sand, lateritic gravel. Dry kwongan.	13.5 km south	Unlikely, no potential habitat present.	Unlikely, no potential habitat present.	*NatureMap*, WA Herb
Cyperaceae	*Lepidosperma rupestre*	-	P4	Rhizomatous, tufted perennial, grass-like or herb (sedge), 1 m high. Brown flowers. River beds, sandstone.	17.2 km south	Unlikely, no potential habitat present.	Unlikely, no potential habitat present.	*NatureMap*, WA Herb
Menyanthaceae	*Liparophyllum congestiflorum*	-	P4	Annual herb. Height 5 cm. Flowers yellow.	13.3 km south	Unlikely, no potential	Unlikely, no potential	*NatureMap*, WA Herb

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		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				Flat. Grey sand/loam over laterite.		habitat present.	habitat present.	
Lamiaceae	*Pityrodia viscida*	-	P4	Viscid shrub, 0.3-0.6(-1) m high. White flowers from September to December or January to February. Grey / white sand, laterite stones at surface.	14.2 km south east	Unlikely, no potential habitat present	Unlikely, no potential habitat present.	WA Herb
Goodeniaceae	*Scaevola kallophylla*	-	P4	Erect, compact shrub, to 1 m high. White flowers from May or August to December. Sandy soils over limestone. Coastal plain.	14 km south east	Possible, suitable habitat may occur	Possible, suitable habitat may occur	*NatureMap*, WA Herb
Euphorbiaceae	*Stachystemon nematophorus*	-	P4	Woody, dense shrub, to 1.2 m high. Dry sand, sandy gravel over laterite, sandstone. Exposed rocky sites, disturbed ground.	5 km south	Unlikely, no potential habitat present	Unlikely, no potential habitat present	*NatureMap*, PMST, TPFL, WA Herb
Poaceae	*Triodia bromoides*	-	P4	Tussock-forming perennial, grass-like or herb, 0.5-1.5 m high, glumes and lemma long-awned, spikelet of loose, relatively few florets. Green-purple flowers from July to October. Red, grey & calcareous sand. Dunes, sandplains, stony rises.	Within DE	Known from previous record	Known. Recorded during current survey	*NatureMap*, TPFL, WA Herb
Myrtaceae	*Verticordia capillaris*	-	P4	Corymbose shrub, 0.3-1.5 m high. Cream-	5 km north	Possible, suitable	Known. Recorded	*NatureMap*, WA Herb

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Family	Taxon	Status		Description and habitat (WA Herbarium 1998 –)	Nearest record	Likelihood of Occurrence		Source
		EPBC Act	BC Act / DBCA			Pre-survey	Post-survey	
				white flowers from October to November. Yellow sand, sandy loam, sandy clay. Sandplains.		habitat may occur	during current survey	
Myrtaceae	*Verticordia polytricha*	-	P4	Shrub, 0.5-2.5 m high. Cream-white flowers from September to October or January. Sand, gravelly clay. Sandstone outcrops.	3.6 km south	Unlikely, no potential habitat present	Unlikely, no potential habitat present	*NatureMap*, WA Herb
Colchicaceae	*Wurmbea murchisoniana*	-	P4	Cormous, perennial, herb, 0.1-0.26 m high, hermaphrodite. White flowers from July to September. Clay, sandy clay, loam. Seasonally inundated clay hollows, rock pools.	14 km south	Unlikely, no potential habitat present	Unlikely, no potential habitat present	*NatureMap*, WA Herb

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