

Marble Bar Road Targeted Flora Survey

Main Roads
October 2021



Prepared by Pilbara Environmental Pty Ltd

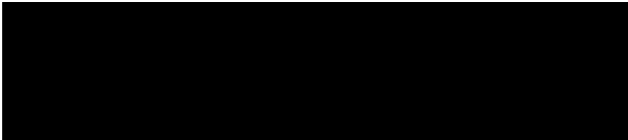
EMAIL –
PHONE –



Marble Bar Road Targeted Flora Survey – October 2021

Prepared by Pilbara Environmental Pty Ltd
T 0401 727 288

Prepared for Main Roads



Version	Prepared By	Approved By	Date
Rev A			7/9/21
Rev B			19/10/21

Table of Contents

1	Introduction	3
1.1	Project Background	3
1.2	Objectives and Scope	3
2	Methods	5
2.1	Desktop Study	5
2.2	Targeted Survey	5
2.2.1	Survey Personnel and Timing	5
2.2.2	Survey Method	6
2.2.3	Survey Limitations	11
3	Results and Discussion	13
3.1	Desktop Study	13
3.1.1	Interim Biogeographic Regionalisation of Australia (IBRA)	13
3.1.2	Land Systems	13
3.1.3	Soils	14
3.1.4	Beard Pre-European Vegetation	15
3.2	Targeted Flora Survey	15
3.2.1	Target Species Not Recorded During the Survey	28
4	Conclusion	30
5	References	31

TABLES

Table 1 Description of Vegetation Types (Biota 2020)

Table 2 Habitat Preference and Survey Methodology for Target Species

Table 3 Survey Limitations

Table 4 Description and Extents of Land Systems within the Development Envelope

Table 5 Description and Extents of Beard's Vegetation Units Within the Development Envelope

Table 6 Summary of Significant Flora Records from the Targeted Survey

Table 7 Survey Effort for Target Species within the Biota (2020) Contextual Area

FIGURES

Figure 1 – Spatial Extents and Regional Context

Figure 2 – Monthly Rainfall (Noreena Downs – Station No. 4026) Compared to Long Term Average

APPENDICES

Appendix 1 – Dept. of Agriculture, Water and the Environment Protected Matters Search Results

Appendix 2 – NatureMap Search Results (40km buffer)

Appendix 3 – Location and Abundance of Significant Flora within the Survey Area

Appendix 4 – Significant Flora Likelihood of Occurrence

Appendix 5 – Threatened and Priority Flora Report Forms

1 Introduction

1.1 Project Background

Main Roads Western Australia (Main Roads) has identified the requirement to upgrade Marble Bar Road from Roy Hill Mine Site, 97 straight line kilometres (SLK), to 179 SLK inclusive of a bypass around Nullagine (the project). These works will also require material pits strategically located along the length of the road upgrade. Nullagine is located 230 km south east of Port Hedland and 170 km north of Newman.

Main Roads engaged Pilbara Environmental Pty Ltd (Pilbara Environmental) to conduct a targeted flora survey to delineate significant flora within the proposed development envelope and surrounding areas.

1.2 Objectives and Scope

The targeted survey was undertaken to assess the presence, extent and abundance of Priority flora within the development envelope. A targeted search was also conducted outside the development envelope in order to assess proportional impacts of the project on Priority flora. The field survey was undertaken with reference to 'Flora and Vegetation Surveys for Environmental Impact Assessment' (EPA 2016a) and 'Environmental Factor Guideline: Flora and Vegetation' (EPA 2016b).

The spatial extents relevant to the targeted flora survey are:

- Development envelope (DE): A corridor approximately 120m wide spanning either side of Marble Bar Road and a wider buffer around the Nullagine Bypass and Nullagine townsite. The DE used for the purposes of this report is subject to change as part of project development.
- Study area: A 40 km buffer around the development envelope.
- Survey area: The total area covered during the survey. Unbounded however focused on the development envelope and surrounding analogous habitats.
- Contextual area: The total area covered by Biota's (2021) vegetation mapping.

The spatial extent of the development envelope and study area are presented in Figure 1.

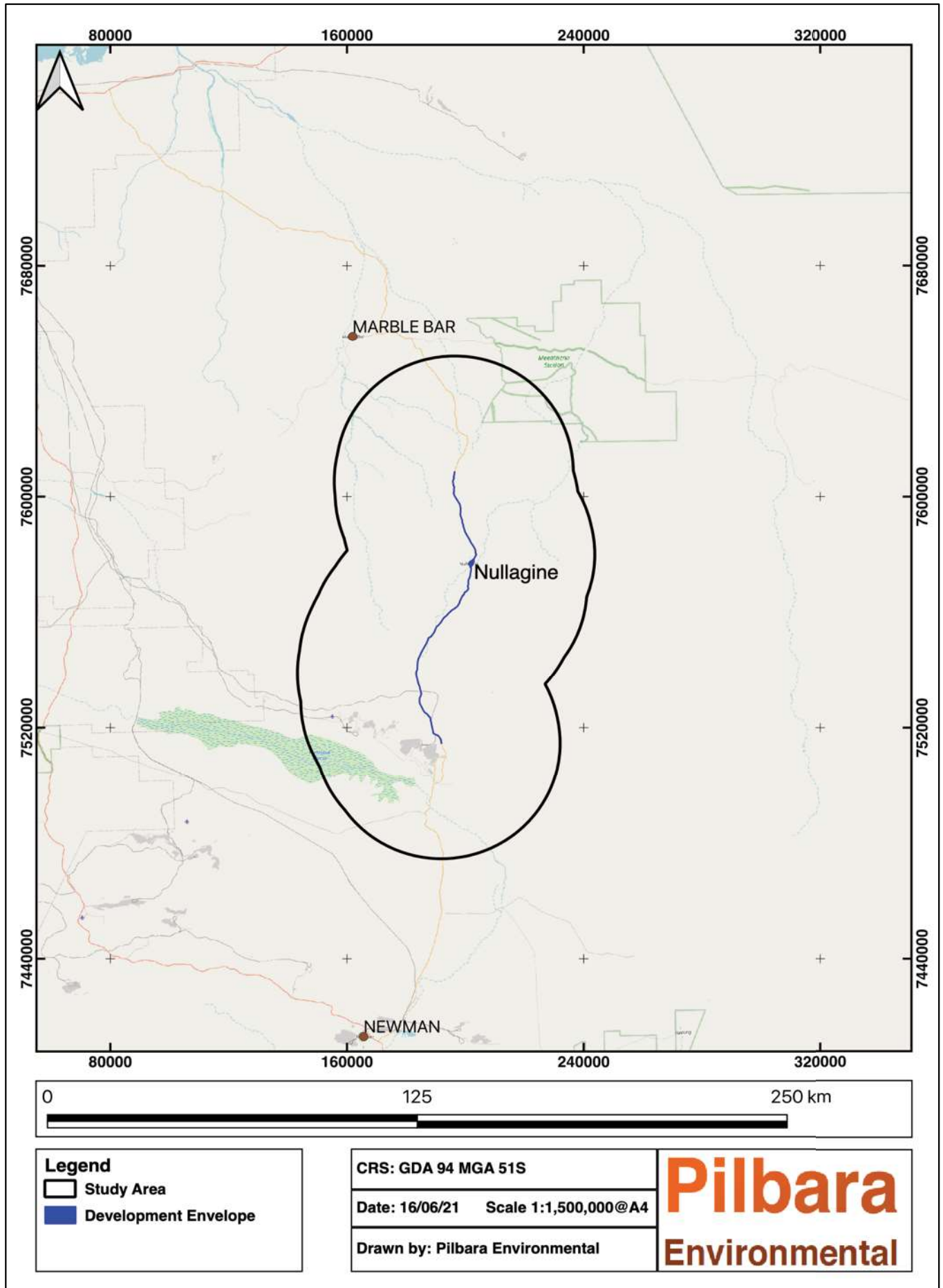


Figure 1 Spatial Extents and Regional Context

2 Methods

2.1 Desktop Study

Prior to conducting the targeted survey, a desktop study was conducted to identify significant ecological features and/or constraints in order to provide a focus for the survey. The following databases were reviewed:

- Department of Agriculture, Water and the Environment (DAWE) Protected Matters Search Tool to identify communities/species listed under the EPBC Act potentially occurring within the study area and declared weed species (40km buffer) (Appendix 1).
- Department of Biodiversity, Conservation and Attraction's (DBCA) NatureMap database for significant flora previously recorded in the area (40km buffer) (Appendix 2).
- Main Roads supplied database searches from DBCA's Species & Communities Branch (50km buffer):
 - Threatened and Priority flora.
- Existing data sets containing pre-European vegetation (Beard 75), land systems (van Vreeswyk et al. 2004) and soils (Northcote et al, 1960).

A review of Biota's (2020) biological survey report and associated data was also undertaken.

2.2 Targeted Survey

2.2.1 Survey Personnel and Timing

Pilbara Environmental botanist Nick Tidmarsh (Reg 62 Licence No. FB62000254) and consulting botanist Dr Shane Chalwell (Reg 62 Licence No. FB2000076) conducted a targeted flora survey from the 19th to the 27th of April. Monthly rainfall records were accessed for Noreena Downs (Station No. 4026), 62km south of Nullagine (BOM 2021). Rainfall data for the 12 months preceding the survey is presented in Figure 2 against the long-term average (1911-2021). During the preceding summer there had been high summer rains recorded with 250 mm in December and 184.8 mm in February. The last substantial rainfall event prior to the survey was 35 mm on the 16th of February. Timing for the survey was considered to be reasonable for detecting the target flora species.

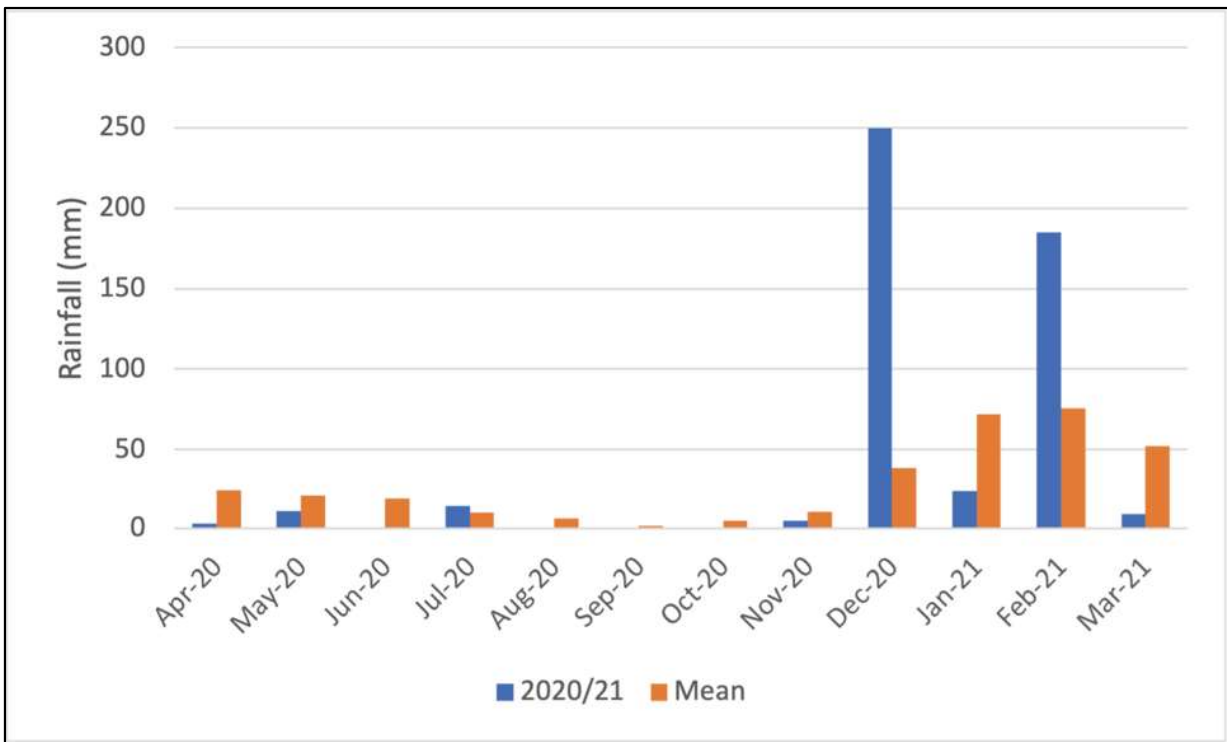


Figure 2: Monthly Rainfall (Noreena Downs – Station No. 4026) Compared to Long Term Average (BOM 2021)

2.2.2 Survey Method

The target species for the survey included the following 13 species previously recorded by Biota (2020) within the development envelope:

- *Acacia aphanoclada* (P1)
- *Acacia cyperophylla* var. *omearana* (P1)
- *Eragrostis crateriformis* (P3)
- *Euphorbia inappendiculata* var. *inappendiculata* (P2)
- *Goodenia nuda* (P4)
- *Ipomoea racemigera* (P2)
- *Nicotiana umbratica* (P3)
- *Dolichocarpa* sp. Hamersley Station (A.A. Mitchell PRP 1479) (P3)
- *Paspalidium retiglume* (P2)
- *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3)
- *Solanum* sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795) (P1)
- *Swainsona thompsoniana* (P3)
- *Themeda* sp. Hamersley Station (M.E. Trudgen 11431) (P3)

Atriplex spinulosa (P1) was also targeted during the survey, as it had been previously recorded near the Nullagine townsite, and was considered likely to occur (Biota, 2020).

Survey data was recorded in the field in GDA 94 51S projection on two Unistrong Tablets running QField software. Where Priority flora was encountered the following parameters were recorded:

Marble Bar Road Targeted Flora Survey – October 2021

- GPS coordinates (accuracy +/- 3 m)
- Species name
- Abundance
- Habitat
- Specimen reference and photograph (If collected)

Due to the large size of the development envelope, it was not feasible to survey all suitable habitat for Priority flora within it. Rather, a habitat based approach was utilised to assess a subset of suitable habitats likely to contain Priority flora. The local vegetation preferences of each species, based on the previous Biota vegetation mapping, further informed the areas focused on during the survey. The Vegetation types mapped by Biota consisted of specific vegetation types grouped into broad landforms. The vegetation type codes referred to in this report are described in Table 1. Table 2 summarises the habitat preference and specific survey methodology for each species including the vegetation types they were recorded in during the Biota (2020) survey. Survey effort for each species was estimated based on distance of tracklogs within each vegetation type and width of searches either side of traverses. It is intended as an indicative measure only. Tracklogs within cleared areas such as vehicle traffic on roads and tracks were not included within estimations of survey effort.

Table 1 Description of Vegetation Types (Biota 2020)

Vegetation of Hills	
H1	<i>Corymbia hamersleyana</i> scattered low trees over <i>Acacia bivenosa</i> scattered tall shrubs over <i>Triodia wiseana</i> hummock grassland
H2	<i>Corymbia hamersleyana</i> scattered low trees over <i>Acacia inaequilatera</i> scattered tall shrubs over <i>Triodia wiseana</i> hummock grassland
H3	<i>Acacia inaequilatera</i> tall open shrubland over <i>Triodia wiseana</i> , <i>T. epactia</i> hummock grassland
H4	<i>Triodia epactia</i> hummock grassland
H5	<i>Acacia orthocarpa</i> open shrubland over <i>Triodia epactia</i> hummock grassland
H6	<i>Acacia inaequilatera</i> scattered tall shrubs to tall open shrubland over <i>Triodia epactia</i> hummock grassland
H7	<i>Triodia wiseana</i> , <i>T. scintillans</i> hummock grassland
H8	<i>Triodia brizoides</i> hummock grassland
Vegetation of Saline and Gravelly Plains	
P1	<i>Acacia bivenosa</i> scattered tall shrubs over <i>Senna symonii</i> scattered shrubs over <i>Triodia longiceps</i> hummock grassland
P2	<i>Triodia longiceps</i> , (<i>T. wiseana</i>) hummock grassland
P3	<i>Triodia epactia</i> hummock grassland
P4	<i>Acacia trachycarpa</i> open shrubland over <i>Triodia epactia</i> , <i>T. longiceps</i> hummock grassland
P5	<i>Eucalyptus socialis</i> subsp. <i>eucentrica</i> low open mallee woodland over <i>Triodia wiseana</i> , (<i>T. longiceps</i>) open hummock grassland
Vegetation of Cracking Clays	
C1	<i>Triodia longiceps</i> , <i>T. epactia</i> open hummock grassland with patches of mixed hermland and annual grassland
Mulga Vegetation	

M1	<i>Acacia aptaneura</i> scattered low trees to low woodland over <i>Triodia longiceps</i> , <i>T. epactia</i> hummock grassland
Vegetation of Drainage Lines	
D1	<i>Eucalyptus camaldulensis</i> , <i>E. victrix</i> open forest over <i>Atalaya hemiglauca</i> , <i>Acacia coriacea</i> subsp. <i>pendens</i> low open woodland over * <i>Cenchrus</i> spp. tussock grassland
D2	<i>Eucalyptus victrix</i> , (<i>Acacia coriacea</i> subsp. <i>pendens</i>) low open woodland over <i>Triodia longiceps</i> very open hummock grassland
D3	<i>Eucalyptus victrix</i> , (<i>Acacia coriacea</i> subsp. <i>pendens</i>) low woodland over <i>Acacia trachycarpa</i> open shrubland over <i>Eriachne benthamii</i> open tussock grassland with <i>Triodia longiceps</i> very open hummock grassland
D4	<i>Eucalyptus victrix</i> , (<i>Acacia coriacea</i> subsp. <i>pendens</i>) woodland over * <i>Cenchrus ciliaris</i> , * <i>C. setiger</i> , (<i>Eriachne tenuiculmis</i> , <i>Chrysopogon fallax</i>) tussock grassland with <i>Cyperus vaginatus</i> scattered sedges
D5	<i>Corymbia hamersleyana</i> scattered low trees over <i>Acacia tumida</i> , (<i>A. trachycarpa</i>) tall open scrub over <i>Themeda triandra</i> , <i>Chrysopogon fallax</i> open tussock grassland with <i>Triodia epactia</i> , (<i>T. longiceps</i>) very open hummock grassland
D6	<i>Eucalyptus xerothermica</i> scattered low trees over <i>Grevillea wickhamii</i> , <i>Acacia ancistrocarpa</i> , <i>A. bivenosa</i> tall shrubland over * <i>Cenchrus ciliaris</i> , * <i>C. setiger</i> open tussock grassland
D7	<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> , (<i>E. xerothermica</i>) low open woodland over <i>Acacia colei</i> , <i>Acacia ancistrocarpa</i> , <i>A. bivenosa</i> tall shrubland over <i>Triodia longiceps</i> open hummock grassland
D8	* <i>Cenchrus ciliaris</i> , * <i>C. setiger</i> tussock grassland

Table 2 Habitat Preference and Survey Methodology for Target Species

Species	Habitat	Vegetation Types Recorded In Biota 2020	Methodology
<i>Acacia aphanoclada</i> (P1)	Low stony hills and plains	D1, H2, H3, H4, H5, H6, H8, P1, P4	Due to the expected high abundance of this species, plots rather than traverses were used to record plant densities. Paired, adjacent plots were counted with one inside and one outside of the DE. Paired plots were utilised to indicate the continuation of the <i>Acacia aphanoclada</i> population beyond the DE boundary. Two 1 ha size plots and eight 0.5 ha sized plots were set up. Corners of the plots were recorded using a Garmin GPS and measured out using two 100m tapes. The size of the plots were restricted due to the size of the DE. Further records were taken while searching the Mosquito Land System outside the DE.
<i>Acacia cyperophylla</i> var. <i>omearana</i> (P1)	Stony banks of major drainage lines	D1	Traverses were walked along either side of the Nullagine River inside and outside of the DE. The species would have been detectable 5 metres either side of the traverse.
<i>Atriplex spinulosa</i> (P1)	Saline plains of the Mosquito Land System	Not recorded during the Biota (2020) survey.	Meandering traverses were walked on the Mosquito Land System focusing on patches of stony saline plains inside and outside of the DE. The species would have been detectable 3 metres either side of the traverse.
<i>Eragrostis crateriformis</i> (P3)	Clayey loam or clay in drainage lines and floodplains	D2, D4, P4	Walked traverses across drainage lines and floodplains focusing on clayey loam and/or clay substrates inside and outside of the DE. The species would have been detectable 3 metres either side of the traverse.
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i> (P2)	Cracking Clays	C1	Walked traverses across cracking clays inside and outside of the DE. Inspections were made three metres either side of the traverse. Stationary inspections were made every 50m. Targeted inspections were conducted of disturbed areas within cracking clays such as roadside drainage swales.
<i>Goodenia nuda</i> (P4)	Creeks, floodplains and low lying areas	D5, P1, P4	Opportunistic searches when in suitable habitat.
<i>Ipomoea racemigera</i> (P2)	Drainage lines	D2, D4	Traverses were walked along either side of drainage lines within the development envelope. Traverses were then walked for approximately 100m outside the development envelope. The species would have been detectable 3 metres either side of the traverse.
<i>Nicotiana umbratica</i> (P3)	Within sheltered microhabitats among	H6	Inspection of sheltered microhabitats, including cave like microhabitats hidden among overhangs, among granite boulders on hills. Suitable habitat was

Marble Bar Road Targeted Flora Survey – October 2021

	granite boulders on hills or low rises.		searched inside and outside of the DE. The species would have been detectable 3 metres either side of the traverse.
<i>Dolichocarpa</i> sp. Hammersley Station (A.A. Mitchell PRP 1479) (P3)	Restricted to Cracking Clays	C1, P3 (within an area of clay)	Walked traverses across cracking clays inside and outside of the DE. Inspections were made three metres either side of the traverses. Due to the small size of this species traverses on cracking clays were conducted slowly with stationary inspections every 50m.
<i>Paspalidium retiglume</i> (P2)	Restricted to Cracking Clays	C1	Walked traverses across cracking clays inside and outside of the DE. Inspections were made three metres either side of traverse. Stationary inspections were made every 50m.
<i>Rhagodia</i> sp. Hammersley (M. Trudgen 17794) (P3)	Associated with open Mulga on clayey plains	H7, P2	Inspected areas of plains with clay substrates associated with open Mulga by walking traverses inside and outside of the DE. The species would have been detectable 5 metres either side of the traverse.
<i>Solanum</i> sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795) (P1)	Heavy plains	P1, P2	Inspected plains on the Mosquito Land System by walking traverses and inspecting areas of disturbance inside and outside of the DE. The species would have been detectable 5 metres either side of the traverse.
<i>Swainsona thompsoniana</i> (P3)	Restricted to Cracking Clays	C1	Walked traverses across cracking clays inside and outside of the DE. Inspections were made three metres either side of traverse. Stationary inspections were made every 50m. The species would have been detectable 3 metres either side of the traverse.
<i>Themeda</i> sp. Hammersley Station (M.E. Trudgen 11431) (P3)	Drainage lines and clay plains	D4, P3	Inspected drainage lines and associated clay plains by walking traverses inside and outside of the DE. The species would have been detectable 5 metres either side of the traverse.

2.2.3 Survey Limitations

In line with the EPA’s Technical Guidance for ‘Flora and Vegetation Surveys for Environmental Impact Assessment’ (EPA 2016a) potential constraints and limitations of this targeted survey are presented in Table 3.

Table 3 Survey Limitations

Limitations/Constraints	Limitation for this Survey	Comments
Availability of contextual information at a regional and local scale	No	The desktop review provided adequate contextual information. A number of studies have been undertaken in the region. A survey of the development envelope was conducted by Biota in 2020.
Competency/experience of the team carrying out the survey	No	The field botanists, taxonomists and report authors have extensive experience working within the Pilbara bioregion. Field Botanists Shane Chalwell (20 years experience) Nick Tidmarsh (8 years experience) Taxonomy Pierre-Louis de Kock (17 years experience)
Proportion of flora identified, recorded and/or collected	No	Due to sufficient rainfall leading up to the survey sufficient quality plant material was available for identification. All specimens collected were identified to species level.
Scope and completeness	No	This targeted survey is able to provide a reliable indication of the Priority flora present within the development envelope. Due to the large size of the development envelope a habitat based approach was taken restricting the survey to inspecting a subset of suitable habitats present. As such the survey does not provide a comprehensive record of the locations of all Priority flora present. An assessment of proportional impacts on Priority flora is not always possible from numbers alone although can be further informed by available habitat known to occur within the vicinity of the development envelope.
Remoteness and/or access problems	No	The development envelope was readily accessible being in close proximity to Nullagine and adjacent to Marble Bar Rd. Existing records of <i>Acacia cyperophylla</i> var. <i>omearana</i> (P1) along Beaton’s Creek, approximately 1.6 km to the east of Nullagine, could not be sighted due to lack of open access tracks.

Marble Bar Road Targeted Flora Survey – October 2021

<p>Timing, weather, season, cycle</p>	<p>No</p>	<p>The targeted survey was conducted during April 2021. 216.8mm of rainfall was recorded at Noreena Downs (62 km away) from January to March. The cracking clay substrate was already quite dry with some annual species drying off. However, the timing for the survey was considered to be reasonable for detecting the target flora species. Rainfall for the 12 months preceding the survey is presented in Figure 2.</p>
<p>Disturbances which affected the results of the survey</p>	<p>No</p>	<p>Due to the presence of the Nullagine townsite and existing Marble Bar Rd part of the development envelope was cleared or completely degraded. A small portion of Mulga woodland habitat in the south of the development envelope was burnt. For the purposes of the targeted survey this was not considered a limitation.</p>

3 Results and Discussion

3.1 Desktop Study

3.1.1 Interim Biogeographic Regionalisation of Australia (IBRA)

The latest version of IBRA (IBRA7) classifies Australia's landscapes into 89 large geographically distinct bioregions based on common climate, geology, landform, native vegetation and species information. The 89 bioregions are further refined to form 419 subregions which are more localised and homogenous geomorphological units within each bioregion (Thackway & Cresswell 1995). The development envelope is located within the Pilbara bioregion and in the south of the Chichester (PIL01) subregion (DAWE 2012). The northern boundary of the Fortescue (PIL02) subregion falls within 1 km of the southern boundary of the development envelope.

The Chichester subregion is described as “Undulating archaean granite and basalt plains including significant areas of basaltic ranges. Plains support a shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* (formerly *Triodia pungens*) hummock grasslands, while *Eucalyptus leucophloia* tree steppes occur on ranges. The climate is semi desert tropical and receives 300mm of rainfall annually. Drainage occurs to the north via numerous rivers (e.g. De Grey, Oakover, Nullagine, Shaw, Yule, Sherlock). Subregional area is 9, 044, 560 ha” (Kendrick 2003).

3.1.2 Land Systems

Land systems mapping covering the project area have been prepared by the Department of Agriculture Western Australia (van Vreeswyk et al. 2004). Land systems are classified based on their topography, soils and vegetation. 102 land systems, grouped into 20 broad land types, have been described for the region. Eleven land systems are mapped within the development envelope. The dominant land system across the development envelope is the Rocklea land system accounting for 27.1 % of the total area. Less than 1 % of each land system is captured by the development envelope. Table 4 describes the land systems intersected by the development envelope.

Table 4 Description and Extents of Land Systems within the Development Envelope

Land System	Description	Extent in Development Envelope	
		Area (ha)	Proportion (%)
Bonney	Low rounded hills and undulating stony plains supporting soft spinifex grasslands.	122.94	8.15
Capricorn	Rugged sandstone hills, ridges, stony footslopes and interfluves supporting low <i>Acacia</i> shrublands or hard spinifex grasslands with scattered shrubs.	161.844	10.74
Granitic	Rugged granitic hills supporting shrubby hard and soft spinifex grasslands.	130.77	8.68
McKay	Hills, ridges, plateaux remnants and breakaways of meta sedimentary and sedimentary rocks supporting hard spinifex grasslands with Acacias and occasional Eucalypts.	182.69	12.11
Mosquito	Stony plains and prominent ridges of schist and other metamorphic rocks supporting shrubby hard spinifex grasslands.	261.13	17.32
Newman	Rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands.	12.89	0.85
River	Narrow, seasonally active flood plains and major river channels supporting moderately close, tall shrublands or woodlands of Acacias and fringing communities of Eucalypts sometimes with tussock grasses or spinifex.	118.64	7.87
Robe	Low plateaux, mesas and buttes of limonite supporting soft spinifex and occasionally hard spinifex grasslands.	48.88	3.24
Rocklea	Basalt hills, plateaux, lower slopes and minor stony plains supporting hard spinifex and occasionally soft spinifex grasslands with scattered shrubs.	375.07	24.87
Taylor	Stony plains and isolated low hills of sedimentary rocks supporting hard and soft spinifex shrubby grasslands.	58.46	3.87
Wona	Basalt upland gilgai plains supporting Roebourne Plains grass and Mitchell grass tussock grasslands, minor hard spinifex grasslands or annual grasslands/herbfields.	34.64	2.30

3.1.3 Soils

Soil types across the development envelope were obtained from the Digital Atlas of Australian Soils (Northcote et al, 1960). The following five soil types were present within the development envelope:

- Oc70: Dissected pediments and low stony hills associated with cherts, jaspilites, and iron ore formations; much coarse surface gravel: chief soils are hard alkaline red soils.
- Fa29: Steep stony hills and low ranges on highly folded quartzites, shales, and slates with extensive areas of rock exposures; small valley plains are included; soils are generally stony and shallow: chief soils are shallow stony earthy loams.
- Fa28: Steep hills and low ranges associated with various rocks including dolomite and some chert breccia; exposures of rock are extensive and soils are shallow and stony: chief soils are shallow stony earthy loams.
- Oa11: Dissected stony pediments and hills; some residuals of more resistant rocks occur as mesas. On deeply dissected areas lime is released from weathering of more basic rocks: chief soils are hard alkaline red soils.

Marble Bar Road Targeted Flora Survey – October 2021

- Fa14: Steep hills and steeply dissected pediments on areas of banded jaspilite and chert along with shales, dolomite, and iron ore formations; some narrow winding valley plains: chief soils are shallow stony earthy loams.

The dominant soil types within the development envelope are the dissected stony pediments and hills (Oa11) and the steep hills and low ranges of Fa28.

3.1.4 Beard Pre-European Vegetation

Beard (1975) previously described and mapped the vegetation of the Pilbara at a broad scale of 1:1,000,000. The development envelope lies within four of Beard’s vegetation associations, listed in Table 5.

Table 5 Description and Extents of Beard’s Vegetation Units Within the Development Envelope

Vegetation Association	Description	Extent in Development Envelope	
		Area (ha)	Proportion (%)
Abydos Plain – Chichester 173, Chichester Plateau 173	Hummock grasslands, shrub steppe; kanji (<i>Acacia inaequilatera</i>) over soft spinifex (<i>Triodia epactia</i>) & <i>Triodia wiseana</i> on basalt	968.31	64.21
Abydos Plain – Chichester 93	Hummock grasslands, shrub steppe; kanji over soft spinifex	77.29	5.12
Abydos Plain – Chichester 190	Hummock grasslands, sparse shrub steppe; <i>Acacia bivenosa</i> & <i>A. trachycarpa</i> over hard spinifex, <i>Triodia wiseana</i> . Very poor rocky country on gneiss	462.33	30.66

3.2 Targeted Flora Survey

Ten significant flora species were recorded during the targeted survey. Specimens of each species were confirmed by Pierre-Louis de Kock (dK Botanical). Location and abundance data are listed and mapped in Appendix 3. A summary of the numbers of each species recorded is provided in Table 6 along with the vegetation types they occurred in. Table 7 details the survey effort for each species and the target vegetation types. Data presented in Table 7 is restricted to the area covered by the previous vegetation mapping (Biota 2020). An updated likelihood of occurrence table is presented in Appendix 4. Threatened and Priority Flora Report forms for each species recorded are attached in Appendix 5.

Table 6 Summary of Significant Flora Records from the Targeted Survey

Species	Status	Individuals Recorded			Habitats
		Total	Inside DE	Outside DE	
<i>Acacia aphanoclada</i>	P1	1751	810	943	P1, P4, H8, D5 and beyond mapped vegetation areas
<i>Acacia cyperophylla</i> var. <i>omearana</i>	P1	1	1	0	D1
<i>Atriplex spinulosa</i>	P1	84	4	80	P1 and beyond mapped vegetation areas
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	129	129	0	C1, P3, cleared
<i>Ipomoea racemigera</i>	P2	32	13	19	D1, D2, D4
<i>Dolichocarpa</i> sp. Hamersley Station (A.A. Mitchell PRP 1479)	P3	9054	1461	7593	C1, P3, cleared
<i>Paspalidium retiglume</i>	P2	176	7	169	C1
<i>Solanum</i> sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795)	P1	2129	89	2040	P1, H8, cleared
<i>Nicotiana umbratica</i>	P3	147	41	106	H2, H3, H6
<i>Swainsona thompsoniana</i>	P3	0	0	0	
<i>Themeda</i> sp. Hamersley Station (M.E. Trudgen 11431)	P3	0	0	0	
<i>Eragrostis crateriformis</i>	P3	0	0	0	
<i>Goodenia nuda</i>	P4	0	0	0	
<i>Rhagodia</i> sp. Hamersley (M. Trudgen 17794)	P3	18	3	15	M1, H7, D6, cleared

Table 7 Survey Effort and Density Estimates for Target Species within Mapped Vegetation Areas (Biota 2020 Survey and Contextual Area)

Species	Status	Habitats Searched	Individuals Recorded	Area Surveyed (ha)	Density Estimate (plants/ha)	Comments	
<i>Acacia aphanoclada</i>	P1	P1	1151	4	287.75	This species is abundant on the Mosquito Plain Land System. Less than 0.2% of this land system intersects with the development envelope. Records were captured by plot counts (plus two individual records). Where plots cover more than one vegetation type records have been grouped. Plots were positioned to capture the most dense populations therefore density estimates are likely to be an over estimation of density across the survey area. An additional 256 individuals were recorded outside Biota's contextual area, in Hill (H) type habitat.	
		H8/P1	139	0.5	278		
		H8/P4	153	1	153		
		H8/P1/D5	52	0.5	104		
	D1	D1	0	N/A	N/A		No plots were located in these vegetation types in this targeted survey, however the species is expected to occur in these vegetation types due to previous records by Biota (2020).
		H2	0	N/A	N/A		
		H3	0	N/A	N/A		
		H4	0	N/A	N/A		
H5	H5	0	N/A	N/A			
	H6	0	N/A	N/A			
<i>Acacia cyperophylla</i> var. <i>omearana</i>	P1	D1	1	21.12	N/A	Restricted to stony alluvium subhabitat within D1. Suitable habitat for this species was well surveyed within the development envelope and only the one previously recorded individual (Biota 2020) was recorded. The majority of D1 did not provide suitable habitat due to lack of stony alluvium.	

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Habitats Searched	Individuals Recorded	Area Surveyed (ha)	Density Estimate (plants/ha)	Comments
<i>Atriplex spinulosa</i>	P1	P1	9	32.18	N/A	Restricted to stony saline plains on the Mosquito Plain Land System. Less than 0.2% of this land system intersects with the development envelope. Stony saline plains occur only as a minor component within P1 and therefore no density estimate has been calculated for P1 overall. Suitable habitat for this species was well surveyed within the development envelope. Additional 75 individuals were recorded outside Biota's contextual area within stony saline plains.
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	C1	117	15.89	7.36	This species was confined to disturbed habitats within cracking clays (C1). The individual occurring in P3 was on the edge of C1 within cracking clay soils and therefore no density estimate has been calculated for P3 overall. Additional 11 individuals were recorded in areas mapped as cleared.
		P3	1	4.03	N/A	
<i>Ipomoea racemigera</i>	P2	D1	5	12.67	0.39	This species occurs within D1, D2 and D4 drainage vegetation types. Average species density across the three vegetation types it was recorded in (D1, D2 and D4) is 1.03 plants/ha.
		D2	8	1.77	4.52	
		D4	18	15.54	1.16	
<i>Dolichocarpa</i> sp. Hamersley Station (A.A. Mitchell PRP 1479)	P3	C1	7315	15.89	460.35	This species is restricted to cracking clays. When occurring in P3 this species was restricted to patches of cracking clays and therefore no density estimate has been calculated for P3 overall. Additional 29 individuals were recorded in areas classified as cleared i.e., roadside swales on cracking clays.
		P3	1710	4.03	NA	
	P2	C1	176	15.89	11.08	

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Habitats Searched	Individuals Recorded	Area Surveyed (ha)	Density Estimate (plants/ha)	Comments
<i>Paspalidium retiglume</i>		P3	0	4.03	N/A	Recorded in cracking clays. Cracking clays occurring as a minor subhabitat within P3 were also searched for this species however none were recorded.
<i>Solanum</i> sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795)	P1	H8	6	13.11	2.19	This species is abundant on disturbed habitats of the Mosquito Plain Land System. Less than 0.2% of this land system intersects with the development envelope. Additional 40 individuals were recorded on areas classified as cleared such as roadside drains and roadside windrows. Approximately 2000 individuals were recorded outside Biota's (2020) contextual area.
		P1	115	53.63	0.47	
		P2	0	5.23	N/A	
<i>Nicotiana umbratica</i>	P3	H2	16	4.58	N/A	Restricted to shaded microclimates among large granite boulders on hills within these vegetation types. This habitat was a minor component of these vegetation types and therefore no density estimates have been calculated for these vegetation types overall.
		H3	12	2.05	N/A	
		H6	119	16.74	N/A	
<i>Swainsona thompsoniana</i>	P3	C1	0	15.89	N/A	Not recorded during current survey but this annual species is still considered likely to occur in cracking clays C1 as it was recorded in C1 in Biota (2020).
<i>Themeda</i> sp. Hammersley Station (M.E. Trudgen 11431)	P3	D4	0	25.91	N/A	Not recorded during current survey but considered likely to occur as recorded in D4 and P3 in Biota (2020).
		P3	0	6.72	N/A	
<i>Eragrostis crateriformis</i>	P3	D2	0	1.77	N/A	Not recorded during current survey but considered likely to occur as recorded in D2, D4 and P4 in Biota (2020).
		D4	0	15.54	N/A	
		P4	0	1.93	N/A	
<i>Goodenia nuda</i>	P4	D5	0	0.34	N/A	
		P1	0	32.18	N/A	

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Habitats Searched	Individuals Recorded	Area Surveyed (ha)	Density Estimate (plants/ha)	Comments
		P4	0	1.93	N/A	Not recorded during current survey but considered likely to occur as recorded in D5, P1 and P4 in Biota (2020).
<i>Rhagodia</i> sp. Hammersley (M. Trudgen 17794)	P3	M1	13	5.40	2.41	When occurring in H7, individuals were recorded within close proximity to open Mulga (M1) and therefore on the basis of this survey, the primary suitable habitat type for the species is expected to be M1 and no density estimate has been calculated for H7. One individual was recorded in an area mapped as cleared 30m from M1. A further individual was recorded in D6. This plant was on the boundary of D6 and H7, located 30m from M1. This was considered an anomalous individual and D6 is not considered likely habitat for further plants. Not recorded in P2 during current survey, however Biota recorded some individuals in P2 and therefore the species is expected to occur in P2.
		H7	4	1.57	N/A	
		D6	1	0.19	N/A	
		P2	0	5.23	N/A	

***Acacia aphanoclada* (Priority 1)**

This species is a slender, wispy shrub from 1.7 to 5 m high with an open and sparingly branched canopy. Bark is smooth and reddish grey to pale brown (Plate 1). Phyllodes are narrowly linear and pendulous (Full description in Maslin 1992). *Acacia aphanoclada* was found occurring along hill summits, hill slopes and plains along the base of hills during the survey in vegetation types P1, P4, H8, D5 and outside mapped vegetation areas. During the Biota 2020 survey it was also recorded in D1, H2, H3, H4, H5 and H6. A total of 808 individuals were counted in one 1 ha size plot and four 0.5 ha size plots within the development envelope. These plots were paired with plots of an equal size outside of the development envelope as close as practicably possible to the original plot. A total of 685 individuals were recorded from these five plots outside the development envelope. This species was recorded within the plots at densities up to 287.75 plants per hectare, with an average of 248.84 plants per hectare across all ten plots. These density estimates are likely to be over estimates due to plots being located in areas of higher than average density. An additional population comprising 258 individuals was opportunistically recorded outside the development envelope approximately 25km to the east on the Mosquito Land System.

This species is widespread and abundant on the Mosquito Land System. In Waters (2017) the number of *Acacia aphanoclada* individuals on the Mosquito Land System is estimated to be 1,362,088. Only a small proportion, less than 0.2%, of the Mosquito Land System falls with the development envelope.



Plate 1 *Acacia aphanoclada* on the summit of a low hill

***Acacia cyperophylla* var. *omearana* (Priority 1)**

This tree species grows from 4 to 10 m high and has a distinctive weeping habit and ‘minni ritchi’ bark (Plate 2). Phyllodes are slender, terete to sub-terete and 11-22 cm long. One individual tree, previously recorded by Biota (2020), was confirmed during the targeted survey along the southern bank of the Nullagine River in stony, sandy alluvium (in D1 vegetation type). Suitable habitat for this species was extremely limited within the development envelope as it was restricted to stony, sandy alluvium along the Nullagine River. No additional individuals of this species were encountered despite targeted searches of suitable habitat. Based on the specific habitat requirements of this species and the targeted survey effort applied it is considered unlikely any further individuals exist within the development envelope.

There are a number of records on FloraBase of *Acacia cyperophylla* var. *omearana* along Beaton’s Creek, approximately 1.6 km to the east of Nullagine. These existing records are upstream of the plant recorded and outside of the development envelope.



Plate 2 *Acacia cyperophylla* var. *omearana* growing on the banks of the Nullagine River

***Atriplex spinulosa* (Priority 1)**

Atriplex spinulosa is a small (less than 20 cm high) erect, rounded annual herb (Plate 3). During the current survey four individuals were recorded within the development envelope (in P1 vegetation type) close to Nullagine town. Inspections of stony saline plains outside the development envelope during the targeted survey recorded 84 individuals. These records spanned from immediately adjacent to the development envelope to 20 km to the east. This species is common on the stony saline plains of the Mosquito Land System (less than 0.2% of which falls within the development envelope). A previous survey by Woodgis (2017) estimated an average density of 5,700 plants per hectare (in 18 quadrats where it was present) on the Mosquito Land System.

Suitable habitat for this species was well surveyed within the development envelope as only small patches of stony saline plains were present. While this species was recorded in P1, most of this vegetation type within the development envelope did not consist of stony saline plains.



Plate 3 *Atriplex spinulosa* on stony saline plains

***Euphorbia inappendiculata* var. *inappendiculata* (Priority 2)**

This species is a prostrate annual or herbaceous perennial (Plate 4). Stems are sparsely pilose with spreading straight or curved white hairs. Leaf blades are oblong, elliptic or oblong-obovate, 3-9 mm long and 1.5 mm wide (Halford et al 2012).

During the targeted survey, 129 individuals were recorded in the development envelope within disturbed areas on cracking clays (mostly in C1 vegetation type; one in P3 and 11 in areas mapped as cleared). The majority of individuals occurred along swales associated with roadside drainage and the species appeared to be a disturbance specialist. A density of 7.36 individuals per hectare is estimated within C1 for this species. No individuals were recorded outside of the development envelope by this survey or the Biota (2020) survey. It is highly likely the species occurs locally outside of the development envelope however it is harder to detect due to the lack of soil disturbance away from the roadside edges.

The species range in WA is almost 500 km, mostly across the Pilbara with one record from the adjacent Gascoyne region (WA Herbarium 2020). While the records in the development envelope extend the known WA distribution of the species by approximately 70 km east, there are records of the species 900 km further east in Northern Territory (Atlas of Living Australia 2021).



Plate 4 *Euphorbia inappendiculata* var. *inappendiculata*

***Ipomoea racemigera* (Priority 2)**

This species is a pilose annual with twining stems (Plate 5). The upper leaf lamina is glabrous while the lower leaf lamina is moderately pilose. Thirteen individuals were recorded within the development envelope, generally scrambling over vegetation or debris along drainage lines (D1, D2 and D4 vegetation types). An average density of 1.03 plants per hectare was estimated for this species across D1, D2 and D4 vegetation types. A further nineteen individuals were recorded in similar habitats within close proximity (less than 200m) of the development envelope. A majority of the individuals (22) were recorded within the same drainage line. Due to the linear nature of the DE, the proportion of drainage line and attendant floodplain habitat within the DE is minimal in proportion to the extent of habitats associated with drainage lines across the study area.



Plate 5 *Ipomoea racemigera* scrambling on shrubs within a drainage line

***Dolichocarpa* sp. Hamersley Station (A.A. Mitchell PRP 1479) (Priority 3)**

This species was previously known as *Oldenlandia* sp. Hamersley Station (A.A. Mitchell PRP 1479)(Gibbons 2020). A small, spreading annual herb with small lanceolate, opposite leaves and small blue to white flowers (Plate 6). This species was widespread across the cracking clay habitat (C1, pockets of cracking clay in P3) both within and outside the development envelope. A density of 460.35 plants per hectare was estimated for this species within C1 vegetation type. Within the development envelope 1461 individuals were recorded. Traverses conducted in a small section of cracking clay outside the development envelope recorded 7593 individuals. There is a relative abundance of cracking clay habitat contiguous with, but outside the development envelope, that is highly likely to provide suitable habitat for this species.



Plate 6 *Dolichocarpa* sp. Hamersley Station (A.A. Mitchell PRP 1479) on stony cracking clays

***Paspalidium retiglume* (Priority 2)**

Paspalidium retiglume is a tufted annual grass from 0.1 to 0.5 m high (Plate 7). It has linear panicles, with primary branches winged and appressed to the axis. Glumes and lemmas have reticulate venation (Sharp 2002). During the survey this species was recorded within cracking clay habitat consisting of one population of 175 plants in C1 vegetation type and an isolated individual in a roadside drain approximately 300m to the south. A density of 11.08 plants per hectare within C1 was estimated for this species. The majority of the primary population was outside the development envelope. In total seven individuals were recorded within the development envelope while 169 individuals were recorded outside. There is a relative abundance of cracking clay habitat contiguous with, but outside the development envelope, that is highly likely to provide suitable habitat for this species.



Plate 7 *Paspalidium retiglume*

***Solanum* sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795) (Priority 1)**

This species is an upright, silvery shrub to 1.7m tall with blue or purple flowers (Plate 8). It is largely confined to, and abundant on, the Mosquito Land System. Only a small proportion, less than 0.2%, of the Mosquito Land System falls within the development envelope. Within the development envelope 89 individuals were recorded, mostly in disturbed habitats. A broader search of the Mosquito Land System recorded 2040 individuals. These records ranged from immediately adjacent to the development envelope through to 25km to the east. In areas where vegetation mapping was available, the species was found in H8 and P1 vegetation types at low densities of up to 2.19 plants per ha. During the Biota 2020 survey it was recorded in P1 and P2. The low densities are likely a result of the maturing of the vegetation. The highest number of individuals was recorded from a recently burnt area 2.5 km east of the development envelope. This is in line with previous survey by WoodGIS (2019) that recorded considerably higher densities in recently burnt areas (6,533 plants per ha) compared to unburnt sites (up to 156 plants per ha).



Plate 8 *Solanum* sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795)

***Nicotiana umbratica* (Priority 3)**

This species is an erect, viscid herb to 0.7m high. It has large ovate leaves and white flowers (Plate 9). A total of 147 individuals were recorded (in vegetation types H2, H3 and H6) ranging from small seedlings to mature plants. All individuals were occurring within sheltered microhabitats among granite boulders on hills south of Nullagine and these microhabitats covered only a portion of the vegetation types the species was recorded in. Within the development envelope 41 individuals were recorded while 106 individuals were recorded outside the development envelope. The habitat within the development envelope was well surveyed. There is abundant boulder habitat beyond the survey area that is highly likely to provide suitable habitat for this species.



Plate 9 *Nicotiana umbratica*

***Rhagodia* sp. Hamersley (M. Trudgen 17794) (Priority 3)**

This species is a scrambling shrub to 4m high (Plate 10). It has small, lanceolate leaves and small red fruits. It occurs among Mulga associated with clay substrates, often restricted to the shade underneath the canopy of a Mulga tree.

During the targeted survey three individuals were recorded within the development envelope, and a further fifteen individuals outside the development envelope. All records in the targeted survey were associated with open Mulga on clay substrates (M1 and H7 or D6 in the vicinity of M1) and this is considered the primary habitat for the species. Biota (2020) recorded the species in P2 in addition to H7, however noted that all the records were associated with areas of open Mulga vegetation on plains with a clayey substrate. No individuals were recorded in P2 in this targeted survey. Overall, there is limited suitable habitat for this species within the development envelope.



Plate 10 *Rhagodia* sp. Hamersley (M. Trudgen 17794) (Photos not from survey area)

3.2.1 Target Species Not Recorded During the Survey

***Swainsona thompsoniana* (Priority 3)**

Swainsona thompsoniana is a prostrate annual herb to 0.1m high. It has slightly terete, ribbed stems with paired narrowly obovate to ovate leaflets (Davis 2013). During the Biota (2020) survey one individual was recorded within cracking clays 20km south of Nullagine. During the targeted survey this species was not recorded. As an annual species its presence/location will vary each year. Traverses over the area of the previous record along with further traverses across cracking clay habitat both within and out of the development envelope did not record this species.

During the targeted survey 15.88 ha of suitable habitat (C1) was searched by walking slow traverses and surveying 3m to either side. It is likely the species would have been detected if present within the area surveyed. The species is still considered likely to occur within the development envelope due to the presence of suitable habitat and a previous record by Biota (within C1 vegetation type). Based on the combined survey effort of the targeted survey along with the Biota (2020) survey it is likely this species is present in low numbers as isolated plants.

***Themeda* sp. Hamersley Station (M.E. Trudgen 11431) (Priority 3)**

This species is a perennial tussock grass growing to 1.8m high typically occurring on clay plains and sometimes drainages. It is a robust grass with a bluish tinge to its tussock. This species was previously

recorded at three locations during the Biota (2020) survey. Two records were from drainage lines (D4) while one was from a plain (P3). It was not recorded during the targeted survey. A total of 15.54 ha of D4 and 4.03 ha of P3 vegetation types were surveyed during the targeted survey. A specimen collected as potentially representing *Themeda* sp. Hamersley Station during the survey was later identified as *Themeda triandra*. This species is considered likely to occur based on previous records and suitable habitat present within the development envelope.

***Eragrostis crateriformis* (Priority 3)**

This species is a tufted annual grass with sunken crateriform glands. Culms are erect, or geniculately ascending or decumbent, from 17 to 42 cm high (Sharp 2002). It occurs within clayey loam soils in drainage lines and floodplains. An individual of this species was initially recorded from a creekline at the northern end of the development envelope in 2013 (Biota 2020). During the Biota survey (2020) it was not recorded in that location but was recorded from six locations within creek lines or associated floodplains (D2, D4 and P4). A total of 19.24 ha of suitable habitat for this species was surveyed during the targeted survey but the species was not recorded.

As an annual species occurring within creek lines and drainage lines its presence/abundance from year to year is likely to be highly variable. Based on the presence of suitable habitat and previous records, it is likely the species is present within the development envelope. The width of the majority of the proposed development envelope is less than 50m from the side of Marble Bar Rd (excluding the bypass). The proportion of drainage line and attendant floodplain habitat within the development envelope is minimal in proportion to the extent of habitats associated with drainage lines across the study area.

***Goodenia nuda* (Priority 4)**

Goodenia nuda is a slender, prostrate or ascending annual herb with yellow flowers. Basal leaves are prominently three veined from the base. Across the Pilbara it has been recorded from seasonally inundated clay soils, drainage lines, scoured river beds and hillsides. During Biota (2020) it was recorded from three locations within creek lines or low-lying areas on plains. A total of 34.45 ha of suitable habitat for this species was surveyed during the targeted survey but the species was not recorded. It is a widespread species across the Pilbara and is still considered likely to occur.

4 Conclusion

During the targeted survey ten of the fourteen target species were recorded, including nine species recorded during the Biota (2020) survey and one species (*Atriplex spinulosa*) that was not recorded in 2020 but was considered likely to occur. The species recorded during the targeted survey were:

- *Acacia aphanoclada* (P1)
- *Acacia cyperophylla* var. *omearana* (P1)
- *Atriplex spinulosa* (P1)
- *Solanum* sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795)
- *Euphorbia inappendiculata* var. *inappendiculata* (P2)
- *Ipomoea racemigera* (P2)
- *Nicotiana umbratica* (P3)
- *Dolichocarpa* sp. Hamersley Station (A.A. Mitchell PRP 1479) (P3)
- *Paspalidium retiglume* (P2)
- *Rhagodia* sp. Hamersley (M. Trudgen 17794) (P3)

Four of the target species previously recorded during the Biota (2020) survey were not recorded during the targeted survey however are still considered likely to occur, these were:

- *Eragrostis crateriformis* (P3)
- *Goodenia nuda* (P4)
- *Themedia* sp. Hamersley Station (M.E. Trudgen 11431) (P3)
- *Swainsona thompsoniana* (P3)

5 References

Atlas of Living Australia (2021), Atlas of Living Australia Database. Accessed from bie.ala.org.au.

Beard, J. S. (1975), *Vegetation Survey of Western Australia: Pilbara, map and explanatory memoir 1:1,000,000 series*, Nedlands, University of Western Australia Press.

Biota (2020), *Marble Bar Road Upgrades SLK 97-179 Biological Survey*. Unpublished report prepared for Main Roads, Rev 0, March 2021.

Kendrick, P. (2001), *Pilbara 1 (PIL1 – Chichester Subregion)*. In: May, J. & McKenzie, N. (Eds). *A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002*, pp. 547–558. Department of Conservation & Land Management, Perth.

Department of Agriculture, Water and the Environment (DAWE) (2012), *Interim Biogeographic Regionalisation for Australia (Subregions - States and Territories) v. 7 (IBRA) [ESRI shapefile]* Available from <http://intspat01.ris.environment.gov.au/fed/catalog/search/resource/details.page?uuid=%7BBC052189-DBEC-49C0-B735-71818899DA01%7D>

Davis, R. & Johan, P & Hurter, Petrus. (2013), *Swainsona thompsoniana (Fabaceae: Faboideae: Galegeae)*, a new species endemic to the Pilbara bioregion of Western Australia. *Nuytsia*. 23. 1-4.

Environmental Protection Authority (EPA) (2016a), *Technical Guidance: Flora and Vegetation Surveys for Environmental Impact Assessment*, EPA, Western Australia.

Environmental Protection Authority (EPA) (2016b), *Environmental Factor Guideline: Flora and Vegetation*, EPA, Western Australia.

Gibbons, K. (2020), *Hedyotis, Dolichocarpa and related genera (Rubiaceae: Spermacoceae) in Australia: New genera and new combinations in an Asian-Australian-Pacific lineage*. *TAXON*. 69. 10.1002/tax.12236.

Halford, D., & Harris, W. (2012). A taxonomic revision of *Euphorbia* section *Anisophyllum* Roeper (*Euphorbiaceae*) in Australia. *Austrobaileya*, 8(4), 441-600. Retrieved June 10, 2021, from <http://www.jstor.org/stable/41965600>

Maslin, B.R. (1992). *Acacia* Miscellany 6. Review of *Acacia victoriae* and related species (*Leguminosae: Mimosoideae: Section Phyllodineae*). *Nuytsia* 8(2): 285–309. <https://florabase.dpaw.wa.gov.au/science/nuytsia/180.pdf>

Northcote, K. H. with Beckmann, G. G., Bettenay, E., Churchward, H. M., Van Dijk, D. C., Dimmock, G. M., Hubble, G. D., Isbell, R. F., McArthur, W. M., Murtha, G. G., Nicolls, K. D., Paton, T. R., Thompson, C. H., Webb, A. A. and Wright, M. J. (1960). *Atlas of Australian Soils, Sheets 1 to 10. With explanatory data* (CSIRO Aust. and Melbourne University Press: Melbourne).

Marble Bar Road Targeted Flora Survey – October 2021

Sharp, D. & Simon, B.K. (2002), *AusGrass: Grasses of Australia*. CD-ROM, Version 1.0 (Australian Biological Resources Study, Canberra, and Environmental Protection Agency, Queensland).

Thackway, R. & Cresswell, I., (1995), *An interim biogeographic regionalisation for Australia: a framework for setting priorities in the National Reserves System Cooperative Program*. Reserve System Unit, Australian Nature Conservation Agency, Canberra.

Van Vreeswyk, A M, Leighton, K A, Payne, A L, and Hennig, P., (2004), *An inventory and condition survey of the Pilbara region, Western Australia*. Department of Agriculture and Food, Western Australia, Perth. Technical Bulletin 92.

Waters, A. (2017), *Vegetation of the MML Nullagine Tenements, October 2017/ version 3.1*, unpublished report by Woodgis and Plantecology Consulting for Millennium Minerals Limited.

Woodgis (2017), *Millennium Minerals Ltd – Nullagine Priority Flora Census Update, October 2017*, unpublished report by Woodgis and Plantecology for Millennium Minerals Ltd.

Woodgis (2019), *Flora and Vegetation of Beatons Creek*. Unpublished report prepared for Novo Resources Corp, Draft A, 29 November 2019, Woodgis Environmental Assessment and Management.

Appendix 1. Department of Agriculture, Water and the Environment (DAWE) Protected Matters Search Tool



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.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 12/06/21 12:37:07

[Summary](#)

[Details](#)

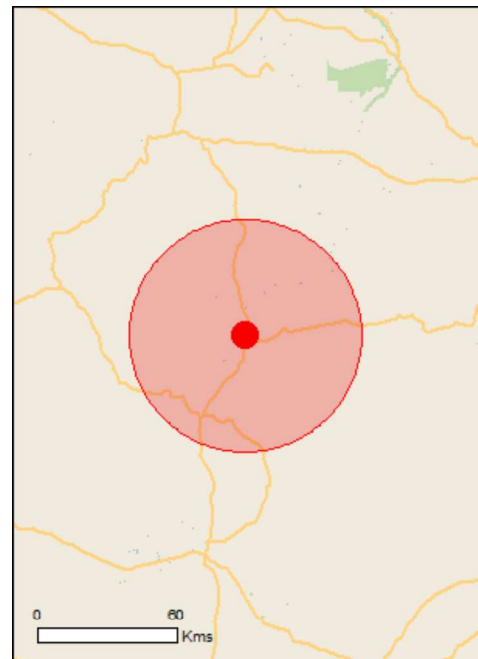
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

[Acknowledgements](#)



This map may contain data which are
©Commonwealth of Australia
(Geoscience Australia), ©PSMA 2015

[Coordinates](#)

Buffer: 50.0Km



Summary

Matters of National Environmental 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:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	11
Listed Migratory Species:	10

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 environment anywhere.

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 Land:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	15
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None

Extra Information

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

State and Territory Reserves:	1
Regional Forest Agreements:	None
Invasive Species:	13
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat likely to occur within area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat likely to occur within area
Polytelis alexandrae Princess Parrot, Alexandra's Parrot [758]	Vulnerable	Species or species habitat may occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Mammals		
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Breeding likely to occur within area
Macrotis lagotis Greater Bilby [282]	Vulnerable	Species or species habitat known to occur within area
Rhinonictis aurantia (Pilbara form) Pilbara Leaf-nosed Bat [82790]	Vulnerable	Roosting known to occur within area
Reptiles		
Liasis olivaceus barroni Olive Python (Pilbara subspecies) [66699]	Vulnerable	Species or species habitat likely to occur within area
Liopholis kintorei Great Desert Skink, Tjakura, Warrarna, Mulyamiji [83160]	Vulnerable	Species or species habitat may occur within area

Listed Migratory Species		[Resource Information]
Name	Threatened	Type of Presence
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Migratory Marine Birds		

Name	Threatened	Type of Presence
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [\[Resource Information \]](#)

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land -

Listed Marine Species [\[Resource Information \]](#)

* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.

Name	Threatened	Type of Presence
Birds		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Chrysococcyx osculans Black-eared Cuckoo [705]		Species or species habitat likely to occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat may occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Meenthen Station	WA

Invasive Species	[Resource Information]
------------------	--

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resources Audit, 2001.

Name	Status	Type of Presence
Birds		
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Mammals		
Camelus dromedarius Dromedary, Camel [7]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Equus asinus Donkey, Ass [4]		Species or species habitat likely to occur within area
Equus caballus Horse [5]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
Plants		
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		Species or species habitat likely to occur within area
Tamarix aphylla Athel Pine, Athel Tree, Tamarisk, Athel Tamarisk, Athel Tamarix, Desert Tamarisk, Flowering Cypress, Salt Cedar [16018]		Species or species habitat likely to occur within area

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species distributions have been derived through a variety of methods. Where distributions are well known and if time permits, maps are derived using either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc) together with point locations and described habitat; or environmental modelling (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where very little information is available for species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc). In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More reliable distribution mapping methods are used to update these distributions as time permits.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-21.8857 120.10934

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Office of Environment and Heritage, New South Wales](#)
- [-Department of Environment and Primary Industries, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment, Water and Natural Resources, South Australia](#)
- [-Department of Land and Resource Management, Northern Territory](#)
- [-Department of Environmental and Heritage Protection, Queensland](#)
- [-Department of Parks and Wildlife, Western Australia](#)
- [-Environment and Planning Directorate, ACT](#)
- [-Birdlife Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-South Australian Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- [-Australian Tropical Herbarium, Cairns](#)
- [-eBird Australia](#)
- [-Australian Government – Australian Antarctic Data Centre](#)
- [-Museum and Art Gallery of the Northern Territory](#)
- [-Australian Government National Environmental Science Program](#)
- [-Australian Institute of Marine Science](#)
- [-Reef Life Survey Australia](#)
- [-American Museum of Natural History](#)
- [-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [-Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

Appendix 2. NatureMap Search Results (40km buffer)

NatureMap Species Report

Created By Guest user on 12/06/2021

Kingdom Plantae
Conservation Status Conservation Taxon (T, X, IA, S, P1-P5)
Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 120° 04' 06" E, 21° 36' 07" S
Buffer 40km
Group By Conservation Status

Conservation Status	Species	Records
Priority 1	9	78
Priority 2	1	4
Priority 3	7	16
Priority 4	4	16
TOTAL	21	114

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Priority 1				
1.	13073 <i>Acacia aphanoclada</i>		P1	
2.	14087 <i>Acacia cyperophylla</i> var. <i>omearana</i>		P1	
3.	23522 <i>Acacia fecunda</i>		P1	
4.	29995 <i>Acacia</i> sp. <i>Nullagine</i> (B.R. Maslin 4955)		P1	Y
5.	2477 <i>Atriplex spinulosa</i>		P1	
6.	42280 <i>Cochlospermum macnamarae</i>		P1	
7.	16263 <i>Fimbristylis</i> sp. <i>Shay Gap</i> (K.R. Newbey 10293)		P1	
8.	2767 <i>Ptilotus wilsonii</i>		P1	
9.	48446 <i>Solanum</i> sp. <i>Mosquito Creek</i> (A.A. Mitchell et al. AAM 10795)		P1	
Priority 2				
10.	14329 <i>Indigofera ixocarpa</i>		P2	
Priority 3				
11.	16730 <i>Eragrostis crateriformis</i>		P3	
12.	20264 <i>Eucalyptus rowleyi</i>		P3	
13.	17393 <i>Heliotropium murinum</i>		P3	
14.	6980 <i>Nicotiana umbratica</i>		P3	
15.	11556 <i>Rostellularia adscendens</i> var. <i>latifolia</i>		P3	
16.	17820 <i>Themeda</i> sp. <i>Hammersley Station</i> (M.E. Trudgen 11431)		P3	
17.	45769 <i>Triodia basitricha</i> (<i>Pilbara Curly Spinifex</i>)		P3	
Priority 4				
18.	751 <i>Bulbostylis burbridgeae</i>		P4	
19.	7530 <i>Goodenia nuda</i>		P4	
20.	3022 <i>Lepidium catapycnon</i> (<i>Hammersley Lepidium</i>)		P4	
21.	2744 <i>Ptilotus mollis</i>		P4	

Conservation Codes

T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

¹ For NatureMap's purposes, species flagged as endemic are those whose records are wholly contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

NatureMap Species Report

Created By Guest user on 12/06/2021

Kingdom Plantae
Conservation Status Conservation Taxon (T, X, IA, S, P1-P5)
Current Names Only Yes
Core Datasets Only Yes
Method 'By Circle'
Centre 120° 04' 21" E, 22° 00' 54" S
Buffer 40km
Group By Conservation Status

Conservation Status	Species	Records
Priority 1	7	81
Priority 2	1	4
Priority 3	5	9
Priority 4	3	5
TOTAL	16	99

Name ID	Species Name	Naturalised	Conservation Code	¹ Endemic To Query Area
Priority 1				
1.	13073 <i>Acacia aphanoclada</i>		P1	
2.	14087 <i>Acacia cyperophylla</i> var. <i>omearana</i>		P1	
3.	23522 <i>Acacia fecunda</i>		P1	
4.	2477 <i>Atriplex spinulosa</i>		P1	
5.	2767 <i>Ptilotus wilsonii</i>		P1	
6.	48446 <i>Solanum</i> sp. <i>Mosquito Creek (A.A. Mitchell et al. AAM 10795)</i>		P1	
7.	17296 <i>Stemodia</i> sp. <i>Battle Hill (A.L. Payne 1006)</i>		P1	
Priority 2				
8.	14329 <i>Indigofera ixocarpa</i>		P2	
Priority 3				
9.	15289 <i>Acacia levata</i>		P3	
10.	20264 <i>Eucalyptus rowleyi</i>		P3	
11.	19594 <i>Iotasperma sessilifolium</i>		P3	
12.	19640 <i>Oldenlandia</i> sp. <i>Hamersley Station (A.A. Mitchell PRP 1479)</i>		P3	
13.	42142 <i>Swainsona thompsoniana</i>		P3	
Priority 4				
14.	751 <i>Bulbostylis burbridgeae</i>		P4	
15.	3022 <i>Lepidium catapycnon (Hamersley Lepidium)</i>		P4	
16.	2744 <i>Ptilotus mollis</i>		P4	

Conservation Codes

T - Rare or likely to become extinct
X - Presumed extinct
IA - Protected under international agreement
S - Other specially protected fauna
1 - Priority 1
2 - Priority 2
3 - Priority 3
4 - Priority 4
5 - Priority 5

¹ For NatureMap's purposes, species flagged as endemic are those whose records are wholly contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

NatureMap Species Report

Created By Guest user on 12/06/2021

Kingdom Plantae
 Conservation Status Conservation Taxon (T, X, IA, S, P1-P5)
 Current Names Only Yes
 Core Datasets Only Yes
 Method 'By Circle'
 Centre 120° 00' 34" E, 22° 26' 54" S
 Buffer 40km
 Group By Conservation Status

Conservation Status	Species	Records
Priority 1	8	132
Priority 3	13	63
Priority 4	3	29
TOTAL	24	224

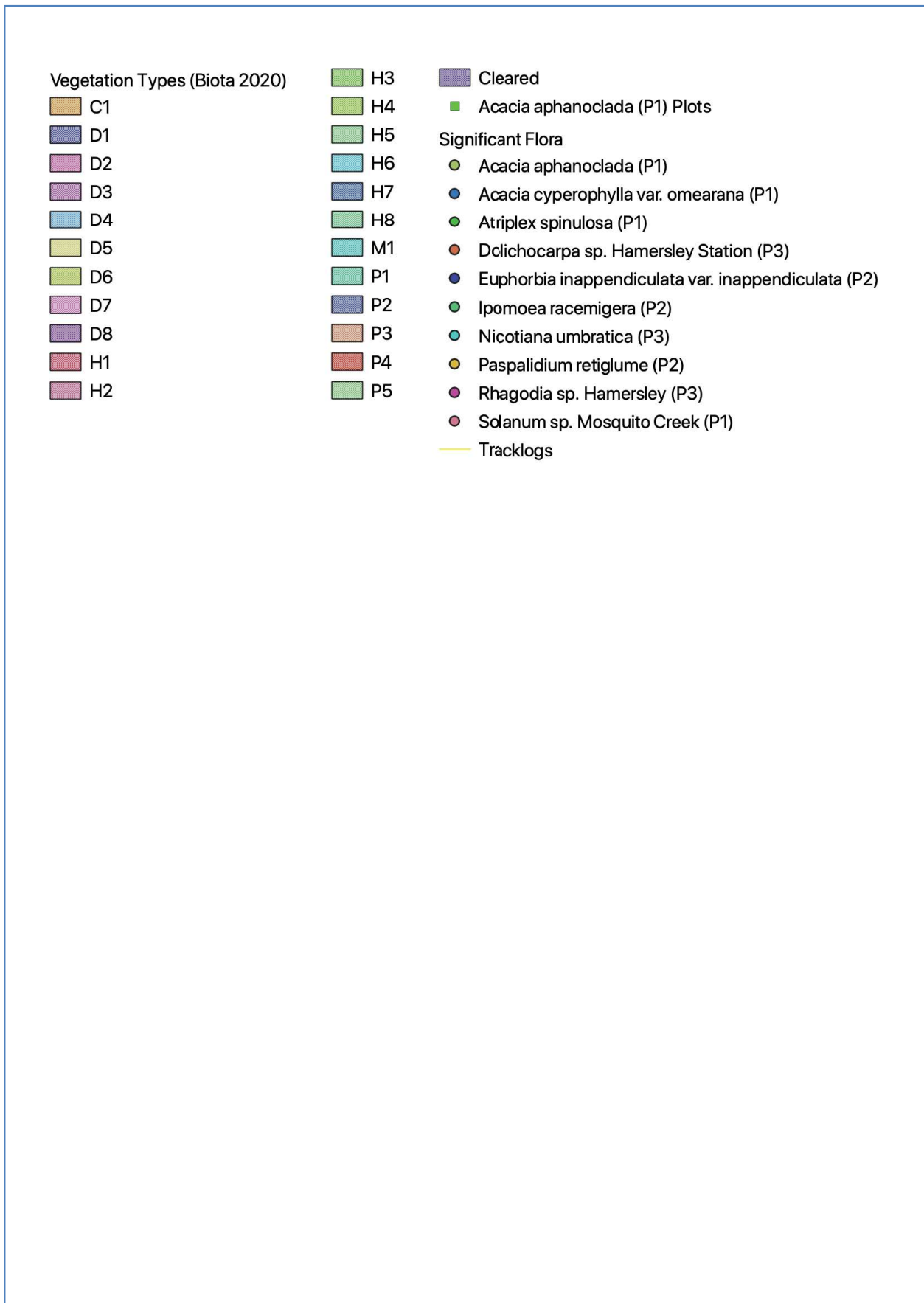
Name ID	Species Name	Naturalised	Conservation Code	Endemic To Query Area
Priority 1				
1.	13231 <i>Calotis squamigera</i>		P1	
2.	15028 <i>Eremophila pilosa</i>		P1	
3.	17363 <i>Eremophila spongocarpa</i>		P1	
4.	8030 <i>Helichrysum oligochaetum</i>		P1	
5.	44061 <i>Samolus sp. Fortescue Marsh (A. Markey & R. Coppen FM 9702)</i>		P1	
6.	17296 <i>Stemodia sp. Battle Hill (A.L. Payne 1006)</i>		P1	
7.	38509 <i>Tecticornia globulifera</i>		P1	
8.	34177 <i>Tecticornia sp. Christmas Creek (K.A. Shepherd & T. Colmer et al. KS 1063)</i>		P1	
Priority 3				
9.	2458 <i>Atriplex flabelliformis</i>		P3	
10.	46753 <i>Dysphania congestiflora (Marsh Crumbweed)</i>		P3	
11.	31017 <i>Eleocharis papillosa</i>		P3	
12.	16730 <i>Eragrostis crateriformis</i>		P3	
13.	31541 <i>Eragrostis sp. Erect spikelets (P.K. Latz 2122)</i>		P3	
14.	20264 <i>Eucalyptus rowleyi</i>		P3	
15.	19594 <i>Iotasperma sessilifolium</i>		P3	
16.	19640 <i>Oldenlandia sp. Hamersley Station (A.A. Mitchell PRP 1479)</i>		P3	
17.	20168 <i>Rhagodia sp. Hamersley (M. Trudgen 17794)</i>		P3	
18.	11556 <i>Rostellularia adscendens var. latifolia</i>		P3	
19.	42142 <i>Swainsona thompsoniana</i>		P3	
20.	38511 <i>Tecticornia medusa</i>		P3	
21.	17820 <i>Themeda sp. Hamersley Station (M.E. Trudgen 11431)</i>		P3	
Priority 4				
22.	751 <i>Bulbostylis burbridgeae</i>		P4	
23.	16040 <i>Eremophila youngii subsp. lepidota</i>		P4	
24.	7530 <i>Goodenia nuda</i>		P4	

Conservation Codes

T - Rare or likely to become extinct
 X - Presumed extinct
 IA - Protected under international agreement
 S - Other specially protected fauna
 1 - Priority 1
 2 - Priority 2
 3 - Priority 3
 4 - Priority 4
 5 - Priority 5

¹ For NatureMap's purposes, species flagged as endemic are those whose records are wholly contained within the search area. Note that only those records complying with the search criterion are included in the calculation. For example, if you limit records to those from a specific datasource, only records from that datasource are used to determine if a species is restricted to the query area.

Appendix 3. Location and Abundance of Significant Flora within the Survey Area



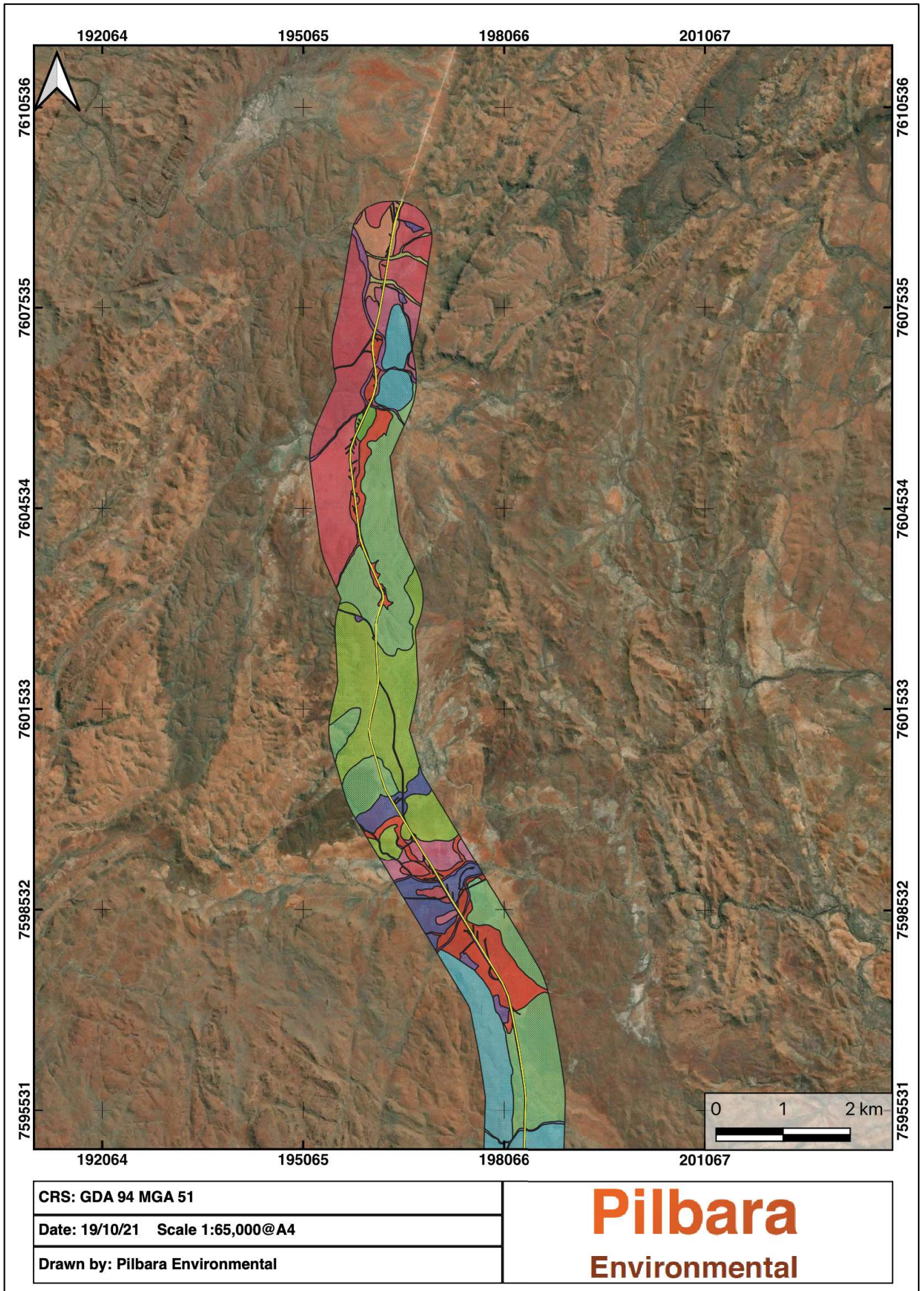


Figure 3 Location and Abundance of Significant Flora within the Survey Area

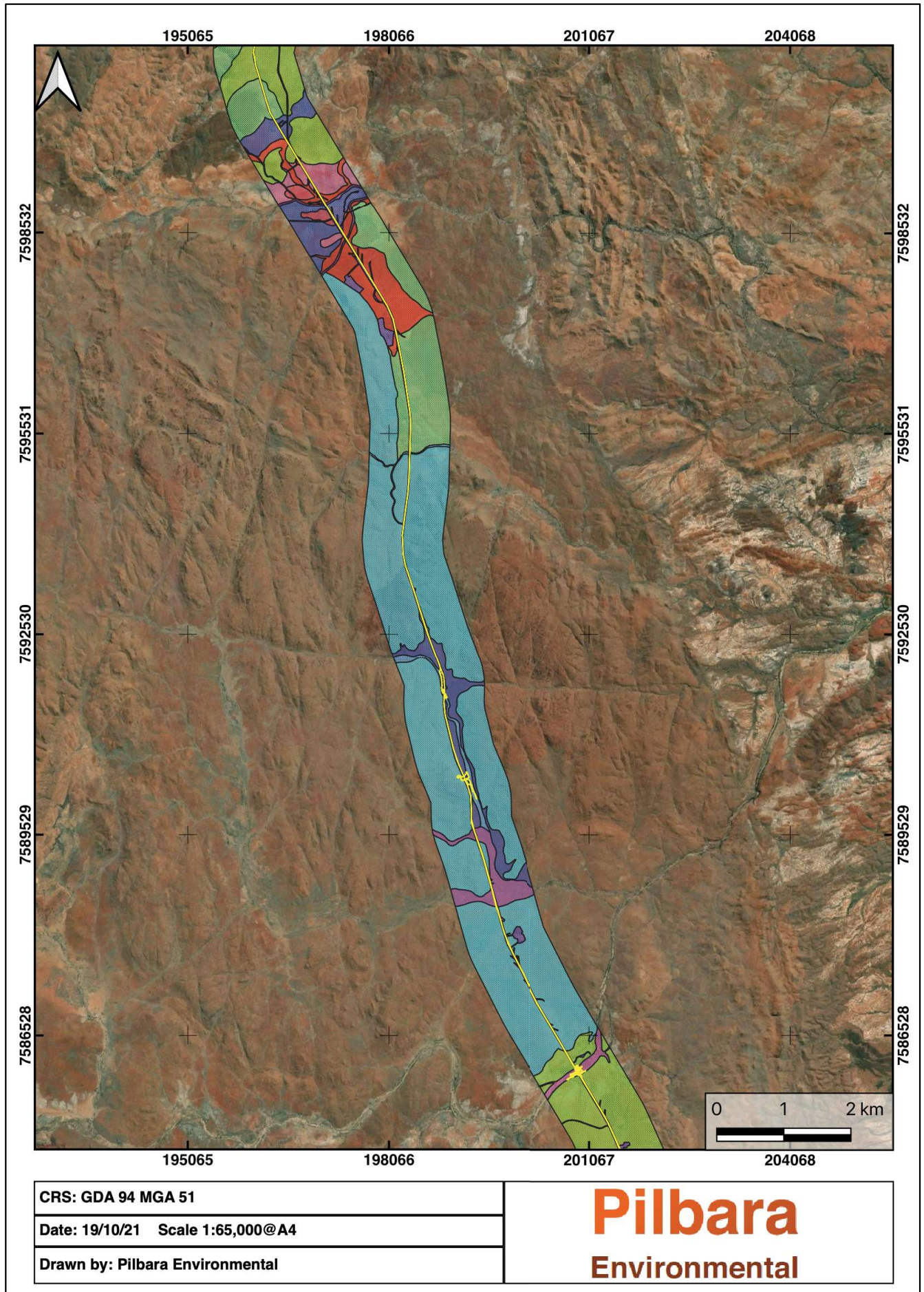


Figure 4 Location and Abundance of Significant Flora within the Survey Area

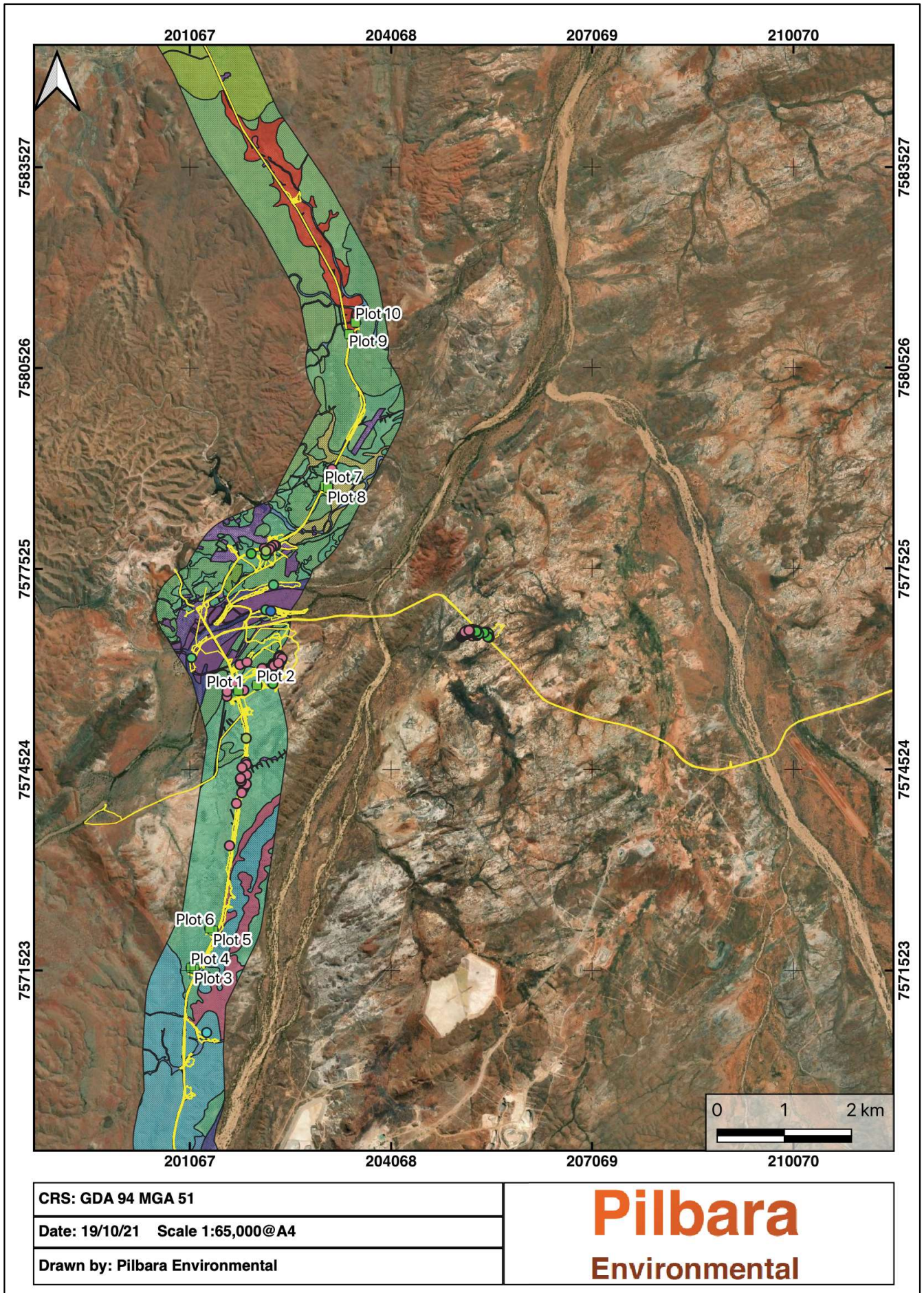


Figure 5 Location and Abundance of Significant Flora within the Survey Area

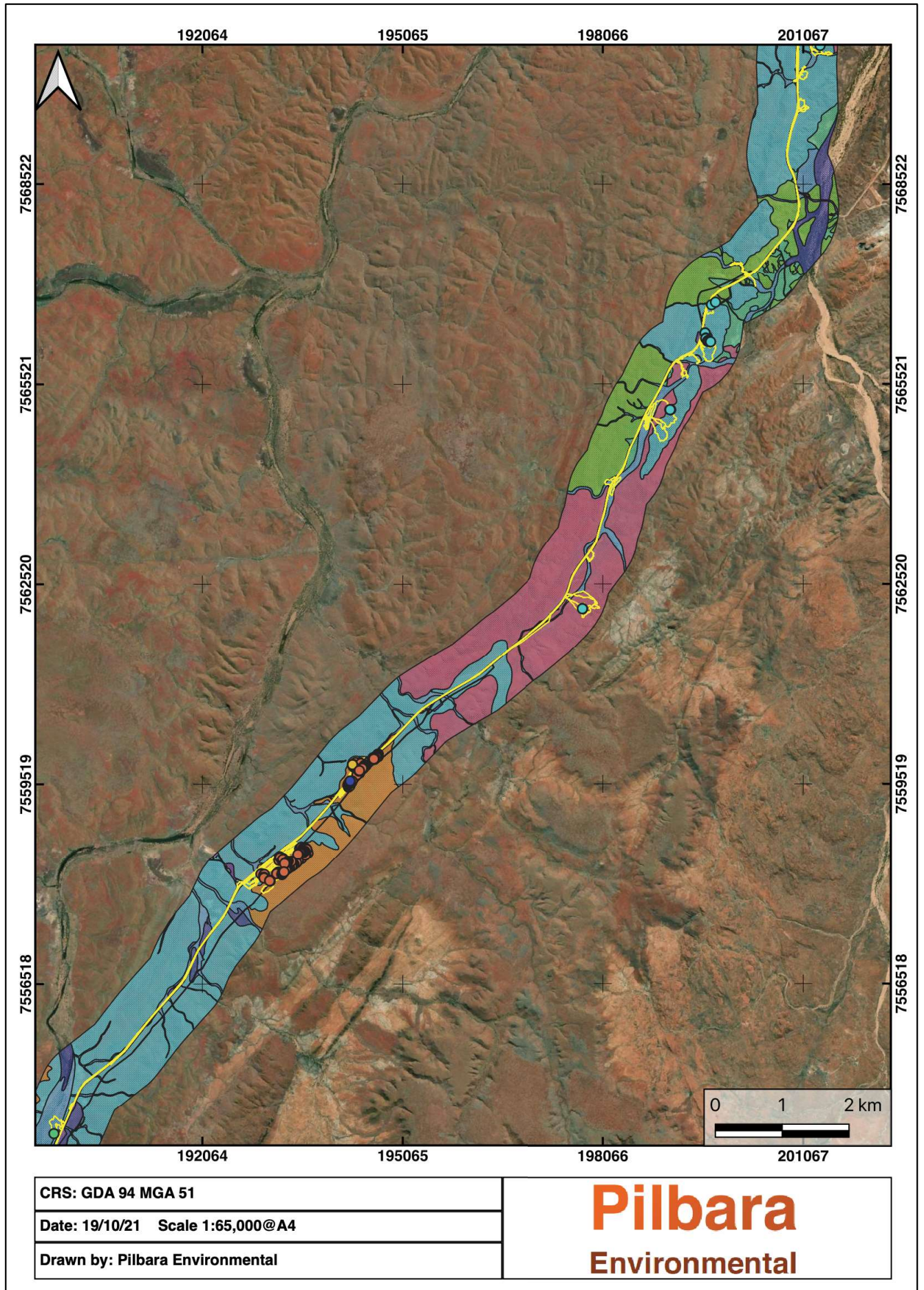


Figure 6 Location and Abundance of Significant Flora within the Survey Area

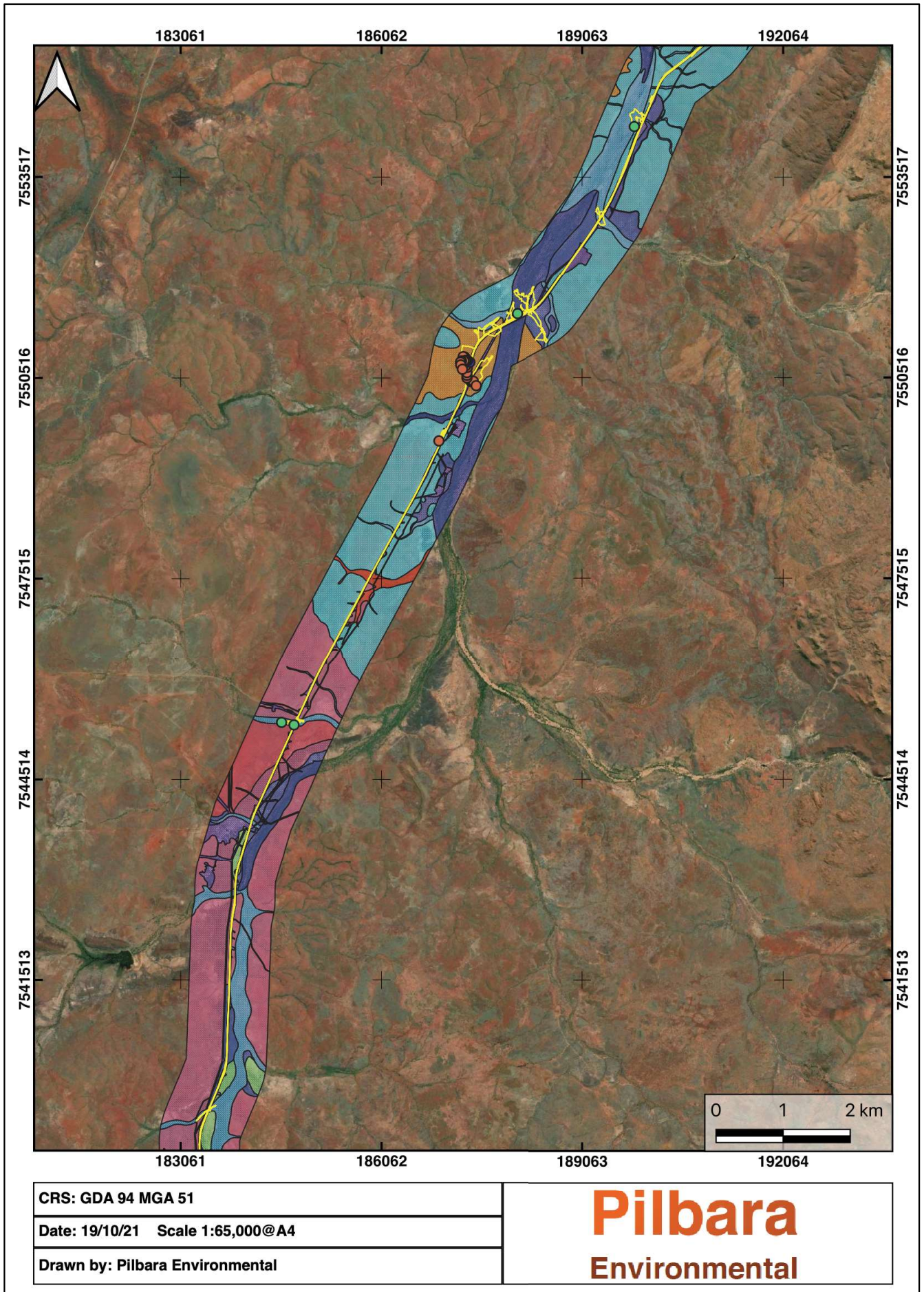


Figure 7 Location and Abundance of Significant Flora within the Survey Area

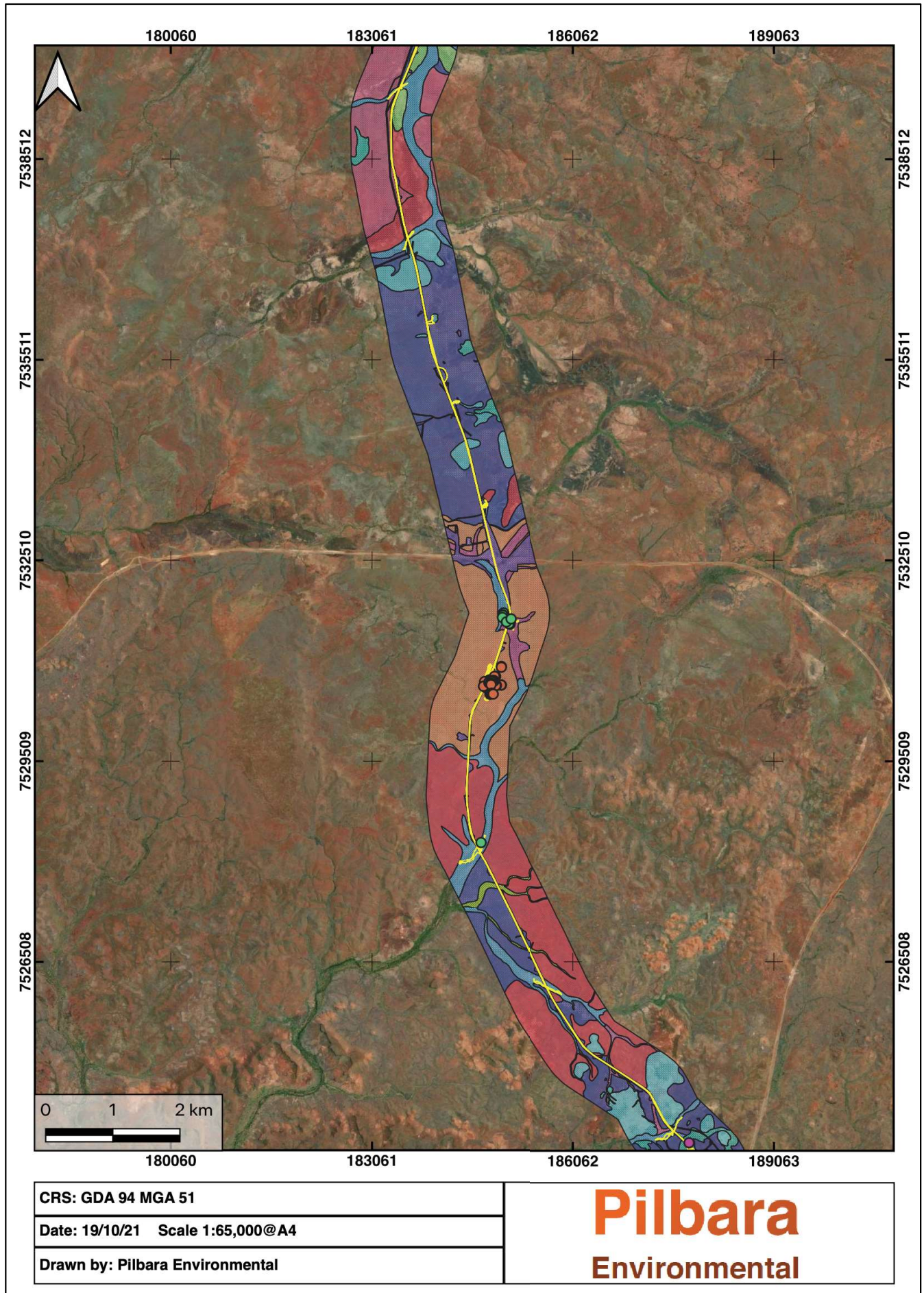


Figure 8 Location and Abundance of Significant Flora within the Survey Area

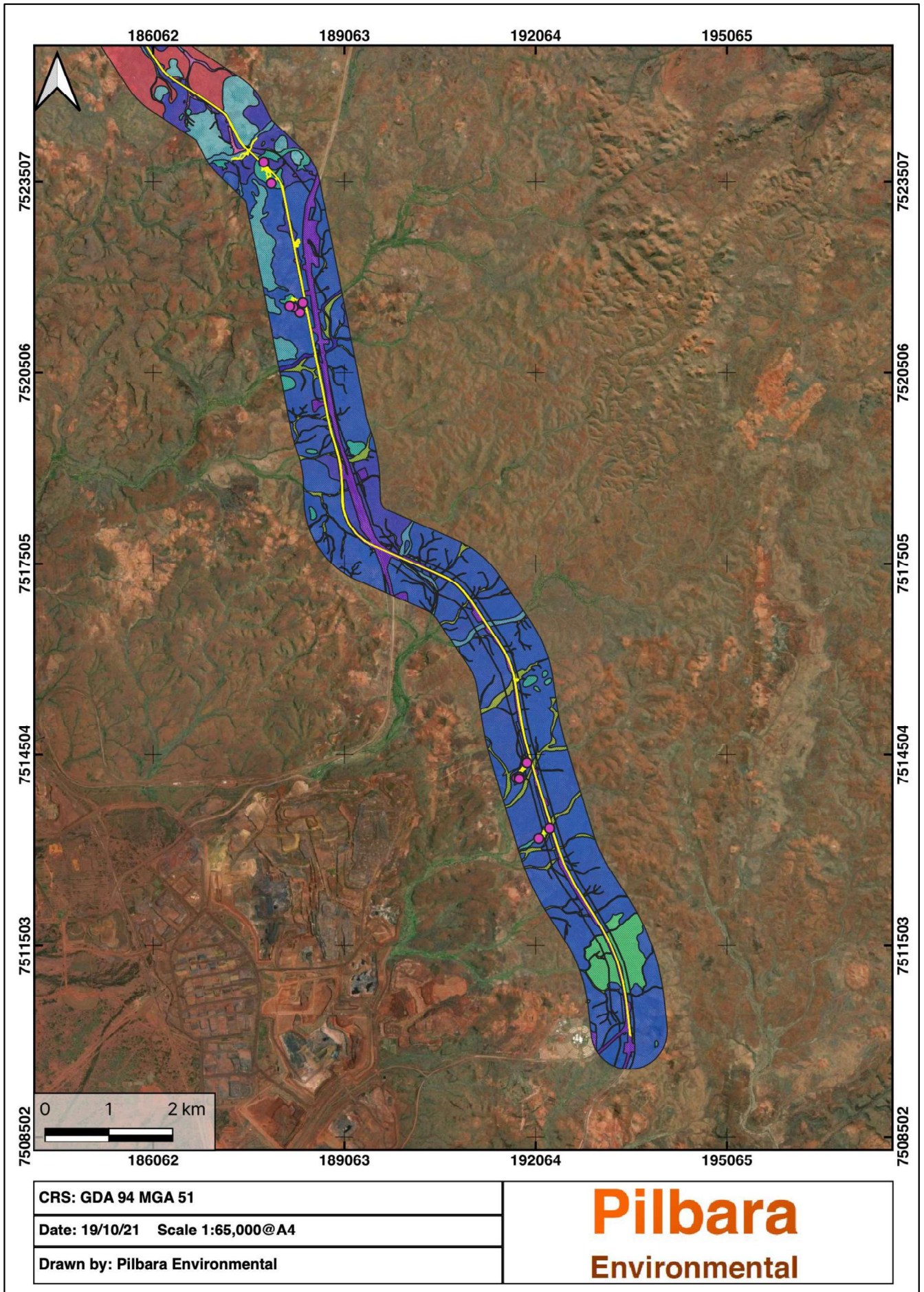


Figure 9 Location and Abundance of Significant Flora within the Survey Area

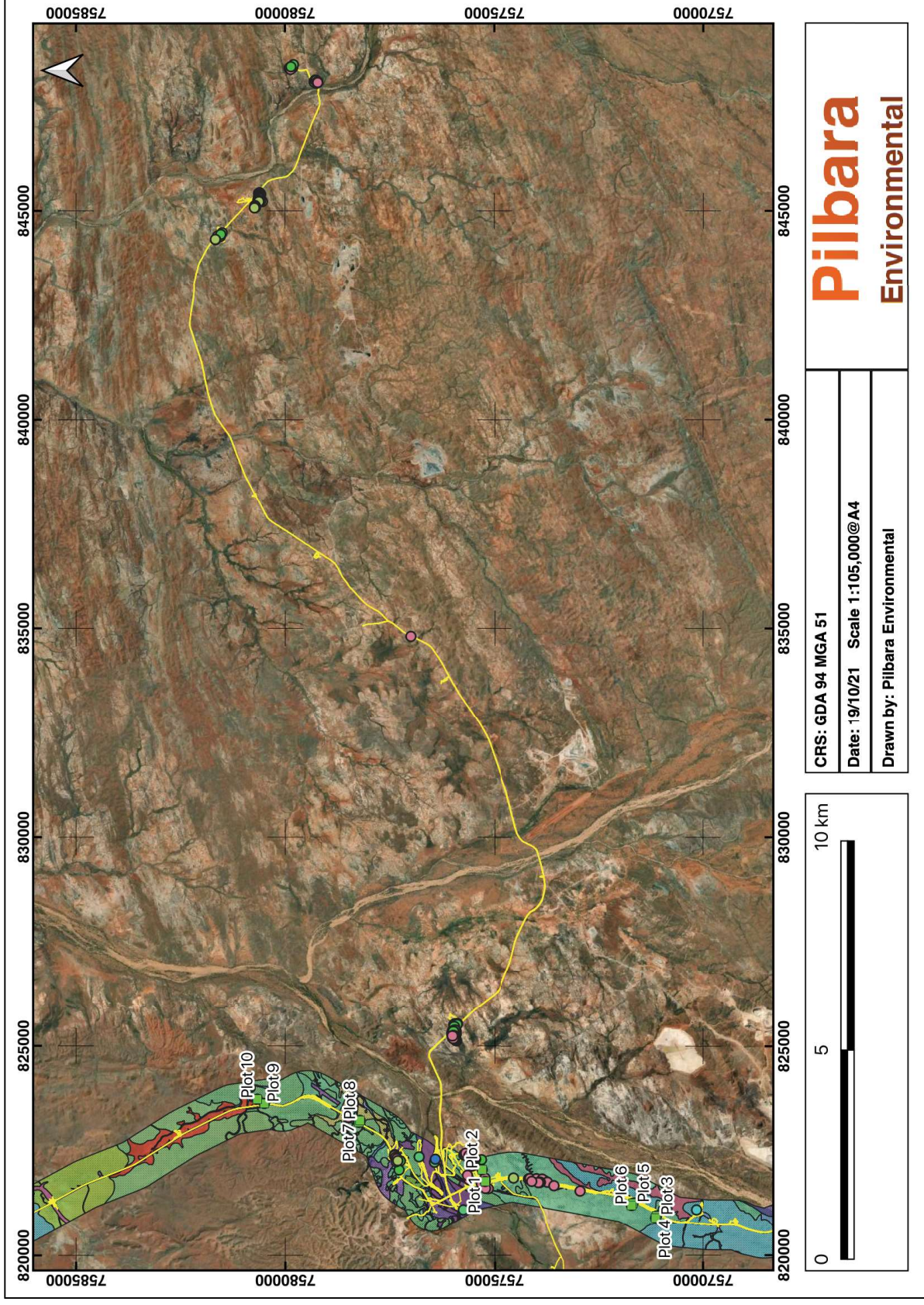


Figure 10 Location and Abundance of Significant Flora within the Survey Area

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Acacia aphanoclada</i>	P1	446	201784	7575701		Plot 1
<i>Acacia aphanoclada</i>	P1	310	202067	7575784		Plot 2
<i>Acacia aphanoclada</i>	P1	120	201134	7571545		Plot 3
<i>Acacia aphanoclada</i>	P1	87	201084	7571564		Plot 4
<i>Acacia aphanoclada</i>	P1	64	201414	7572120		Plot 5
<i>Acacia aphanoclada</i>	P1	122	201361	7572152		Plot 6
<i>Acacia aphanoclada</i>	P1	139	203080	7578756		Plot 7
<i>Acacia aphanoclada</i>	P1	52	203124	7578730		Plot 8
<i>Acacia aphanoclada</i>	P1	39	203441	7581029		Plot 9
<i>Acacia aphanoclada</i>	P1	114	203538	7581201		Plot 10
<i>Acacia aphanoclada</i>	P1	17	227894	7580734		
<i>Acacia aphanoclada</i>	P1	11	227927	7580787		
<i>Acacia aphanoclada</i>	P1	18	227968	7580767		
<i>Acacia aphanoclada</i>	P1	2	227966	7580739		
<i>Acacia aphanoclada</i>	P1	36	225217	7581985		
<i>Acacia aphanoclada</i>	P1	1	225011	7581909		
<i>Acacia aphanoclada</i>	P1	4	225019	7581954		
<i>Acacia aphanoclada</i>	P1	7	227914	7580714		
<i>Acacia aphanoclada</i>	P1	5	227923	7580712		
<i>Acacia aphanoclada</i>	P1	5	227933	7580700		
<i>Acacia aphanoclada</i>	P1	1	227933	7580700		
<i>Acacia aphanoclada</i>	P1	2	227923	7580712		
<i>Acacia aphanoclada</i>	P1	9	227923	7580712		
<i>Acacia aphanoclada</i>	P1	3	227923	7580701		
<i>Acacia aphanoclada</i>	P1	5	225202	7582008		
<i>Acacia aphanoclada</i>	P1	2	225193	7582004		
<i>Acacia aphanoclada</i>	P1	11	225186	7581990		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Acacia aphanoclada</i>	P1	5	225176	7581976		
<i>Acacia aphanoclada</i>	P1	2	225184	7581957		
<i>Acacia aphanoclada</i>	P1	4	225171	7581972		
<i>Acacia aphanoclada</i>	P1	2	225144	7581973		
<i>Acacia aphanoclada</i>	P1	4	225164	7581997		
<i>Acacia aphanoclada</i>	P1	1	225150	7582002		
<i>Acacia aphanoclada</i>	P1	1	225141	7582003		
<i>Acacia aphanoclada</i>	P1	1	225134	7581990		
<i>Acacia aphanoclada</i>	P1	3	225139	7581977		
<i>Acacia aphanoclada</i>	P1	1	225128	7581995		
<i>Acacia aphanoclada</i>	P1	3	225112	7581993		
<i>Acacia aphanoclada</i>	P1	5	225113	7582007		
<i>Acacia aphanoclada</i>	P1	1	225086	7582003		
<i>Acacia aphanoclada</i>	P1	2	225049	7582019		
<i>Acacia aphanoclada</i>	P1	2	225016	7582012		
<i>Acacia aphanoclada</i>	P1	2	225018	7581993		
<i>Acacia aphanoclada</i>	P1	5	225007	7581994		
<i>Acacia aphanoclada</i>	P1	16	224907	7582083		
<i>Acacia aphanoclada</i>	P1	15	224892	7582087		
<i>Acacia aphanoclada</i>	P1	9	224881	7582086		
<i>Acacia aphanoclada</i>	P1	13	224880	7582068		
<i>Acacia aphanoclada</i>	P1	6	224871	7582083		
<i>Acacia aphanoclada</i>	P1	4	224861	7582073		
<i>Acacia aphanoclada</i>	P1	4	224853	7582094		
<i>Acacia aphanoclada</i>	P1	6	224067	7583000		
<i>Acacia aphanoclada</i>	P1	1	202201	7577792		
<i>Acacia aphanoclada</i>	P1	1	201906	7574993	MB21	

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Acacia cyperophylla</i> var. <i>omearana</i>	P1	1	202272	7576897	MB05	
<i>Atriplex spinulosa</i>	P1	3	202304	7575807	MB18	
<i>Atriplex spinulosa</i>	P1	2	202214	7577772	MB24	
<i>Atriplex spinulosa</i>	P1	2	205493	7576583		
<i>Atriplex spinulosa</i>	P1	1	205518	7576561		
<i>Atriplex spinulosa</i>	P1	4	205528	7576508		
<i>Atriplex spinulosa</i>	P1	1	205506	7576513		
<i>Atriplex spinulosa</i>	P1	2	228233	7581396		
<i>Atriplex spinulosa</i>	P1	10	228256	7581368		
<i>Atriplex spinulosa</i>	P1	1	228270	7581358		
<i>Atriplex spinulosa</i>	P1	27	228266	7581347		
<i>Atriplex spinulosa</i>	P1	1	224141	7582882		
<i>Atriplex spinulosa</i>	P1	2	224061	7582996		
<i>Atriplex spinulosa</i>	P1	1	202198	7577730		
<i>Atriplex spinulosa</i>	P1	1	201981	7577752		
<i>Atriplex spinulosa</i>	P1	1	202313	7575949		
<i>Atriplex spinulosa</i>	P1	1	202290	7575968		
<i>Atriplex spinulosa</i>	P1	1	205451	7576577		
<i>Atriplex spinulosa</i>	P1	1	205360	7576577		
<i>Atriplex spinulosa</i>	P1	1	205346	7576589		
<i>Atriplex spinulosa</i>	P1	1	205364	7576564		
<i>Atriplex spinulosa</i>	P1	2	205346	7576534		
<i>Atriplex spinulosa</i>	P1	3	205354	7576554		
<i>Atriplex spinulosa</i>	P1	1	205372	7576556		
<i>Atriplex spinulosa</i>	P1	1	205339	7576590		
<i>Atriplex spinulosa</i>	P1	1	205336	7576592		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Atriplex spinulosa</i>	P1	1	228249	7581311		
<i>Atriplex spinulosa</i>	P1	1	228320	7581297		
<i>Atriplex spinulosa</i>	P1	6	228268	7581355		
<i>Atriplex spinulosa</i>	P1	1	224229	7582842		
<i>Atriplex spinulosa</i>	P1	3	224190	7582875		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	2	184805	7530697		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	6	184808	7530723		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	1	194246	7559506		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	2	194250	7559516		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	4	194270	7559552		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	1	184723	7530629	MB10	Had long white hairs, mb10
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	1	184803	7530679		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	2	184804	7530693		Edge of low windrow
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	15	194240	7559505		Growing on disturbed roadside drain batter
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	3	194244	7559516		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	4	194246	7559519	MB13	
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	1	194251	7559528	MB08	

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	6	194255	7559530		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	8	194255	7559528		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	11	194264	7559554	MB15	Occurring on top of roadside drainage, mostly browned off. Leaves more appressed.
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	8	194267	7559558		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	35	194270	7559563		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	16	194275	7559570		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2	3	187379	7550751		Roadside drain
<i>Ipomoea racemigera</i>	P2	1	185123	7531591		
<i>Ipomoea racemigera</i>	P2	2	185120	7531608		
<i>Ipomoea racemigera</i>	P2	1	185118	7531556		
<i>Ipomoea racemigera</i>	P2	2	185101	7531563		
<i>Ipomoea racemigera</i>	P2	1	202314	7577287		
<i>Ipomoea racemigera</i>	P2	1	202199	7576915	MB07	
<i>Ipomoea racemigera</i>	P2	2	201090	7576194		
<i>Ipomoea racemigera</i>	P2	1	184685	7528297		
<i>Ipomoea racemigera</i>	P2	1	185057	7531630		
<i>Ipomoea racemigera</i>	P2	1	185039	7531634		
<i>Ipomoea racemigera</i>	P2	1	185031	7531641		
<i>Ipomoea racemigera</i>	P2	1	185032	7531664	MB25	
<i>Ipomoea racemigera</i>	P2	1	185027	7531670		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Ipomoea racemigera</i>	P2	1	185021	7531680		
<i>Ipomoea racemigera</i>	P2	1	185021	7531683		
<i>Ipomoea racemigera</i>	P2	1	185022	7531691		
<i>Ipomoea racemigera</i>	P2	2	185020	7531725		
<i>Ipomoea racemigera</i>	P2	1	185024	7531724		
<i>Ipomoea racemigera</i>	P2	1	185012	7531694		
<i>Ipomoea racemigera</i>	P2	1	185011	7531690		
<i>Ipomoea racemigera</i>	P2	1	185005	7531657		
<i>Ipomoea racemigera</i>	P2	1	185064	7531591		
<i>Ipomoea racemigera</i>	P2	1	185134	7531636		
<i>Ipomoea racemigera</i>	P2	1	184754	7545326		
<i>Ipomoea racemigera</i>	P2	1	184568	7545363		
<i>Ipomoea racemigera</i>	P2	2	189840	7554270		
<i>Ipomoea racemigera</i>	P2	1	188092	7551474		
<i>Nicotiana umbratica</i>	P3	3	199627	7566229		
<i>Nicotiana umbratica</i>	P3	12	199692	7566706		3 flowering 9 seedlings
<i>Nicotiana umbratica</i>	P3	12	199751	7566744		2 flowering 10 seedlings
<i>Nicotiana umbratica</i>	P3	11	201317	7570598		9 flowering 2 juveniles
<i>Nicotiana umbratica</i>	P3	26	199595	7566287	MB20	In full shade deep on boulder crevice
<i>Nicotiana umbratica</i>	P3	3	199595	7566283		
<i>Nicotiana umbratica</i>	P3	1	199606	7566209	MB11	
<i>Nicotiana umbratica</i>	P3	8	199606	7566201		
<i>Nicotiana umbratica</i>	P3	6	199640	7566172		Seedlings
<i>Nicotiana umbratica</i>	P3	5	199633	7566160		4 seedlings, one approx. 15cm
<i>Nicotiana umbratica</i>	P3	3	199635	7566162		Seedlings
<i>Nicotiana umbratica</i>	P3	4	199649	7566157		
<i>Nicotiana umbratica</i>	P3	22	199673	7566150		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Nicotiana umbratica</i>	P3	10	199678	7566152		
<i>Nicotiana umbratica</i>	P3	13	197762	7562155		
<i>Nicotiana umbratica</i>	P3	3	197759	7562153		
<i>Nicotiana umbratica</i>	P3	1	199082	7565136		
<i>Nicotiana umbratica</i>	P3	1	199067	7565136		
<i>Nicotiana umbratica</i>	P3	3	199072	7565136		Seedlings
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	8	184758	7530608		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	184757	7530616		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	17	184832	7530725		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	71	184841	7530718		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	1	184902	7530777		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	3	184887	7530777		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	76	184990	7530647		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	58	184983	7530648		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	177	184916	7530641		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	68	184905	7530639		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	21	186918	7549573		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	5	193208	7558378		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	71	192947	7558175		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	46	192940	7558171		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	122	192982	7558154		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	168	192987	7558164		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	229	192991	7558166		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	24	193260	7558401		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	11	193271	7558412		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	14	193599	7558544		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	62	193614	7558532		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	35	193636	7558516		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	136	193644	7558491		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	151	193611	7558463		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	84	193602	7558457		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	47	193548	7558405		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	352	193602	7558457		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	147	193602	7558457		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	24	193498	7558371		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	111	193472	7558341		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	15	193436	7558317		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	189	193427	7558309		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	167	193422	7558308		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	77	193419	7558302		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	112	193401	7558288		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	115	193366	7558270		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	95	193355	7558264		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	108	193341	7558253		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	164	193333	7558248		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	54	193322	7558238		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	42	193313	7558231		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	8	194419	7559844		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	4	194396	7559823		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	54	194359	7559775		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	6	194348	7559766		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	27	194477	7559804		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	118	194617	7559917		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	17	194685	7559965		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	194696	7559973		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	31	194695	7559934		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	194645	7559899		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	14	194638	7559893		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	5	194512	7559798		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	19	194474	7559761		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	49	194469	7559755		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	194417	7559688	MB19	Presence, not counted

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	194296	7559545		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	194250	7559479		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	194410	7559728		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	28	187392	7550468		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	150	187404	7550465		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	330	187414	7550460		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	300	187432	7550469		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	187302	7550830		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	187279	7550834		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	184989	7530924	MB06	Collected MB06
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	11	184989	7530913		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	1	184738	7530699		On area of clay surveyed by transect.
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	184722	7530629		Many small ones close by
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	21	184878	7530713		Patch of cracking clay surrounded by <i>Triodia</i> sp.
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	24	184882	7530709		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	29	184878	7530706		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	45	184873	7530711		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	34	184871	7530714		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	65	184866	7530715		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	95	184864	7530711		Many small plants
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	65	184864	7530706		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	184868	7530702		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	26	184860	7530702		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	55	184857	7530709		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	184851	7530703		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	184839	7530697		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	6	184829	7530673		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	184833	7530670		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	184829	7530665		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	184828	7530663		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	11	184829	7530657		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	184834	7530654		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	85	184818	7530516		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	184823	7530515		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	184822	7530509		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	70	184836	7530521		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	184841	7530523		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	95	184848	7530522		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	90	184854	7530520		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	65	184858	7530518		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	184867	7530512		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193227	7558433		Population crosses DE, Numbers outside DE counted under separate WP
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193222	7558435		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	80	193218	7558439		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193225	7558427		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193226	7558421		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	34	192982	7558122		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	70	192988	7558119		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	192987	7558112		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	75	193255	7558375		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	193262	7558384		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193268	7558398		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	22	193519	7558559		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	21	193544	7558581		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	100	193572	7558568		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	47	193576	7558562		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	23	193588	7558557		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193609	7558569		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193623	7558553		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193626	7558548		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	12	193599	7558520		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	193592	7558519		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	70	193577	7558513		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	65	193573	7558504		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	37	193569	7558501		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	43	193575	7558497		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	70	193567	7558492		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193556	7558491		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193547	7558492		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193540	7558494		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	27	193531	7558506		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	193526	7558488		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	120	193505	7558471		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	193505	7558466		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193493	7558471		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	193402	7558369		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	34	193393	7558362		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	3	193349	7558365		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	28	193342	7558368		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193338	7558364		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193332	7558359		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	43	193326	7558354		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	63	193321	7558353		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	193316	7558351		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193317	7558344		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	23	193306	7558334		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	193299	7558333		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	193294	7558331		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193196	7558198		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193179	7558182		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193176	7558177		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	35	193074	7558079		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193074	7558075		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193078	7558067		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	120	193071	7558070		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	193252	7558164		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193259	7558167		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	60	193264	7558181		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193264	7558187		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193260	7558192		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193269	7558191		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193284	7558196		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	193286	7558203		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	194384	7559791		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	12	194382	7559788		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	41	194378	7559783		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	194373	7559778		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	13	194363	7559772		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	5	194433	7559828		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	14	194437	7559832		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194475	7559784		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	9	194483	7559793		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	36	194488	7559799		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	18	194493	7559804		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194498	7559808		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	14	194508	7559814		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	194511	7559818		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	2	194528	7559831		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194558	7559854		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	194563	7559859		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	194608	7559893		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	194611	7559897		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	194620	7559906		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	6	194658	7559935		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	38	194662	7559939		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	27	194674	7559947		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194692	7559961		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	194689	7559944		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	2	194682	7559935		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	194682	7559931		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	19	194675	7559928		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	194671	7559925		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	12	194647	7559912		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	6	194631	7559899		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194506	7559804		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	3	194499	7559799		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	3	194483	7559784		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194470	7559773		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194465	7559768		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	14	194462	7559764		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	13	194457	7559759		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194394	7559683		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194377	7559661		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194306	7559569		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194281	7559537		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194407	7559718		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194414	7559726		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187336	7550517		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187336	7550556		Presence, not counted

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187336	7550597		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187343	7550675		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187321	7550700		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187347	7550776		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187328	7550777		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187314	7550773		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187291	7550772		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187253	7550769		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187240	7550752		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187244	7550711		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187268	7550647		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187474	7550403		Presence, not counted
<i>Paspalidium retiglume</i>	P2	24	194341	7559831		
<i>Paspalidium retiglume</i>	P2	38	194337	7559819		
<i>Paspalidium retiglume</i>	P2	15	194324	7559812		
<i>Paspalidium retiglume</i>	P2	9	194335	7559803		
<i>Paspalidium retiglume</i>	P2	11	194324	7559800		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Paspalidium retiglume</i>	P2	14	194317	7559790		
<i>Paspalidium retiglume</i>	P2	6	194273	7559499		
<i>Paspalidium retiglume</i>	P2	1	194356	7559843	MB12	Dead
<i>Paspalidium retiglume</i>	P2	12	194334	7559813		
<i>Paspalidium retiglume</i>	P2	22	194319	7559802		
<i>Paspalidium retiglume</i>	P2	7	194314	7559806		
<i>Paspalidium retiglume</i>	P2	16	194311	7559814		A patch on a rocky area of cracking clay
<i>Paspalidium retiglume</i>	P2	1	194261	7559547	MB14	Growing in road drainage. Spec taken green
<i>Rhagodia sp. Hamersley</i>	P3	2	191806	7514159		
<i>Rhagodia sp. Hamersley</i>	P3	1	191805	7514129		
<i>Rhagodia sp. Hamersley</i>	P3	3	806049	7521665		
<i>Rhagodia sp. Hamersley</i>	P3	2	805732	7523942		
<i>Rhagodia sp. Hamersley</i>	P3	1	192110	7513191	MB02	Collected
<i>Rhagodia sp. Hamersley</i>	P3	1	192280	7513347	MB03	Collected
<i>Rhagodia sp. Hamersley</i>	P3	1	191926	7514379		
<i>Rhagodia sp. Hamersley</i>	P3	1	191763	7514143		
<i>Rhagodia sp. Hamersley</i>	P3	3	188363	7521450		
<i>Rhagodia sp. Hamersley</i>	P3	1	188256	7521536		
<i>Rhagodia sp. Hamersley</i>	P3	1	188411	7521605		
<i>Rhagodia sp. Hamersley</i>	P3	1	187914	7523481		
<i>Solanum sp. Mosquito Creek</i>	P1	2	201812	7576087		Dead
<i>Solanum sp. Mosquito Creek</i>	P1	1	201731	7575788	MB17	MB17
<i>Solanum sp. Mosquito Creek</i>	P1	1	201870	7575707		Q1
<i>Solanum sp. Mosquito Creek</i>	P1	4	203124	7578739		
<i>Solanum sp. Mosquito Creek</i>	P1	11	202239	7576016		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	3	202230	7576029		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202180	7576011		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202311	7576051		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	3	202320	7576063		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	10	202337	7576068		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	8	202345	7576082		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	4	202371	7576112		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202381	7576094		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202394	7576077		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	3	202394	7576218		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	5	202432	7576156		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	3	202413	7576127		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	9	202400	7576123		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	15	202389	7576137		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	7	202377	7576127		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	201918	7576128		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202345	7577870		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202258	7577840		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	171	205313	7576607		Burnt last 2 years. Many juveniles
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	190	205304	7576605		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	110	205292	7576602		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	56	205282	7576594		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	21	205269	7576593		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	260	205253	7576585		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	61	205245	7576602		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	97	205244	7576613		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	91	205261	7576616		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	53	205283	7576623		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	228254	7581363		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	3	201901	7574634		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	15	201910	7574601		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	3	201912	7574446		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	5	201866	7574238		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	201889	7574282		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	201907	7574309		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	201839	7574181		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	203185	7579008		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	201619	7575618		1m high
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	201622	7575686		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	203107	7578757		Edge of road drain
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	203094	7578774		Edge of roadside drain
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	203109	7578756		Roadside drain
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202291	7576023		Edge of salt plain
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202273	7576011		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	6	202267	7576012		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202256	7576013		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	6	202250	7576010		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	6	202159	7575996		Some seedlings
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202168	7575995		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	8	202174	7575995		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	3	202178	7576001		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202189	7576009		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202195	7576014		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202201	7576007		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202207	7576007		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202211	7576007		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202256	7576025		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	4	202250	7576027		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202259	7576029		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202292	7576044		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202295	7576046		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202299	7576051		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202302	7576063		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202304	7576070		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202291	7576066		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202308	7576072		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202311	7576077		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202315	7576079		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202313	7576083		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	10	202321	7576087		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202315	7576098		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	4	202311	7576103		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202322	7576108		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202347	7576113		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	5	202339	7576107		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	6	202341	7576101		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202321	7576074		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202150	7576032		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202144	7576031		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202405	7576234		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202410	7576227		

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	13	202409	7576221		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	6	202407	7576210		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	202443	7576191		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	6	202389	7576112		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202321	7577877		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	4	202281	7577844		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202276	7577850		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	202177	7577829		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	5	202252	7577815		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	205344	7576602		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	1	205338	7576608		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	205332	7576612		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	2	205319	7576596		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	3	205289	7576536		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	11	205275	7576529		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	42	205114	7576511		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	22	205125	7576522		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	15	205133	7576530		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	10	205143	7576536		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	35	205158	7576544		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	37	205170	7576547		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	40	205183	7576551		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	20	205197	7576558		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	60	205211	7576568		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	20	205221	7576573		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	50	205234	7576575		
<i>Solanum</i> sp. <i>Mosquito Creek</i>	P1	35	205237	7576585		Row of young plants in burnt patch

Marble Bar Road Targeted Flora Survey – October 2021

Species	Status	Abundance	Easting	Northing	Herb Ref.	Comments
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	21	205235	7576595		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	20	205229	7576604		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	40	205218	7576607		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	60	205203	7576605		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	25	205191	7576600		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	40	205176	7576593		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	25	205165	7576587		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	15	205228	7576610		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	30	214748	7577969		Many plants along road edge
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	1	228202	7581361		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	5	227916	7580700		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	2	224148	7582952		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	20	224059	7582994		Road drain
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	16	201657	7573393		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	6	201761	7574021		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	3	201830	7574348		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	1	201827	7574356		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	1	201822	7574392		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	1	201821	7574397		
<i>Solanum</i> sp. <i>Mosquito</i> Creek	P1	1	201844	7574556		

Appendix 4. Significant Flora Likelihood of Occurrence

Marble Bar Road Targeted Flora Survey – October 2021

Post Survey Likelihood of Occurrence	Description
Recorded	The species was previously recorded in the survey area or recorded during the filed survey.
Likely	Suitable habitat occurs within the survey area, and there are previous records in the vicinity of the survey area.
Possible	Suitable habitat occurs within the survey area, but there are no records in the vicinity of the survey area or species may be cryptic.
Unlikely	Suitable habitat may occur within the survey area however species was likely to be recorded if present.
Highly Unlikely	Suitable habitat does not occur within the survey area.

Species	Description (WA Herbarium 2021)	Habitat (WA Herbarium 2021)	Pre-Survey Likelihood of Occurrence	Post Survey Likelihood of Occurrence
<i>Acacia aphanoclada</i>	A shrub to 5m tall with slender and wispy habit	Skeletal stony soils on low hills, ridges and rises.	Recorded during Biota (2020) survey	Recorded during targeted survey
<i>Acacia cyperophylla</i> var. <i>omearana</i>	A weeping tree to 10m tall with 'minni ritchi' bark.	Stony and gritty alluvium along major drainage lines.	Recorded during Biota (2020) survey	Recorded during targeted survey
<i>Acacia fecunda</i>	Obconic shrub with spreading, open crown to 3m tall.	Drainage lines, hills and road verges	Unlikely	Unlikely

Marble Bar Road Targeted Flora Survey – October 2021

Species	Description (WA Herbarium 2021)	Habitat (WA Herbarium 2021)	Pre-Survey Likelihood of Occurrence	Post Survey Likelihood of Occurrence
<i>Acacia</i> sp. <i>Nullagine</i> (B.R. Maslin 4955)	Erect, openly branched shrub to 3m tall. Pseudo 'minni ritchi' bark.	Low lying areas between rock hills on clay.	Unlikely	Unlikely
<i>Atriplex spinulosa</i>	Rounded annual herb to 0.2m tall.	Stony saline plains.	Likely	Recorded during targeted survey
<i>Calotis squamigera</i>	Annual herb with procumbent, branched habit.	Pebbly loam	Unlikely	Unlikely
<i>Cochlospermum macnamarae</i>	Spreading multi-stemmed shrub to 2m tall and 3M wide.	Rockpiles and ridges on basalt.	Unlikely	Unlikely
<i>Eremophila pilosa</i>	Erect, branched shrub to 0.9m tall	Sparse mulga and mallee woodlands red/brown clays on sandy plains	Unlikely	Unlikely
<i>Fimbristylis</i> sp. Shay Gap (K.R. Newbey 10293)	Small greyish sedge to 0.4m tall.	Moist sandy to gravelly soils in drainage lines.	Unlikely	Unlikely
<i>Helichrysum oligochaetum</i>	Greyish, cottony herb to 0.3m tall.	Depressions and floodplains in clay soils.	Unlikely	Unlikely

Marble Bar Road Targeted Flora Survey – October 2021

Species	Description (WA Herbarium 2021)	Habitat (WA Herbarium 2021)	Pre-Survey Likelihood of Occurrence	Post Survey Likelihood of Occurrence
<i>Ptilotus wilsonii</i>	Rounded, compact woody shrub with small grey foliage.	Stony gravelly soils on sloping rocky hills.	Unlikely	Unlikely
<i>Samolus</i> sp. Fortescue Marsh (A. Markey & R. Coppen FM 9702)	Erect perennial herb.	Damp floodplains, marshes, saline flats.	Highly Unlikely	Highly Unlikely
<i>Solanum</i> sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795)	Upright, silvery shrub to 1.7m tall with blue or purple flowers	Clay / saline flats in the Mosquito land system, disturbed environments.	Recorded during Biota (2020) survey	Recorded during targeted survey
<i>Sternodia</i> sp. Battle Hill (A.L. Payne 1006)	Long lived, perennial, glabrous, pruinose shrub to 1m tall.	Cracking clays.	Unlikely	Unlikely
<i>Tecticornia globulifera</i>	Low samphire shrub.	Saline flats and marshes.	Highly Unlikely	Highly Unlikely
<i>Tecticornia</i> sp. Christmas Creek (K.A. Shepherd & T. Colmer et al. KS 1063)	Low samphire shrub.	Saline flats and marshes.	Highly Unlikely	Highly Unlikely
Priority 2				
<i>Euphorbia inappendiculata</i> var.	Prostrate, much branched herb. Leaves opposite, petiolate, obovate and glabrous.	Cracking clay soils.	Recorded during Biota (2020) survey	Recorded during targeted survey

Marble Bar Road Targeted Flora Survey – October 2021

Species	Description (WA Herbarium 2021)	Habitat (WA Herbarium 2021)	Pre-Survey Likelihood of Occurrence	Post Survey Likelihood of Occurrence
<i>Indigofera ixocarpa</i>	Spreading, rounded shrub to 0.8m tall.	Hills and drainage lines, usually over massive ironstones but also on granite.	Unlikely	Unlikely
<i>Ipomoea racemigera</i>	Pilose annual with twining stem, upper leaf lamina is glabrous.	Sandy soils along water courses.	Recorded during Biota (2020) survey	Recorded during targeted survey
<i>Paspalidium retiglume</i>	Leafy annual tussock grass to 0.5m high.	Cracking clays	Recorded during Biota (2020) survey	Recorded during targeted survey
Priority 3				
<i>Acacia levata</i>	Spreading, multi-stemmed shrub, to 3 m tall and 5 m wide.	Sand or sandy loam over granite on hillslopes.	Unlikely	Unlikely
<i>Atriplex flabelliformis</i>	A fan shaped perennial herb, erect rounded to 0.35m high.	Clay loam or loam on saline flats and in marshes.	Highly Unlikely	Highly Unlikely
<i>Dysphania congestiflora</i>	Annual herb with erect main stems to 0.1m high.	Clay plains, saline flats.	Unlikely	Unlikely
<i>Eleocharis papillosa</i>	Small annual sedge to 0.09m high.	Seasonally wet marshes and lakes.	Unlikely	Unlikely

Marble Bar Road Targeted Flora Survey – October 2021

Species	Description (WA Herbarium 2021)	Habitat (WA Herbarium 2021)	Pre-Survey Likelihood of Occurrence	Post Survey Likelihood of Occurrence
<i>Eragrostis crateriformis</i>	Tufted annual grass to 0.5m high.	Clayey loam in drainage lines and flood plains.	Recorded during Biota (2020) survey	Not recorded during targeted survey but still considered likely to occur
<i>Eragrostis</i> sp. Erect spikelets (P.K. Latz 2122)	Perennial grass to 30 cm tall.	Clay flats near the Fortescue Marsh.	Unlikely	Unlikely
<i>Eremophila spongiocarpa</i>	Intricately branched shrub to 1m high.	Sub saline red clay loams of the Fortescue Marsh.	Highly Unlikely	Highly Unlikely
<i>Eucalyptus rowleyi</i>	Lignotuberous mallee to 5m tall.	Plains and creeks.	Unlikely	Unlikely
<i>Heliotropium murinum</i>	A small grey/green herb or low shrub to 0.4m high.	Sandy plains and floodplains.	Unlikely	Unlikely
<i>Iotasperma sessilifolium</i>	Pilose annual herb to 0.35m high.	Cracking clays.	Possible	Possible
<i>Nicotiana umbratica</i>	Viscid herb with large ovate leaves to 0.7m tall.	Sheltered microhabitats among granite boulders.	Recorded during Biota (2020) survey	Recorded during targeted survey

Marble Bar Road Targeted Flora Survey – October 2021

Species	Description (WA Herbarium 2021)	Habitat (WA Herbarium 2021)	Pre-Survey Likelihood of Occurrence	Post Survey Likelihood of Occurrence
<i>Dolichocarpa</i> sp. Hamersley Station (A.A. Mitchell PRP 1479)	Small spreading annual herb, branching from the base. Leaves small, lanceolate. Flowers small, blue-white.	Seasonally inundated clays, cracking clays.	Recorded during Biota (2020) survey	Recorded during targeted survey
<i>Rhagodia</i> sp. Hamersley (M. Trudgen 17794)	Lax shrub or scrambler with small lanceolate leaves. Not aromatic.	Mulga on clay	Recorded during Biota (2020) survey	Recorded during targeted survey
<i>Rostellularia adscendens</i> var. <i>latifolia</i>	A hairy, decumbent shrub to 0.4m high.	Various habitats including drainage lines, shaded ridges, gullies and gorges.	Possible	Possible
<i>Swainsona thompsoniana</i>	Small compound leaved annual herb with blue to mauve flowers.	Cracking clays.	Recorded during Biota (2020) survey	Not recorded during targeted survey but still considered likely to occur
<i>Tecticornia medusa</i>	Low samphire shrub.	Saline flats, marshes	Highly Unlikely	Highly Unlikely

Marble Bar Road Targeted Flora Survey – October 2021

Species	Description (WA Herbarium 2021)	Habitat (WA Herbarium 2021)	Pre-Survey Likelihood of Occurrence	Post Survey Likelihood of Occurrence
<i>Themeda</i> sp. Hammersley Station	Tussocky perennial, grass-like or herb, 0.9-1.8 m high. Fl. Aug.	Red clay. Clay pan, grass plain.	Recorded during Biota (2020) survey	Not recorded during targeted survey but still considered likely to occur
<i>Triodia basitricha</i>	Sinuous hummock grass to 0.4m tall.	Rocky hill slopes and summits	Unlikely	Unlikely
Priority 4				
<i>Bulbostylis burbridgeae</i>	Annual sedge with squarrose spikelets to 0.25m tall.	Creeklines and under rocky over hangs.	Unlikely	Unlikely
<i>Eremophila youngii</i> subsp. <i>lepidota</i>	Medium to large narrow leaved shrub to 4m high.	Stony red sandy loam on clay flats and floodplains, sometimes semi-saline.	Unlikely	Unlikely

Marble Bar Road Targeted Flora Survey – October 2021

Species	Description (WA Herbarium 2021)	Habitat (WA Herbarium 2021)	Pre-Survey Likelihood of Occurrence	Post Survey Likelihood of Occurrence
<i>Goodenia nuda</i>	Erect to ascending herb, to 0.5 m high. Fl. Yellow Apr/Aug.	Seasonally inundated clay soils and drainage lines, often in Mulga. Also recorded in riverbed sands and hillsides.	Recorded during Biota (2020) survey	Not recorded during targeted survey but still considered likely to occur
<i>Lepidium catapycnon</i> (Hammersley Lepidium)	A papillose perennial herb or shrub. Leaves small, linear ascending, terete on characteristically zig zag branch tips.	Skeletal soils in open woodland, more common after disturbance.	Unlikely	Unlikely
<i>Ptilotus mollis</i>	Woolly shrub with pink flowers to 0.9m high.	Stony hills and screes.	Unlikely	Unlikely

Appendix 5. Threatened and Priority Flora Report Forms



Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: <u>Acacia aphanoclada</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>24/4/21</u>		CONSERVATION STATUS: <u>P1</u>	
OBSERVER/S: <u>Nicholas Tidmarsh</u>		PHONE [REDACTED]	
ROLE: <u>Managing Director</u>		ORGANISATION: <u>Pilbara Environmental</u>	
EMAIL: [REDACTED]			

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): Nullagine

Plants occurring on stony hills slopes, summits and plains close below. Counts were conducted both north and south of Nullagine. Table showing all locations and abundance are attached.

DBC DISTRICT: <u>Pilbara</u>		LGA: <u>Shire of East Pilbara</u>		Reserve No.: _____	
				Land manager present: <input type="checkbox"/>	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input type="checkbox"/> Unknown <input type="checkbox"/>		DecDegrees <input checked="" type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input type="checkbox"/> Lat / Northing: <u>-2503495.83</u> Long / Easting: <u>13370426.39</u> ZONE: _____		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
LAND TENURE:					
Nature reserve <input type="checkbox"/>		Timber reserve <input type="checkbox"/>		Private property <input type="checkbox"/>	
National park <input type="checkbox"/>		State forest <input type="checkbox"/>		Rail reserve <input type="checkbox"/>	
Conservation park <input type="checkbox"/>		Water reserve <input type="checkbox"/>		Pastoral lease <input checked="" type="checkbox"/>	
		UCL <input type="checkbox"/>		MRWA road reserve <input checked="" type="checkbox"/>	
		SLK/Pole _____ to _____		Shire road reserve <input type="checkbox"/>	
				Other Crown reserve <input type="checkbox"/>	
				Specify other: _____	

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/> Area observed (m ²): _____					
EFFORT: Time spent surveying (minutes): _____			No. of minutes spent / 100 m ² : _____		
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/> Count method: <u>Traverses</u>					
(Refer to field manual for list)					
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>					
TOTAL POP'N STRUCTURE:					
	Mature:	Juveniles:	Seedlings:	Totals:	Area of pop (m ²): _____ Note: Pls record count as numbers (not percentages) for database.
Alive	1751			1751	
Dead					
QUADRATS PRESENT: No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m ²): _____					
Summary Quad. Totals: Alive					
REPRODUCTIVE STATE:					
Clonal <input type="checkbox"/>		Vegetative <input checked="" type="checkbox"/>		Flowerbud <input type="checkbox"/>	
Immature fruit <input type="checkbox"/>		Fruit <input type="checkbox"/>		Flower <input type="checkbox"/>	
				Dehisced fruit <input type="checkbox"/>	
				Percentage in flower: <u>5%</u>	

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: Most plants browning off

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
•	_____	_____	_____
•	_____	_____	_____



Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Granite <input checked="" type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input checked="" type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input checked="" type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input checked="" type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input checked="" type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input checked="" type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
CONDITION OF SOIL:	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

VEGETATION CLASSIFICATION*:

1. Open hummock grasses

2. _____

3. _____

4. _____

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 Australian Soil and Land Survey Field Handbook guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine Excellent Very good Good Degraded Completely degraded

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High Medium Low No signs of fire

FENCING: Not required Present Replace / repair Required Length req'd: _____

ROADSIDE MARKERS: Not required Present Replace / reposition Required Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

Occuring in clumps of plants in Cracking Clay. Cracking Clay habitat extends well beyond area surveyed.

FLORA AUTHORISATION / LICENCE No: FB62000254____ Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: MB21 WA Herb. Regional Herb. District Herb. Other: _____

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map Mudmap Photo GIS data Field notes Other: Table of occurrence data

COPY SENT TO: Regional Office District Office Other: _____

Submitter of Record: Nick Tidmarsh Role: Project Manager Signed: _____ Date: 2/6/21

Please return completed form to **Species And Communities Program DBCA**,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au
RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Program.
Record entered by: _____ Sheet No.: _____ Record Entered in Database

Threatened and Priority Flora Report Form

Version 1.4 March 2021

Species	Status	Abundance	Eastings (GDA 94 51S)	Northing (GDA 94 51S)	HerbRef	Comments
<i>Acacia aphanoclada</i>	P1	17	227894	7580734		
<i>Acacia aphanoclada</i>	P1	11	227927	7580787		
<i>Acacia aphanoclada</i>	P1	18	227968	7580767		
<i>Acacia aphanoclada</i>	P1	2	227966	7580739		
<i>Acacia aphanoclada</i>	P1	36	225217	7581985		
<i>Acacia aphanoclada</i>	P1	1	225011	7581909		
<i>Acacia aphanoclada</i>	P1	4	225019	7581954		
<i>Acacia aphanoclada</i>	P1	7	227914	7580714		
<i>Acacia aphanoclada</i>	P1	5	227923	7580712		
<i>Acacia aphanoclada</i>	P1	5	227933	7580700		
<i>Acacia aphanoclada</i>	P1	1	227933	7580700		
<i>Acacia aphanoclada</i>	P1	2	227923	7580712		
<i>Acacia aphanoclada</i>	P1	9	227923	7580712		
<i>Acacia aphanoclada</i>	P1	3	227923	7580701		
<i>Acacia aphanoclada</i>	P1	5	225202	7582008		
<i>Acacia aphanoclada</i>	P1	2	225193	7582004		
<i>Acacia aphanoclada</i>	P1	11	225186	7581990		
<i>Acacia aphanoclada</i>	P1	5	225176	7581976		
<i>Acacia aphanoclada</i>	P1	2	225184	7581957		
<i>Acacia aphanoclada</i>	P1	4	225171	7581972		
<i>Acacia aphanoclada</i>	P1	2	225144	7581973		
<i>Acacia aphanoclada</i>	P1	4	225164	7581997		
<i>Acacia aphanoclada</i>	P1	1	225150	7582002		
<i>Acacia aphanoclada</i>	P1	1	225141	7582003		
<i>Acacia aphanoclada</i>	P1	1	225134	7581990		
<i>Acacia aphanoclada</i>	P1	3	225139	7581977		

Please return completed form to **Species And Communities Program DBCA,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database

Threatened and Priority Flora Report Form

Version 1.4 March 2021

Species	Status	Abundance	Eastings (GDA 94 51S)	Northing (GDA 94 51S)	HerbRef	Comments
<i>Acacia aphanoclada</i>	P1	1	225128	7581995		
<i>Acacia aphanoclada</i>	P1	3	225112	7581993		
<i>Acacia aphanoclada</i>	P1	5	225113	7582007		
<i>Acacia aphanoclada</i>	P1	1	225086	7582003		
<i>Acacia aphanoclada</i>	P1	2	225049	7582019		
<i>Acacia aphanoclada</i>	P1	2	225016	7582012		
<i>Acacia aphanoclada</i>	P1	2	225018	7581993		
<i>Acacia aphanoclada</i>	P1	5	225007	7581994		
<i>Acacia aphanoclada</i>	P1	16	224907	7582083		
<i>Acacia aphanoclada</i>	P1	15	224892	7582087		
<i>Acacia aphanoclada</i>	P1	9	224881	7582086		
<i>Acacia aphanoclada</i>	P1	13	224880	7582068		
<i>Acacia aphanoclada</i>	P1	6	224871	7582083		
<i>Acacia aphanoclada</i>	P1	4	224861	7582073		
<i>Acacia aphanoclada</i>	P1	4	224853	7582094		
<i>Acacia aphanoclada</i>	P1	6	224067	7583000		
<i>Acacia aphanoclada</i>	P1	1	202201	7577792		
<i>Acacia aphanoclada</i>	P1	1	201906	7574993	MB21	

Please return completed form to **Species And Communities Program DBCA,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: <u>Acacia cyperophylla var. omearana</u>		TPFL Pop. No.: _____
OBSERVATION DATE: <u>24/4/21</u>	CONSERVATION STATUS: <u>P1</u>	New population <input type="checkbox"/>
OBSERVER/S: <u>Nicholas Tidmarsh</u>		PHONE [REDACTED]
ROLE: <u>Managing Director</u>	ORGANISATION: <u>Pilbara Environmental</u>	
EMAIL: [REDACTED]		

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): Nullagine

Approximately 1.2 km east-southeast of Walter Road in Nullagine, on the southern bank of the Nullagine River.

DBC DISTRICT: <u>Pilbara</u>		LGA: <u>Shire of East Pilbara</u>	Reserve No.: _____
		Land manager present: <input type="checkbox"/>	
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input checked="" type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input type="checkbox"/>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>-21.88693135</u>	No. satellites: _____ Map used: _____	
WGS84 <input type="checkbox"/>	Long / Easting: <u>120.11880566</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>	ZONE: <u>51S</u>		
LAND TENURE:			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: _____

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input type="checkbox"/> Full survey <input checked="" type="checkbox"/>	Area observed (m²): _____		
EFFORT: Time spent surveying (minutes): _____	No. of minutes spent / 100 m²: _____		
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: <u>Traverses</u>		
<small>(Refer to field manual for list)</small>			
WHAT COUNTED:	Plants <input checked="" type="checkbox"/>	Clumps <input type="checkbox"/>	Clonal stems <input type="checkbox"/>
TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings: Totals:
Alive	1		1
Dead			
Area of pop (m²): _____			
<small>Note: Pls record count as numbers (not percentages) for database.</small>			
QUADRATS PRESENT:	No. _____	Size _____	Data attached <input type="checkbox"/> Total area of quadrats (m²): _____
Summary Quad. Totals: Alive			
REPRODUCTIVE STATE:	Clonal <input type="checkbox"/>	Vegetative <input checked="" type="checkbox"/>	Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>
	Immature fruit <input type="checkbox"/>	Fruit <input type="checkbox"/>	Dehisced fruit <input type="checkbox"/> Percentage in flower: <u>5%</u>

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: Most plants browning off

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
•	_____	_____	_____
•	_____	_____	_____
•	_____	_____	_____



Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input checked="" type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input checked="" type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input checked="" type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input checked="" type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input checked="" type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input checked="" type="checkbox"/>	<u>Stony alluvium</u>				
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					

CONDITION OF SOIL: Dry Moist Waterlogged Inundated

VEGETATION CLASSIFICATION*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);
 2. Open shrubland (Hibbertia sp., Acacia spp.);
 3. Isolated clumps of sedges (M.tetragona)

1. 1. Open forest (Eucalyptus camaldulensis, E. victrix)

2. _____

3. _____

4. _____

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 Australian Soil and Land Survey Field Handbook guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine Excellent Very good Good Degraded Completely degraded

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High Medium Low No signs of fire

FENCING: Not required Present Replace / repair Required Length req'd: _____

ROADSIDE MARKERS: Not required Present Replace / reposition Required Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

FLORA AUTHORISATION / LICENCE No: FB62000254____ Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: MB05 WA Herb. Regional Herb. District Herb. Other: _____

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map Mudmap Photo GIS data Field notes Other: _____

COPY SENT TO: Regional Office District Office Other: _____



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: <u>Atriplex spinulosa</u>	TPFL Pop. No.: _____
OBSERVATION DATE: <u>24/4/21</u>	CONSERVATION STATUS: <u>P1</u> New population <input type="checkbox"/>
OBSERVER/S: <u>Nicholas Tidmarsh</u>	PHONE: <u>[REDACTED]</u>
ROLE: <u>Managing Director</u>	ORGANISATION: <u>Pilbara Environmental</u>
EMAIL: <u>[REDACTED]</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): Nullagine

Occuring within a 1km radius of Nullagine town

Reserve No.: _____

DBC DISTRICT: Pilbara **LGA:** Shire of East Pilbara **Land manager present:**

DATUM: GDA94 / MGA94 AGD84 / AMG84 WGS84 Unknown

COORDINATES: (If UTM coords provided, Zone is also required)
 DecDegrees DegMinSec UTM's GPS Differential GPS Map
Lat / Northing: -21.87902776 **No. satellites:** _____ **Map used:** _____
Long / Easting: 120.11838731 **Boundary polygon captured:** **Map scale:** _____
ZONE: _____

LAND TENURE:
 Nature reserve Timber reserve Private property Rail reserve Shire road reserve
 National park State forest Pastoral lease MRWA road reserve Other Crown reserve
 Conservation park Water reserve UCL SLK/Pole _____ to _____ **Specify other:** _____

AREA ASSESSMENT: Edge survey Partial survey Full survey **Area observed (m²):** _____

EFFORT: **Time spent surveying (minutes):** _____ **No. of minutes spent / 100 m²:** _____

POP'N COUNT ACCURACY: Actual Extrapolation Estimate **Count method:** Traverses
(Refer to field manual for list)

WHAT COUNTED: Plants Clumps Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:	Area of pop (m²): _____ <small>Note: Pls record count as numbers (not percentages) for database.</small>
Alive	4			4	
Dead					

QUADRATS PRESENT: **No.** _____ **Size** _____ **Data attached** **Total area of quadrats (m²):** _____

Summary Quad. Totals: Alive

REPRODUCTIVE STATE:	<input type="checkbox"/> Clonal	<input checked="" type="checkbox"/> Vegetative	<input type="checkbox"/> Flowerbud	<input checked="" type="checkbox"/> Flower
	<input type="checkbox"/> Immature fruit	<input type="checkbox"/> Fruit	<input type="checkbox"/> Dehisced fruit	Percentage in flower: <u>5%</u>

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: Most plants browning off

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
•	_____	_____	_____
•	_____	_____	_____



Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input checked="" type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input checked="" type="checkbox"/>	White <input checked="" type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input checked="" type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input checked="" type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input checked="" type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other:		Specify other:	Specify other:	
Drainage line <input type="checkbox"/>	<u>Stony saline plains</u>				
Closed depression <input type="checkbox"/>	Specific Landform Element:				
Wetland <input type="checkbox"/>	(Refer to field manual for additional values)				
CONDITION OF SOIL:	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

VEGETATION CLASSIFICATION*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);
2. Open shrubland (Hibbertia sp., Acacia spp.);
3. Isolated clumps of sedges (M.tetragona)

1. 1. Hummock grassland

2. _____

3. _____

4. _____

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 Australian Soil and Land Survey Field Handbook guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine Excellent Very good Good Degraded Completely degraded

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High Medium Low No signs of fire

FENCING: Not required Present Replace / repair Required Length req'd: _____

ROADSIDE MARKERS: Not required Present Replace / reposition Required Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

FLORA AUTHORISATION / LICENCE No: FB62000254____Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: MB18 WA Herb. Regional Herb. District Herb. Other: _____

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map Mudmap Photo GIS data Field notes Other: Location and abundance data

COPY SENT TO: Regional Office District Office Other: _____

Submitter of Record: Nick Tidmarsh Role: Project Manager Signed:  Date: 2/6/21

Please return completed form to **Species And Communities Program DBCA**,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au
RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Program.
Record entered by: _____ Sheet No.: _____ Record Entered in Database

Threatened and Priority Flora Report Form

Version 1.4 March 2021

Species	Status	Abundance	Eastings (GDA 94 51S)	Northings (GDA 94 51S)	HerbRef	Comments
<i>Atriplex spinulosa</i>	P1	3	202304	7575807	MB18	
<i>Atriplex spinulosa</i>	P1	2	202214	7577772	MB24	
<i>Atriplex spinulosa</i>	P1	2	205493	7576583		
<i>Atriplex spinulosa</i>	P1	1	205518	7576561		
<i>Atriplex spinulosa</i>	P1	4	205528	7576508		
<i>Atriplex spinulosa</i>	P1	1	205506	7576513		
<i>Atriplex spinulosa</i>	P1	2	228233	7581396		
<i>Atriplex spinulosa</i>	P1	10	228256	7581368		
<i>Atriplex spinulosa</i>	P1	1	228270	7581358		
<i>Atriplex spinulosa</i>	P1	27	228266	7581347		
<i>Atriplex spinulosa</i>	P1	1	224141	7582882		
<i>Atriplex spinulosa</i>	P1	2	224061	7582996		
<i>Atriplex spinulosa</i>	P1	1	202198	7577730		
<i>Atriplex spinulosa</i>	P1	1	201981	7577752		
<i>Atriplex spinulosa</i>	P1	1	202313	7575949		
<i>Atriplex spinulosa</i>	P1	1	202290	7575968		
<i>Atriplex spinulosa</i>	P1	1	205451	7576577		
<i>Atriplex spinulosa</i>	P1	1	205360	7576577		
<i>Atriplex spinulosa</i>	P1	1	205346	7576589		
<i>Atriplex spinulosa</i>	P1	1	205364	7576564		
<i>Atriplex spinulosa</i>	P1	2	205346	7576534		
<i>Atriplex spinulosa</i>	P1	3	205354	7576554		
<i>Atriplex spinulosa</i>	P1	1	205372	7576556		
<i>Atriplex spinulosa</i>	P1	1	205339	7576590		
<i>Atriplex spinulosa</i>	P1	1	205336	7576592		
<i>Atriplex spinulosa</i>	P1	1	228249	7581311		
<i>Atriplex spinulosa</i>	P1	1	228320	7581297		

Please return completed form to **Species And Communities Program DBCA,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: _____ Sheet No.: _____

Threatened and Priority Flora Report Form

Version 1.4 March 2021

Species	Status	Abundance	Easting (GDA 94 51S)	Northing GDA 94 51S)	HerbRef	Comments
<i>Atriplex spinulosa</i>	P1	6	228268	7581355		
<i>Atriplex spinulosa</i>	P1	1	224229	7582842		
<i>Atriplex spinulosa</i>	P1	3	224190	7582875		

Please return completed form to **Species And Communities Program DBCA,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: _____ Sheet No.: _____

Record Entered in Database



Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Dolichocarpa sp. Hamersley Station (A.A. Mitchell PRP 1479)	TPFL Pop. No.: _____
OBSERVATION DATE: 24/4/21	CONSERVATION STATUS: P3 New population <input type="checkbox"/>
OBSERVER/S: Nicholas Tidmarsh	PHONE: _____
ROLE: Managing Director	ORGANISATION: Pilbara Environmental
EMAIL: _____	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): Nullagine

Plants occurring within Cracking Clay habitat on both sides of Marble Bar Rd south of Nullagine. Area surveyed extends for about 15km along Marble Bar Rd. Table with locations of all records are attached.

DBC DISTRICT: Pilbara	LGA: Shire of East Pilbara	Reserve No.: _____
DATUM: GDA94 / MGA94 <input checked="" type="checkbox"/> AGD84 / AMG84 <input type="checkbox"/> WGS84 <input type="checkbox"/> Unknown <input type="checkbox"/>	COORDINATES: (If UTM coords provided, Zone is also required) DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input type="checkbox"/> Lat / Northing: -22.05641640 Long / Easting: 120.02534298 ZONE: 51S	METHOD USED: GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/> No. satellites: _____ Map used: _____ Boundary polygon captured: <input type="checkbox"/> Map scale: _____
LAND TENURE:		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input checked="" type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/> MRWA road reserve <input checked="" type="checkbox"/> Other Crown reserve <input type="checkbox"/> Specify other: _____

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/> Area observed (m ²): _____															
EFFORT: Time spent surveying (minutes): _____ No. of minutes spent / 100 m ² : _____															
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/> Count method: <u>Traverses</u> (Refer to field manual for list)															
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>															
TOTAL POP'N STRUCTURE:															
<table border="1"> <thead> <tr> <th></th> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> </thead> <tbody> <tr> <td>Alive</td> <td>9054</td> <td></td> <td></td> <td>9054</td> </tr> <tr> <td>Dead</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Mature:	Juveniles:	Seedlings:	Totals:	Alive	9054			9054	Dead				
	Mature:	Juveniles:	Seedlings:	Totals:											
Alive	9054			9054											
Dead															
QUADRATS PRESENT: No. _____ Size _____ Data attached <input type="checkbox"/> Total area of quadrats (m ²): _____															
Summary Quad. Totals: Alive															
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input checked="" type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/> Immature fruit <input type="checkbox"/> Fruit <input checked="" type="checkbox"/> Dehisced fruit <input checked="" type="checkbox"/> Percentage in flower: 5%															

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: Most plants browning off

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
•	_____	_____	_____
•	_____	_____	_____



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input checked="" type="checkbox"/>	Well drained <input type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input checked="" type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input checked="" type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>			<u>Cracking</u>		
Closed depression <input type="checkbox"/>			<u>Clay</u>		
Wetland <input type="checkbox"/>					

CONDITION OF SOIL: Dry Moist Waterlogged Inundated

VEGETATION CLASSIFICATION*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);
2. Open shrubland (Hibbertia sp., Acacia spp.);
3. Isolated clumps of sedges (M.tetragona)

1. Open tussock grasses over open herbland on Cracking Clays on Plain
2.
3.
4.

ASSOCIATED SPECIES:

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 Australian Soil and Land Survey Field Handbook guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine Excellent Very good Good Degraded Completely degraded

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High Medium Low No signs of fire

FENCING: Not required Present Replace / repair Required Length req'd: _____

ROADSIDE MARKERS: Not required Present Replace / reposition Required Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

Occuring in clumps of plants in Cracking Clay. Cracking Clay habitat extends well beyond area surveyed.

FLORA AUTHORISATION / LICENCE No: FB62000254____ Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: _____ WA Herb. Regional Herb. District Herb. Other: _____

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map Mudmap Photo GIS data Field notes Other: Table of occurences, abundance and locations

COPY SENT TO: Regional Office District Office Other: _____

Submitter of Record: Nick Tidmarsh Role: Project Manager Signed: _____ Date: 2/6/21

Threatened and Priority Flora Report Form

Version 1.4 March 2021

Species	Status	Abundance	Easting (GDA 94 51S)	Northing Easting (GDA 94 51S)	HerbRef	Comments
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	8	184758	7530608		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	184757	7530616		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	17	184832	7530725		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	71	184841	7530718		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	1	184902	7530777		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	3	184887	7530777		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	76	184990	7530647		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	58	184983	7530648		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	177	184916	7530641		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	68	184905	7530639		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	21	186918	7549573		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	5	193208	7558378		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	71	192947	7558175		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	46	192940	7558171		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	122	192982	7558154		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	168	192987	7558164		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	229	192991	7558166		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	24	193260	7558401		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	11	193271	7558412		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	14	193599	7558544		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	62	193614	7558532		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	35	193636	7558516		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	136	193644	7558491		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	151	193611	7558463		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	84	193602	7558457		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	47	193548	7558405		

Please return completed form to **Species And Communities Program DBCA,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database

Threatened and Priority Flora Report Form

Version 1.4 March 2021

<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	352	193602	7558457	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	147	193602	7558457	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	24	193498	7558371	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	111	193472	7558341	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	15	193436	7558317	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	189	193427	7558309	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	167	193422	7558308	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	77	193419	7558302	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	112	193401	7558288	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	115	193366	7558270	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	95	193355	7558264	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	108	193341	7558253	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	164	193333	7558248	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	54	193322	7558238	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	42	193313	7558231	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	8	194419	7559844	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	4	194396	7559823	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	54	194359	7559775	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	6	194348	7559766	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	27	194477	7559804	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	118	194617	7559917	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	17	194685	7559965	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	194696	7559973	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	31	194695	7559934	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	194645	7559899	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	14	194638	7559893	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	5	194512	7559798	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	19	194474	7559761	

Please return completed form to **Species And Communities Program DBCA,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Threatened and Priority Flora Report Form

Version 1.4 March 2021

<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	49	194469	7559755		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	194417	7559688	MB19	Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	194296	7559545		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	194250	7559479		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	194410	7559728		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	28	187392	7550468		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	150	187404	7550465		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	330	187414	7550460		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	300	187432	7550469		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	187302	7550830		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	0	187279	7550834		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	184989	7530924	MB06	Collected MB06
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	11	184989	7530913		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	1	184738	7530699		On area of clay surveyed by transect.
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	184722	7530629		Many small ones close by
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	21	184878	7530713		Patch of cracking clay surrounded by <i>Triodia</i> sp.
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	24	184882	7530709		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	29	184878	7530706		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	45	184873	7530711		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	34	184871	7530714		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	65	184866	7530715		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	95	184864	7530711		Many small plants
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	65	184864	7530706		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	184868	7530702		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	26	184860	7530702		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	55	184857	7530709		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	184851	7530703		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	184839	7530697		

Please return completed form to **Species And Communities Program DBCA**,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Program.

Record entered by: _____ Sheet No.: _____

Threatened and Priority Flora Report Form

Version 1.4 March 2021

<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	6	184829	7530673		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	184833	7530670		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	184829	7530665		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	184828	7530663		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	11	184829	7530657		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	184834	7530654		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	85	184818	7530516		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	184823	7530515		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	184822	7530509		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	70	184836	7530521		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	184841	7530523		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	95	184848	7530522		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	90	184854	7530520		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	65	184858	7530518		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	184867	7530512		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193227	7558433		Population crosses dev envelope, Numbers outside DE counted under separate WP
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193222	7558435		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	80	193218	7558439		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193225	7558427		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193226	7558421		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	34	192982	7558122		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	70	192988	7558119		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	192987	7558112		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	75	193255	7558375		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	193262	7558384		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193268	7558398		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	22	193519	7558559		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	21	193544	7558581		

Please return completed form to **Species And Communities Program DBCA**,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Program.

Record entered by: _____ Sheet No.: _____

Threatened and Priority Flora Report Form

Version 1.4 March 2021

<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	100	193572	7558568	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	47	193576	7558562	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	23	193588	7558557	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193609	7558569	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193623	7558553	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193626	7558548	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	12	193599	7558520	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	193592	7558519	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	70	193577	7558513	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	65	193573	7558504	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	37	193569	7558501	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	43	193575	7558497	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	70	193567	7558492	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193556	7558491	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193547	7558492	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193540	7558494	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	27	193531	7558506	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	193526	7558488	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	120	193505	7558471	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	193505	7558466	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193493	7558471	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	193402	7558369	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	34	193393	7558362	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	3	193349	7558365	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	28	193342	7558368	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193338	7558364	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193332	7558359	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	43	193326	7558354	

Please return completed form to **Species And Communities Program DBCA,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 **OR** email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database

Threatened and Priority Flora Report Form

Version 1.4 March 2021

<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	63	193321	7558353	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	193316	7558351	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193317	7558344	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	23	193306	7558334	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	193299	7558333	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	193294	7558331	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193196	7558198	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193179	7558182	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193176	7558177	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	35	193074	7558079	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193074	7558075	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193078	7558067	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	120	193071	7558070	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	193252	7558164	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	50	193259	7558167	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	60	193264	7558181	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193264	7558187	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	40	193260	7558192	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193269	7558191	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	193284	7558196	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	193286	7558203	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	194384	7559791	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	12	194382	7559788	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	41	194378	7559783	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	30	194373	7559778	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	13	194363	7559772	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	5	194433	7559828	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	14	194437	7559832	

Please return completed form to **Species And Communities Program DBCA**,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database

Threatened and Priority Flora Report Form

Version 1.4 March 2021

<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194475	7559784	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	9	194483	7559793	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	36	194488	7559799	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	18	194493	7559804	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194498	7559808	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	14	194508	7559814	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	194511	7559818	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	2	194528	7559831	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194558	7559854	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	194563	7559859	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	194608	7559893	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	194611	7559897	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	194620	7559906	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	6	194658	7559935	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	38	194662	7559939	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	27	194674	7559947	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194692	7559961	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	7	194689	7559944	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	2	194682	7559935	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	25	194682	7559931	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	19	194675	7559928	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	20	194671	7559925	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	12	194647	7559912	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	6	194631	7559899	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194506	7559804	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	3	194499	7559799	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	3	194483	7559784	
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194470	7559773	

Please return completed form to **Species And Communities Program DBCA,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database

Threatened and Priority Flora Report Form

Version 1.4 March 2021

<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	10	194465	7559768		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	14	194462	7559764		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	13	194457	7559759		
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194394	7559683		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194377	7559661		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194306	7559569		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194281	7559537		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194407	7559718		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	194414	7559726		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187336	7550517		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187336	7550556		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187336	7550597		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187343	7550675		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187321	7550700		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187347	7550776		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187328	7550777		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187314	7550773		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187291	7550772		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187253	7550769		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187240	7550752		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187244	7550711		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187268	7550647		Presence, not counted
<i>Dolichocarpa</i> sp. <i>Hammersley Station</i>	P3	Present	187474	7550403		Presence, not counted

Please return completed form to **Species And Communities Program DBCA**,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: <u>Euphorbia inappendiculata var. inappendiculata</u>		TPFL Pop. No.: _____
OBSERVATION DATE: <u>24/4/21</u>	CONSERVATION STATUS: <u>P2</u>	New population <input type="checkbox"/>
OBSERVER/S: <u>Nicholas Tidmarsh</u>		PHONE [REDACTED]
ROLE: <u>Managing Director</u>	ORGANISATION: <u>Pilbara Environmental</u>	
EMAIL: [REDACTED]		

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): Nullagine

Occuring within cracking clays on disturbed habitats close to the edge of Marble Bar Rd approximately 18km south of Nullagine

DBC DISTRICT: <u>Pilbara</u>		LGA: <u>Shire of East Pilbara</u>	Reserve No.: _____
		Land manager present: <input type="checkbox"/>	
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input checked="" type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>-22.04233953</u>	No. satellites: _____	Map used: _____
WGS84 <input type="checkbox"/>	Long / Easting: <u>120.03794490</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	ZONE: _____		
LAND TENURE:			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input checked="" type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: _____

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m ²): _____												
EFFORT: Time spent surveying (minutes): _____	No. of minutes spent / 100 m ² : _____												
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: <u>Traverses</u> <small>(Refer to field manual for list)</small>												
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
TOTAL POP'N STRUCTURE:													
	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td>129</td> <td></td> <td></td> <td>129</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:	129			129				
Mature:	Juveniles:	Seedlings:	Totals:										
129			129										
Alive	Area of pop (m ²): _____												
Dead	Note: Pls record count as numbers (not percentages) for database.												
QUADRATS PRESENT: No. _____ Size _____	Data attached <input type="checkbox"/> Total area of quadrats (m ²): _____												
Summary Quad. Totals: Alive													
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input checked="" type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: 5%												

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: Most plants browning off

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
•	_____	_____	_____
•	_____	_____	_____
•	_____	_____	_____

Please return completed form to **Species And Communities Program DBCA,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>	<u>Cracking clay on clay plains</u>				
Closed depression <input type="checkbox"/>	Specific Landform Element: _____				
Wetland <input type="checkbox"/>	(Refer to field manual for additional values)				
CONDITION OF SOIL:	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

VEGETATION CLASSIFICATION*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);
 2. Open shrubland (Hibbertia sp., Acacia spp.);
 3. Isolated clumps of sedges (M.tetragona)

1. 1. Open tussock grasses over open herbs on cracking clay
2. _____
3. _____
4. _____

ASSOCIATED SPECIES:

Other (non-dominant) spp

Aristida latifolia, Desmodium campylocaulon, Goodenia muelleriana, Ptilotus gomphrenoides.

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 *Australian Soil and Land Survey Field Handbook* guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine Excellent Very good Good Degraded Completely degraded

COMMENT:

FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High Medium Low No signs of fire

FENCING: Not required Present Replace / repair Required Length req'd: _____

ROADSIDE MARKERS: Not required Present Replace / reposition Required Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

FLORA AUTHORISATION / LICENCE No: FB62000254____ Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: MB10 WA Herb. Regional Herb. District Herb. Other: _____

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map Mudmap Photo GIS data Field notes

Other: Location and abundance data

COPY SENT TO: Regional Office District Office Other: _____

Submitter of Record: Nick Tidmarsh Role: Project Manager Signed: _____ Date: 2/6/21

Please return completed form to **Species And Communities Program DBCA**, Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: <u>Ipomoea racemigera</u>		TPFL Pop. No.: _____
OBSERVATION DATE: <u>24/4/21</u>	CONSERVATION STATUS: <u>P2</u>	New population <input type="checkbox"/>
OBSERVER/S: <u>Nicholas Tidmarsh</u>		PHONE [REDACTED]
ROLE: <u>Managing Director</u>	ORGANISATION: <u>Pilbara Environmental</u>	
EMAIL: [REDACTED]		

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): Nullagine

Occuring within drainage lines intersecting Marble Bar Rd.

Reserve No.: _____

DBC DISTRICT: <u>Pilbara</u>	LGA: <u>Shire of East Pilbara</u>	Land manager present: <input type="checkbox"/>
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input checked="" type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input type="checkbox"/>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>-21.89306888</u>	No. satellites: _____ Map used: _____
WGS84 <input type="checkbox"/>	Long / Easting: <u>120.10719107</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
Unknown <input type="checkbox"/>	ZONE: _____	
LAND TENURE:		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input checked="" type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: _____

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m²): _____												
EFFORT: Time spent surveying (minutes): _____	No. of minutes spent / 100 m²: _____												
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: <u>Traverses</u>												
<small>(Refer to field manual for list)</small>													
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
TOTAL POP'N STRUCTURE:	Area of pop (m²): _____												
Alive	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td style="text-align: center;">32</td> <td></td> <td></td> <td style="text-align: center;">32</td> </tr> <tr> <td style="text-align: center;">Dead</td> <td></td> <td></td> <td></td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:	32			32	Dead			
Mature:		Juveniles:	Seedlings:	Totals:									
32			32										
Dead													
	<small>Note: Pls record count as numbers (not percentages) for database.</small>												
QUADRATS PRESENT: No. _____ Size _____	Data attached <input type="checkbox"/> Total area of quadrats (m²): _____												
Summary Quad. Totals: Alive													
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input checked="" type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	Percentage in flower: <u>5%</u>												
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>													

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: Most plants browning off

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
<small>Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant.</small> <small>Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme</small> <small>Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)</small>			
•	_____	_____	_____
•	_____	_____	_____
•	_____	_____	_____



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input checked="" type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input checked="" type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input checked="" type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input checked="" type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
CONDITION OF SOIL:	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

VEGETATION CLASSIFICATION*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);
 2. Open shrubland (Hibbertia sp., Acacia spp.);
 3. Isolated clumps of sedges (M.tetragona)

1. Woodland (Eucalyptus victrix)

2. _____

3. _____

ASSOCIATED SPECIES:

Acacia ampliceps, Alysicarpus muelleri, Cyperus vaginatus, Eulalia aurea, Triodia longiceps.

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 Australian Soil and Land Survey Field Handbook guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine Excellent Very good Good Degraded Completely degraded

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High Medium Low No signs of fire

FENCING: Not required Present Replace / repair Required Length req'd: _____

ROADSIDE MARKERS: Not required Present Replace / reposition Required Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____

FLORA AUTHORISATION / LICENCE No: FB62000254____ Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: MB07 WA Herb. Regional Herb. District Herb. Other: _____

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map Mudmap Photo GIS data Field notes Other: Location and abundance data

COPY SENT TO: Regional Office District Office Other: _____

Submitter of Record: Nick Tidmarsh Role: Project Manager Signed:  Date: 2/6/21



Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: <u>Nicotiana umbratica</u>		TPFL Pop. No.: _____
OBSERVATION DATE: <u>24/4/21</u>	CONSERVATION STATUS: <u>P3</u>	New population <input type="checkbox"/>
OBSERVER/S: <u>Nicholas Tidmarsh</u>		PHONE <u>[REDACTED]</u>
ROLE: <u>Managing Director</u>	ORGANISATION: <u>Pilbara Environmental</u>	
EMAIL: <u>[REDACTED]</u>		

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): Nullagine

Occuring within sheltered microclimates among granite boulders on hills on the east side of Marble Bar Rd approximately 10km south of Nullagine

DBC DISTRICT: <u>Pilbara</u>		LGA: <u>Shire of East Pilbara</u>	Reserve No.: _____
DATUM:		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>	COORDINATES: (If UTM coords provided, Zone is also required)	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	DecDegrees <input checked="" type="checkbox"/> DegMinSec <input type="checkbox"/> UTM <input type="checkbox"/>	Map <input type="checkbox"/>	
WGS84 <input type="checkbox"/>	Lat / Northing: <u>-21.98288558</u>	No. satellites: _____	Map used: _____
Unknown <input type="checkbox"/>	Long / Easting: <u>120.09086289</u>	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
ZONE: _____			
LAND TENURE:			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input checked="" type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____
		Shire road reserve <input type="checkbox"/>	
		Other Crown reserve <input type="checkbox"/>	
		Specify other: _____	

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m ²): _____												
EFFORT: Time spent surveying (minutes): _____	No. of minutes spent / 100 m ² : _____												
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: <u>Traverses</u>												
(Refer to field manual for list)													
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
TOTAL POP'N STRUCTURE:													
Alive	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td>147</td> <td></td> <td></td> <td>147</td> </tr> <tr> <td>Dead</td> <td></td> <td></td> <td></td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:	147			147	Dead			
Mature:	Juveniles:	Seedlings:	Totals:										
147			147										
Dead													
	Area of pop (m ²): _____												
	Note: Pls record count as numbers (not percentages) for database.												
QUADRATS PRESENT: No. _____ Size _____ Data attached <input type="checkbox"/>	Total area of quadrats (m ²): _____												
Summary Quad. Totals: Alive													
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input checked="" type="checkbox"/> Flowerbud <input checked="" type="checkbox"/> Flower <input checked="" type="checkbox"/>	Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/> Percentage in flower: <u>5%</u>												

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: Most plants browning off

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
•	_____	_____	_____
•	_____	_____	_____
•	_____	_____	_____



Threatened and Priority Flora Report Form

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Granite <input checked="" type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input checked="" type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input checked="" type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
	Specific Landform Element: <u>Plain</u>				
	(Refer to field manual for additional values)				
CONDITION OF SOIL:	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

VEGETATION CLASSIFICATION*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);
2. Open shrubland (Hibbertia sp., Acacia spp.);
3. Isolated clumps of sedges (M.tetragona)

1. Tall isolated shrubs (Acacia inaequilatera)

2. Hummock grassland

3.

ASSOCIATED SPECIES:

Goosypium australe, Tribulus hirsutus, Gomphrena cunninghamii

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 Australian Soil and Land Survey Field Handbook guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine Excellent Very good Good Degraded Completely degraded

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High Medium Low No signs of fire

FENCING: Not required Present Replace / repair Required Length req'd: _____

ROADSIDE MARKERS: Not required Present Replace / reposition Required Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

FLORA AUTHORISATION / LICENCE No: FB62000254____Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: MB11 WA Herb. Regional Herb. District Herb. Other: _____

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map Mudmap Photo GIS data Field notes Other: Location and abundance data

COPY SENT TO: Regional Office District Office Other: _____

Submitter of Record: Nick Tidmarsh Role: Project Manager Signed: _____ Date: 2/6/21



Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: <u>Paspalidium retiglume</u>		TPFL Pop. No.: _____
OBSERVATION DATE: <u>24/4/21</u>	CONSERVATION STATUS: <u>P2</u>	New population <input type="checkbox"/>
OBSERVER/S: <u>Nicholas Tidmarsh</u>		PHONE [REDACTED]
ROLE: <u>Managing Director</u>	ORGANISATION: <u>Pilbara Environmental</u>	
EMAIL: [REDACTED]		

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): Nullagine

Occuring within cracking clays both sides of Marble Bar Rd approximately 18km south of Nullagine

Reserve No.: _____

DBC DISTRICT: <u>Pilbara</u>	LGA: <u>Shire of East Pilbara</u>	Land manager present: <input type="checkbox"/>
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input checked="" type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input type="checkbox"/>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: <u>-22.03956111</u>	No. satellites: _____ Map used: _____
WGS84 <input type="checkbox"/>	Long / Easting: <u>120.03891707</u>	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
Unknown <input type="checkbox"/>	ZONE: _____	
LAND TENURE:		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input checked="" type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: _____

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m²): _____												
EFFORT: Time spent surveying (minutes): _____	No. of minutes spent / 100 m²: _____												
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: <u>Traverses</u>												
<small>(Refer to field manual for list)</small>													
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
TOTAL POP'N STRUCTURE:	Area of pop (m²): _____												
Alive	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Mature:</th> <th>Juveniles:</th> <th>Seedlings:</th> <th>Totals:</th> </tr> <tr> <td style="text-align: center;">176</td> <td></td> <td></td> <td style="text-align: center;">176</td> </tr> <tr> <td style="text-align: center;">Dead</td> <td></td> <td></td> <td></td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:	176			176	Dead			
Mature:	Juveniles:	Seedlings:	Totals:										
176			176										
Dead													
<small>Note: Pls record count as numbers (not percentages) for database.</small>													
QUADRATS PRESENT: No. _____ Size _____	Data attached <input type="checkbox"/> Total area of quadrats (m²): _____												
Summary Quad. Totals: Alive													
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input checked="" type="checkbox"/> Flowerbud <input type="checkbox"/> Flower <input checked="" type="checkbox"/>	Percentage in flower: <u>5%</u>												
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input checked="" type="checkbox"/>													

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: Most plants browning off

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
•	_____	_____	_____
•	_____	_____	_____
•	_____	_____	_____



Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input checked="" type="checkbox"/>	Well drained <input type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input checked="" type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
CONDITION OF SOIL:	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

VEGETATION CLASSIFICATION*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);
2. Open shrubland (Hibbertia sp., Acacia spp.);
3. Isolated clumps of sedges (M.tetragona)

1. Open tussock grasses over sparse herbland

2.

3.

ASSOCIATED SPECIES:

Aristida latifolia, Desmodium campylocaulon, Goodenia muelleriana, Ptilotus gomphrenoides.

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 Australian Soil and Land Survey Field Handbook guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine Excellent Very good Good Degraded Completely degraded

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High Medium Low No signs of fire

FENCING: Not required Present Replace / repair Required Length req'd: _____

ROADSIDE MARKERS: Not required Present Replace / reposition Required Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____

FLORA AUTHORISATION / LICENCE No: FB62000254____Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: MB14 WA Herb. Regional Herb. District Herb. Other: _____

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map Mudmap Photo GIS data Field notes Other: Location and abundance data

COPY SENT TO: Regional Office District Office Other: _____

Submitter of Record: Nick Tidmarsh Role: Project Manager Signed: _____ Date: 2/6/21

Please return completed form to **Species And Communities Program DBCA**,
Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database



Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Rhagodia sp. Hamersley (M. Trudgen 17794)		TPFL Pop. No.: _____
OBSERVATION DATE: 24/4/21	CONSERVATION STATUS: P3	New population <input type="checkbox"/>
OBSERVER/S: Nicholas Tidmarsh	PHONE: _____	
ROLE: Managing Director	ORGANISATION: Pilbara Environmental	
EMAIL: _____		

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): Nullagine

Occuring within patches of open Mulga either side of Marble Bar Rd approximately 55 km to the south

DBC DISTRICT: Pilbara		LGA: Shire of East Pilbara	Reserve No.: _____
		Land manager present: <input type="checkbox"/>	
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input checked="" type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input type="checkbox"/>	GPS <input checked="" type="checkbox"/>	Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: -22.36640515	No. satellites: _____	Map used: _____
WGS84 <input type="checkbox"/>	Long / Easting: 119.96973953	Boundary polygon captured: <input type="checkbox"/>	Map scale: _____
Unknown <input type="checkbox"/>	ZONE: _____		
LAND TENURE:			
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>	MRWA road reserve <input checked="" type="checkbox"/> Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____	Specify other: _____

AREA ASSESSMENT: Edge survey Partial survey Full survey Area observed (m²): _____

EFFORT: Time spent surveying (minutes): _____ No. of minutes spent / 100 m²: _____

POP'N COUNT ACCURACY: Actual Extrapolation Estimate Count method: Traverses
(Refer to field manual for list)

WHAT COUNTED: Plants Clumps Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:	Area of pop (m²): _____ Note: Pls record count as numbers (not percentages) for database.
Alive	18			18	
Dead					

QUADRATS PRESENT: No. _____ Size _____ Data attached Total area of quadrats (m²): _____

Summary Quad. Totals: Alive

--	--	--	--

REPRODUCTIVE STATE: Clonal Vegetative Flowerbud Flower
Immature fruit Fruit Dehisced fruit Percentage in flower: 5%

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: Most plants browning off

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
•	_____	_____	_____
•	_____	_____	_____
•	_____	_____	_____



Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input checked="" type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input checked="" type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input checked="" type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input type="checkbox"/>	Quartz <input type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
CONDITION OF SOIL:	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

VEGETATION CLASSIFICATION*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);
2. Open shrubland (Hibbertia sp., Acacia spp.);
3. Isolated clumps of sedges (M.tetragona)

1. Tall open *Acacia inaequilatera* shrubland (*Acacia pruinocarpa*)

2. Hummock grassland

3. _____

ASSOCIATED SPECIES:

Enneapogon polyphyllus, Ptilotus astrolasius, Tribulus suberosus

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 Australian Soil and Land Survey Field Handbook guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine Excellent Very good Good Degraded Completely degraded

COMMENT: _____

FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High Medium Low No signs of fire

FENCING: Not required Present Replace / repair Required Length req'd: _____

ROADSIDE MARKERS: Not required Present Replace / reposition Required Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

FLORA AUTHORISATION / LICENCE No: FB62000254____Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: MB02 WA Herb. Regional Herb. District Herb. Other: _____

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map Mudmap Photo GIS data Field notes Other: Location and abundance data

COPY SENT TO: Regional Office District Office Other: _____

Submitter of Record: Nick Tidmarsh Role: Project Manager Signed: _____ Date: 2/6/21



Threatened and Priority Flora Report Form

Version 1.4 March 2021

Please complete as much of the form as possible, with emphasis on those sections bordered in black. For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DBCA website at www.dpaw.wa.gov.au/plants-and-animals/threatened-species-and-communities/threatened-plants

TAXON: Solanum sp. Mosquito Creek (A.A. Mitchell et al. AAM 10795)		TPFL Pop. No.: _____
OBSERVATION DATE: 24/4/21	CONSERVATION STATUS: P1	New population <input type="checkbox"/>
OBSERVER/S: Nicholas Tidmarsh		PHONE [REDACTED]
ROLE: Managing Director	ORGANISATION: Pilbara Environmental	
EMAIL: [REDACTED]		

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place): Nullagine

1.5km south east of Nullagine town (Full list of location data attached).

Reserve No.: _____

DBC DISTRICT: Pilbara	LGA: Shire of East Pilbara	Land manager present: <input type="checkbox"/>
DATUM:	COORDINATES: (If UTM coords provided, Zone is also required)	METHOD USED:
GDA94 / MGA94 <input checked="" type="checkbox"/>	DecDegrees <input checked="" type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input type="checkbox"/>	GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>
AGD84 / AMG84 <input type="checkbox"/>	Lat / Northing: -21.89450625	No. satellites: _____ Map used: _____
WGS84 <input type="checkbox"/>	Long / Easting: 120.11915059	Boundary polygon captured: <input type="checkbox"/> Map scale: _____
Unknown <input type="checkbox"/>	ZONE: _____	
LAND TENURE:		
Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/> SLK/Pole _____ to _____
		Rail reserve <input type="checkbox"/> Shire road reserve <input type="checkbox"/>
		MRWA road reserve <input checked="" type="checkbox"/> Other Crown reserve <input type="checkbox"/>
		Specify other: _____

AREA ASSESSMENT: Edge survey <input type="checkbox"/> Partial survey <input checked="" type="checkbox"/> Full survey <input type="checkbox"/>	Area observed (m²): _____												
EFFORT: Time spent surveying (minutes): _____	No. of minutes spent / 100 m²: _____												
POP'N COUNT ACCURACY: Actual <input checked="" type="checkbox"/> Extrapolation <input type="checkbox"/> Estimate <input type="checkbox"/>	Count method: <u>Traverses</u>												
<small>(Refer to field manual for list)</small>													
WHAT COUNTED: Plants <input checked="" type="checkbox"/> Clumps <input type="checkbox"/> Clonal stems <input type="checkbox"/>													
TOTAL POP'N STRUCTURE:													
Alive	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:25%;">Mature:</th> <th style="width:25%;">Juveniles:</th> <th style="width:25%;">Seedlings:</th> <th style="width:25%;">Totals:</th> </tr> <tr> <td style="text-align: center;">2129</td> <td></td> <td></td> <td style="text-align: center;">2129</td> </tr> <tr> <td style="text-align: center;">Dead</td> <td></td> <td></td> <td></td> </tr> </table>	Mature:	Juveniles:	Seedlings:	Totals:	2129			2129	Dead			
Mature:	Juveniles:	Seedlings:	Totals:										
2129			2129										
Dead													
	Area of pop (m²): _____												
	<small>Note: Pls record count as numbers (not percentages) for database.</small>												
QUADRATS PRESENT: No. _____ Size _____	Data attached <input type="checkbox"/> Total area of quadrats (m²): _____												
Summary Quad. Totals: Alive													
REPRODUCTIVE STATE: Clonal <input type="checkbox"/> Vegetative <input checked="" type="checkbox"/> Flowerbud <input checked="" type="checkbox"/> Flower <input checked="" type="checkbox"/>	Percentage in flower: 5%												
Immature fruit <input type="checkbox"/> Fruit <input type="checkbox"/> Dehisced fruit <input type="checkbox"/>													

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: Most plants browning off

THREATS - type, agent and supporting information:	Current impact (N-E)	Potential Impact (L-E)	Potential Threat Onset (S-L)
Eg clearing, too frequent fire, weed, disease. Refer to field manual for list of threats & agents. Specify agent where relevant. Rate current and potential threat impact: N=Nil, L=Low, M=Medium, H=High, E=Extreme Estimate time to potential impact: S=Short (<12mths), M=Medium (<5yrs), L=Long (5yrs+)			
•	_____	_____	_____
•	_____	_____	_____
•	_____	_____	_____



Threatened and Priority Flora Report Form

Version 1.4 March 2021

HABITAT INFORMATION:

LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/>	Granite <input type="checkbox"/>	(on soil surface; eg gravel, quartz fields)	Sand <input type="checkbox"/>	Red <input type="checkbox"/>	Well drained <input checked="" type="checkbox"/>
Hill <input type="checkbox"/>	Dolerite <input type="checkbox"/>		Sandy loam <input type="checkbox"/>	Brown <input type="checkbox"/>	Seasonally inundated <input type="checkbox"/>
Ridge <input type="checkbox"/>	Laterite <input type="checkbox"/>	0-10% <input type="checkbox"/>	Loam <input type="checkbox"/>	Yellow <input type="checkbox"/>	Permanently inundated <input type="checkbox"/>
Outcrop <input type="checkbox"/>	Ironstone <input type="checkbox"/>	10-30% <input type="checkbox"/>	Clay loam <input checked="" type="checkbox"/>	White <input type="checkbox"/>	Tidal <input type="checkbox"/>
Slope <input type="checkbox"/>	Limestone <input type="checkbox"/>	30-50% <input type="checkbox"/>	Light clay <input type="checkbox"/>	Grey <input type="checkbox"/>	
Flat <input checked="" type="checkbox"/>	Quartz <input checked="" type="checkbox"/>	50-100% <input type="checkbox"/>	Peat <input type="checkbox"/>	Black <input type="checkbox"/>	
Open depression <input type="checkbox"/>	Specify other: _____		Specify other: _____	Specify other: _____	
Drainage line <input type="checkbox"/>					
Closed depression <input type="checkbox"/>					
Wetland <input type="checkbox"/>					
CONDITION OF SOIL:	Dry <input checked="" type="checkbox"/>	Moist <input type="checkbox"/>	Waterlogged <input type="checkbox"/>	Inundated <input type="checkbox"/>	

VEGETATION CLASSIFICATION*:

Eg: 1. Banksia woodland (B. attenuata, B. ilicifolia);
2. Open shrubland (Hibbertia sp., Acacia spp.);
3. Isolated clumps of sedges (M.tetragona)

1. Tall isolated shrubs (Acacia bivenosa)

2. Hummock grassland (Triodia longiceps)

3.

ASSOCIATED SPECIES:

Acacia synchronicia, Indigofera monophylla, Heliotropium chrysocarpum, Sclerolaena cuneata.

Other (non-dominant) spp _____

* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 Australian Soil and Land Survey Field Handbook guidelines – refer to field manual for further information and structural formation table.

CONDITION OF HABITAT: Pristine Excellent Very good Good Degraded Completely degraded

COMMENT:

FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High Medium Low No signs of fire

FENCING: Not required Present Replace / repair Required Length req'd: _____

ROADSIDE MARKERS: Not required Present Replace / reposition Required Quantity req'd: _____

OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)

FLORA AUTHORISATION / LICENCE No: FB62000254____Note if only observing plants (i.e. no specimens or plant material is taken) then no authorisation/licence is required. For further information on authorisation and licencing requirements see the Threatened Flora and Wildlife Licensing pages on DBCA's website. Any actions carried out under authorisations/licences should be recorded above in the OTHER COMMENTS section.

SPECIMEN: Collectors No: MB17 WA Herb. Regional Herb. District Herb. Other: _____

LODGEMENT: WA Herb Lodgement No: _____

ATTACHED: Map Mudmap Photo GIS data Field notes

Other:
Location and abundance data

COPY SENT TO: Regional Office District Office Other: _____

Submitter of Record: Nick Tidmarsh

Role: Project Manager

Signed:

Date: 2/6/21

Please return completed form to **Species And Communities Program DBCA,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983 OR email to: flora.data@dbca.wa.gov.au

RECORDS: Please forward to **Flora Administrative Officer,** Species and Communities Program.

Record entered by: _____ Sheet No.: _____ Record Entered in Database