



## Western Ridge

# Single Season Detailed Flora and Vegetation Survey

Biologic Environmental Survey

Report to BHP Western Australian Iron Ore

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## EXECUTIVE SUMMARY

BHP Western Australian Iron Ore commissioned Biologic Environmental Survey Pty Ltd to undertake a single season Detailed Flora and Vegetation Survey of the Western Ridge exploration tenement. The Study Area is located within tenements M266SA and ML244SA, covering a total area of 4,765 hectares. The Study Area is located to the southwest of the Mt Whaleback mine site and eight kilometres southwest of the Newman township.

The Detailed Flora and Vegetation assessment was undertaken over seven days between 16 and 22 April 2020, with all major vegetation communities visited and sampled. During the field survey, daytime climatic conditions were hot temperatures with clear skies. In January 2020 rainfall occurred prior to the survey which allowed for the presence of annuals and ephemerals, however the months immediately preceding the survey lacked rainfall and due to this, survey conditions were relatively dry leading to floral material being limited.

The vegetation in the Study Area was sampled with 80 quadrats and one relevé. The data collected from these sample sites was used to record the vegetation communities and their condition, and to collect an inventory of flora taxa present.

A total of 379 vascular flora taxa, from 49 families and 147 genera were recorded in the Study Area, comprising 368 native and 11 introduced taxa.

The desktop assessment identified 39 conservation significant taxa which had varying likelihoods of occurring within the Study Area. It was considered highly unlikely that any Threatened flora would occur within the Study Area. One priority listed taxon was considered highly likely to occur, and three priority listed taxa were likely to occur. The remainder were ranked as possible, unlikely, or highly unlikely to occur within the Study Area.

During the survey, five priority listed flora taxa were recorded within the Study Area, *Isotropis parviflora* (P2), *Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3), *Gymnanthera cunninghamii* (P3), *Indigofera gilesii* (P3), and *Goodenia nuda* (P4). Following the survey, the likelihood of occurrence for the priority listed taxa identified during the database searches was revised based on site-specific habitat information. This revision resulted in *Euphorbia inappendiculata* var. *inappendiculata* (P2), *Lepidium catapycnon* (P4), and *Ipomoea racemigera* (P2) considered to possibly occur, while the remaining taxa are considered unlikely or highly unlikely to occur in the Study Area.

Eleven introduced taxa, *\*Aerva javanica*, *\*Bidens bipinnata*, *\*Cenchrus ciliaris*, *\*Cenchrus setiger*, *\*Flaveria trinervia*, *\*Malvastrum americanum*, *\*Portulaca pilosa*, *\*Rumex vesicarius*, *\*Solanum nigrum*, *\*Sonchus oleraceus*, and *\*Setaria verticillata* were recorded from the Study Area. These taxa are not listed as Weeds of National Significance or Declared Plant Pests listed under the *Biosecurity and Agriculture Management Act 2007*. These taxa have been previously recorded in the Study Area and majority are common in the Pilbara.

A total of 21 vegetation associations from 10 broad floristic formations were described and delineated from the Study Area. These 10 broad floristic formations are *Acacia* low open woodland, *Acacia* low



woodland, *Acacia* tall shrubland, *Corymbia* low open woodland, *Eucalyptus* mid open woodland, *Senna* mid sparse shrubland, *Triodia* low hummock grassland, *Triodia* mid open hummock grassland, *Triodia* mid hummock grassland, and *Themeda* mid tussock grassland.

The vegetation associations described from the Study Area are not considered to be analogous with the known Threatened and Priority Ecological Communities occurring in the Pilbara region. However, review of the vegetation units and floristic assemblages indicates that vegetation in deep gullies/ gorges (GO CfCocd AhPI DopErhr ErmuPaclCya Tp CyvCyh) also occurred in association with water features and have some local significance. Similarly, some of the drainage lines observed supported phreatophytic flora taxa (e.g. *Eucalyptus victrix*) and may be a groundwater or inflow dependent ecosystem.

Five vegetation associations supported priority flora taxa and have a level of importance from a local context, in particular vegetation associations GO CfCocd AhPI DopErhr ErmuPaclCya Tp CyvCyh, HS TvTp EllCdd SeelAspCaca HcAmaAh SeggMiv ErmuErla and HC TvTp EgEk AhAmaHc Seel. These three vegetation associations support extensive populations of *Isotropis parviflora* (P2), *Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3) and *Indigofera gilesii* (P3).

The condition of the vegetation in the Study Area ranged from Poor to Excellent, with the majority in Excellent condition. The most common impacts to the vegetation were from cattle grazing and trampling, which is evident across the unnamed creeks and their associated floodplains, resulting in many of the native understorey taxa not being present. The understorey mainly consists of an introduced tussock grass layer of *\*Cenchrus ciliaris*. Fires have temporarily altered the vegetation structure in the central and north western portions of the Study Area.

## 1 INTRODUCTION

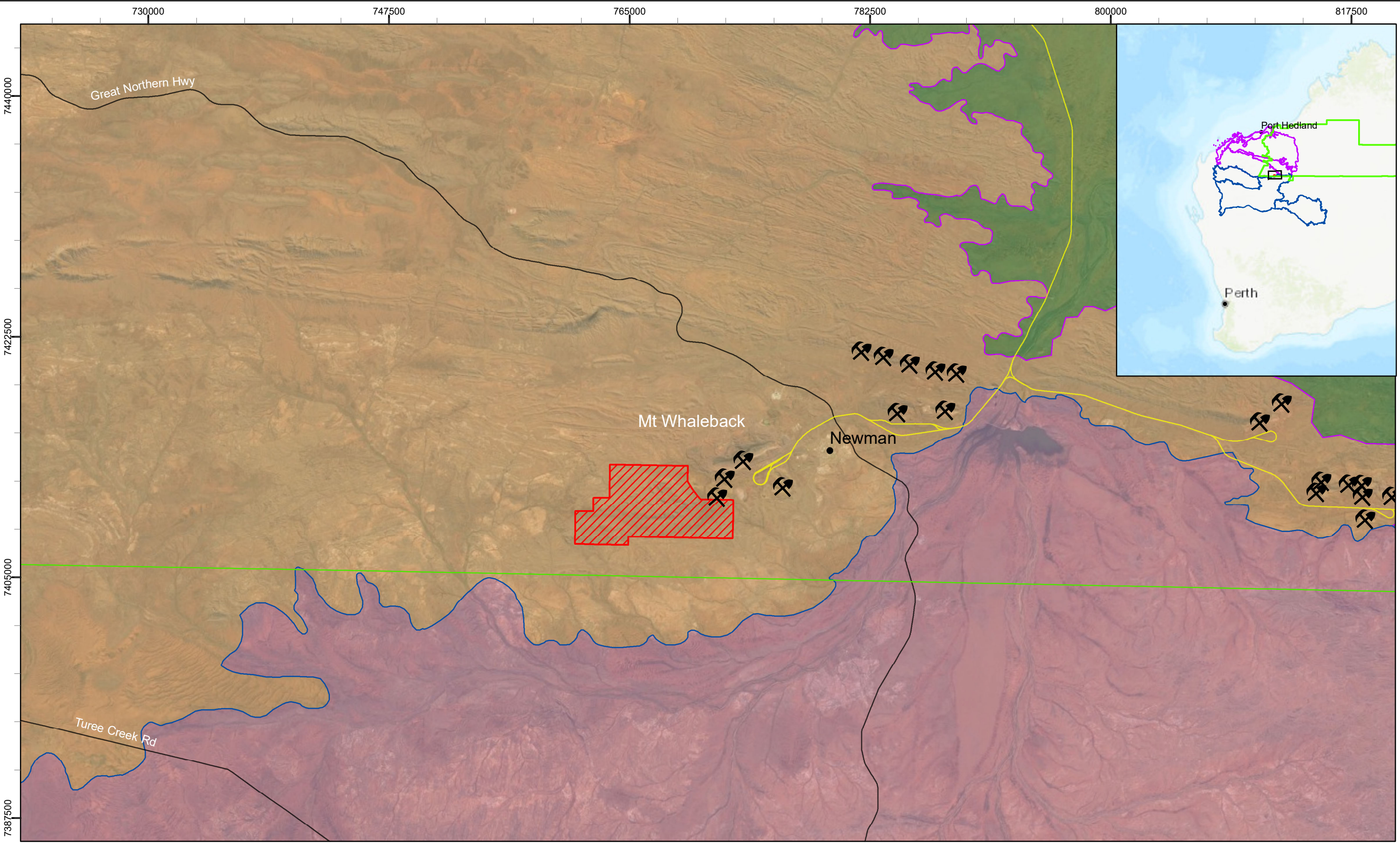
### 1.1 Background

BHP Western Australian Iron Ore (BHP WAIO) commissioned Biologic Environmental Survey Pty Ltd (Biologic) to undertake a single season Detailed flora and vegetation survey of the Western Ridge Study Area (hereafter referred to as the Study Area). The Study Area is located within the Pilbara bioregion, approximately 7 kilometres (km) north of the Gascoyne bioregion boundary (Figure 1.1). The Study Area is wholly located within tenements M266SA and ML244SA and covers 4,765 hectares (ha) (Figure 1.2). The Study Area is located southwest of the Mt Whaleback mine site and 8 km southwest of the Newman township.

### 1.2 Objectives

The overarching objective of the single season Detailed flora and vegetation survey (hereafter the Survey) was to identify the flora and vegetation values of the Study Area and to determine if there are any conservation significant values that need to be considered during any future environmental approvals across the Study Area. The overarching objective was achieved via the following scope of works:

- The completion of a desktop assessment, including the review of previous biological surveys and government and non-government databases;
- The completion of a single season Detailed flora and vegetation survey across the Study Area and relevant regional context;
- A review of the results of the flora and vegetation survey to determine if there are any significant environmental values within the Study Area; and
- A discussion of the significant environmental values (and remaining environmental values) in a regional and local context.



**Legend**

Study Area	<b>IBRA Region</b>	<b>IBRA Subregion</b>
BHP Minesite	Gascoyne	Augustus
Shire of East Pilbara	Pilbara	Fortescue
Major Road		Hamersley
Railway		

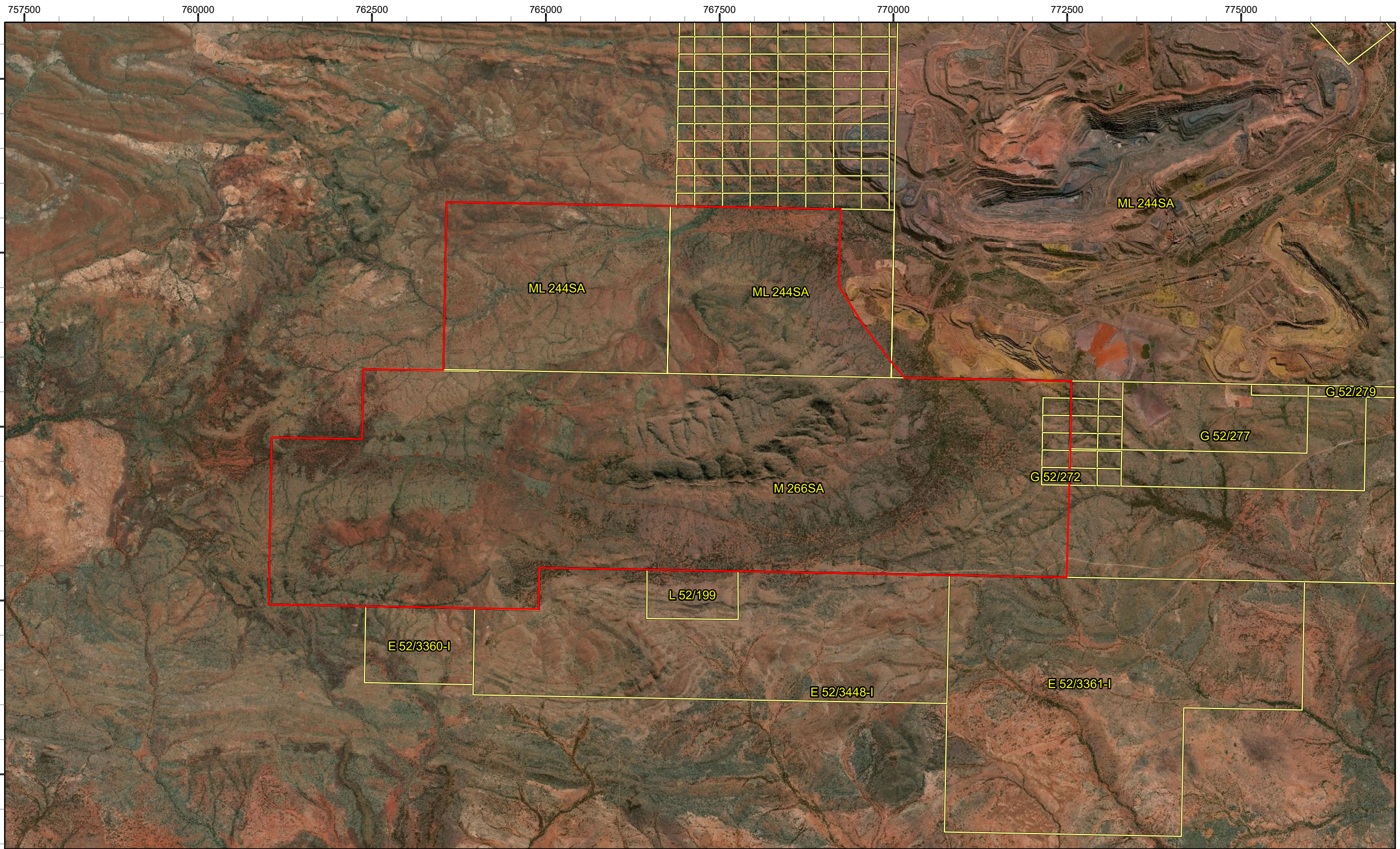
**biologic**  
Environmental Survey

N  
1:250,000  
0 2 4 8 12 16 km


**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation Assessment**  
**Figure 1.1: Study Area and regional location**


Coordinate System: GDA 1994 MGA Zone 50  
Projection: Transverse Mercator  
Datum: GDA 1994

Size A3. Created 11/05/2020

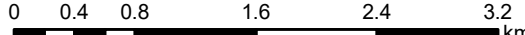


**Legend**

 Study Area



1:50,000



0 0.4 0.8 1.6 2.4 3.2 km

**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation**  
**Assessment**  
**Figure 1.2: Study Area and BHP WAIO tenure**

Coordinate System: GDA 1994 MGA Zone 50  
 Projection: Transverse Mercator  
 Datum: GDA 1994

Size A3. Created 11/05/2020

### 1.3 Background to Protection of Flora and Vegetation

Within Western Australia, all native flora are protected under the *Biodiversity Conservation Act 2016* (BC Act) and any action that has the potential to impact on native flora needs to be approved by relevant State and/ or Federal departments, as dictated by the Western Australian *Environmental Protection Act 1986* (EP Act) and the Federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Flora taxa that are determined to be at risk of extinction or in decline are afforded extra protection under these Acts. For the purposes of this report, these are called conservation significant flora taxa. A summary of applicable legislation and status codes is provided in Table 1.1. Additional information on conservation status codes is provided in Appendix A.

The EPBC Act identifies Threatened Ecological Communities (TECs) as ecological communities at risk of extinction. The BC Act provides for the statutory listing of TECs by the Minister. The Western Australian Minister for Environment has endorsed 69 ecological communities as threatened under critically endangered (20 communities), endangered (17 communities), vulnerable (28 communities) and presumed totally destroyed (four communities).

For some flora taxa and ecological communities, there is insufficient information to determine their status as threatened. These taxa are generally considered by the Environmental Protection Authority (EPA)/ Department of Biodiversity, Conservation and Attractions (DBCA) as 'conservation significant' for all development related approvals and are listed on a 'Priority List' (Priorities 1, 2 and 3 for poorly known species and Priority 4 for rare and near threatened species). The Priority List is regularly reviewed and maintained by DBCA. Possible TECs that do not meet the criteria for statutory listing by the Minister for Environment are added to DBCA's 'Priority Ecological Communities' (PECs) lists under Priorities 1, 2, 3, 4 (near threatened) or 5 (conservation dependent).

**Table 1.1: Conservation significance assessment guidelines**

Agreement, Act or List	Status Codes
<b>FEDERAL</b>	
<p><i>Environment Protection and Biodiversity Conservation Act 1999</i> Department of Agriculture, Water and Environment (DAWE) lists threatened flora, which are determined by the Threatened Species Scientific Committee (TSSC) according to criteria set out in the Act. The Act lists flora that are considered to be of conservation significance under one of the listed categories (listed under 'Status Codes').</p>	<ul style="list-style-type: none"> <li>• Extinct (EX)</li> <li>• Extinct in the Wild (EW)</li> <li>• Critically Endangered (CE)</li> <li>• Endangered (EN)</li> <li>• Vulnerable (VU)</li> <li>• Conservation Dependent (CD)</li> </ul>
<p>Threatened Ecological Communities (TECs) are those that are at risk of extinction.</p>	<ul style="list-style-type: none"> <li>• Critically Endangered (CE)</li> <li>• Endangered (EN)</li> <li>• Vulnerable (VU)</li> </ul>



Agreement, Act or List	Status Codes
<b>STATE</b>	
<p><i>Biodiversity Conservation Act 2016</i>                      The BC Act provides for the listing of threatened native flora and TECs that need protection as critically endangered, endangered or vulnerable species or ecological communities because they are under identifiable threat of extinction (species) or collapse (ecological communities).</p>	<ul style="list-style-type: none"> <li>• Schedule 1 (Critically Endangered) (S1 or CR)</li> <li>• Schedule 2 (Endangered) (S2 or EN)</li> <li>• Schedule 3 (Vulnerable) (S3 or VU)</li> <li>• Schedule 4 (Extinct) (S4 or EX)</li> </ul>
<p><b>DBCA Priority list (DBCA)</b>                      DBCA produces a list of Priority species and ecological communities (e.g. PECs) that have not been assigned statutory protection under the BC Act. This system gives a ranking from Priority 1 to Priority 4 for flora and Priority 1 to Priority 5 for ecological communities.</p>	<ul style="list-style-type: none"> <li>• Priority 1 (P1)</li> <li>• Priority 2 (P2)</li> <li>• Priority 3 (P3)</li> <li>• Priority 4 (P4)</li> <li>• Priority 5 (P5; for PECs)</li> </ul>

## 2 ENVIRONMENT

### 2.1 Biogeographical Regionalisation of Australia

The Study Area is located in the southern section of the Pilbara Craton (Kendrick, 2001) in the Pilbara bioregion (Figure 1.1), as defined by the Interim Biogeographic Regionalisation of Australia (IBRA; Thackway & Cresswell, 1995). The Pilbara bioregion is characterised by vast coastal plains and inland mountain ranges with cliffs and deep gorges (Thackway & Cresswell, 1995). Vegetation is predominantly mulga low woodlands or snappy gum over bunch and hummock grasses (Bastin, 2008).

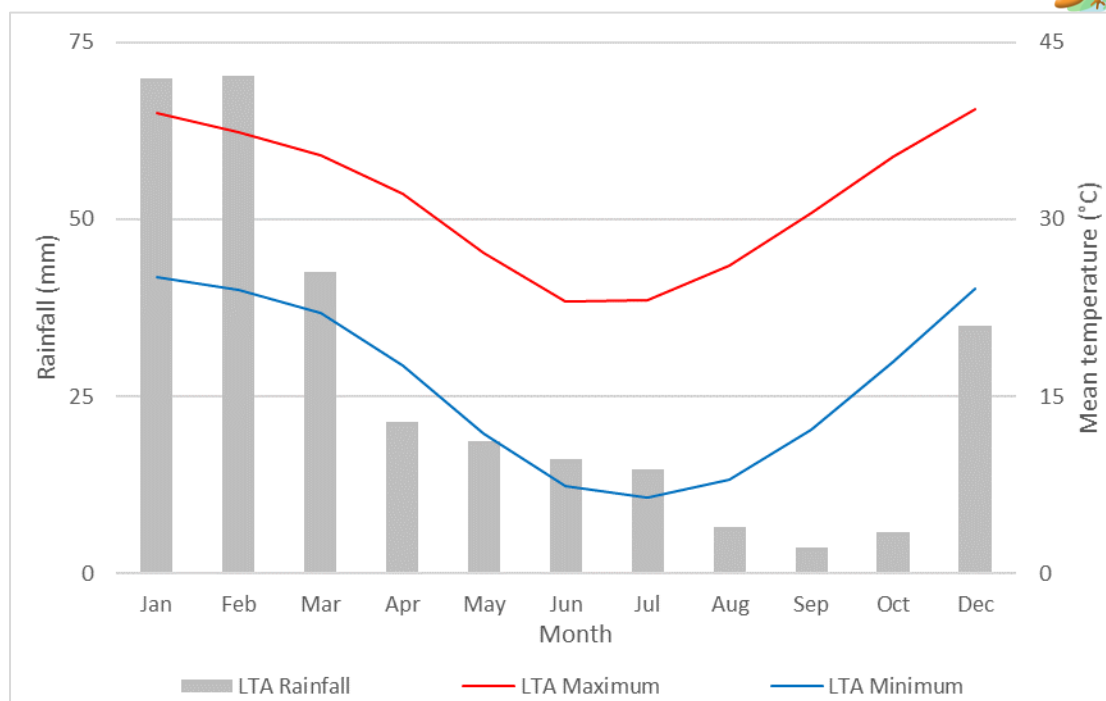
The Pilbara bioregion is classified into four separate subregions, Chichester (PIL01), Fortescue (PIL02), Hamersley (PIL03) and Roebourne (PIL04), of which the Study Area is located within the Hamersley subregion (Figure 1.1). The Hamersley subregion is characterised by mountainous area of sedimentary ranges and plateaus, dissected by gorges (Kendrick, 2001). The Hamersley contains extensive open snappy gum woodland and hummock grassland communities on ranges and plateaus, with low mulga woodlands over bunch grasses on fine textured soils in lower areas and valley floors (Kendrick, 2001).

The significant and dominant feature of this subregion is the Hamersley Range. This prominent range feature, 450 km long, is a mountainous plateau which receives significantly higher rainfall than the surrounding subregion giving rise to deeply incised gorges, up to 100 metres (m) deep, containing extensive permanent spring-fed streams and pools (Kendrick, 2001). The Hamersley Range (to the south) and Chichester Range (to the north) drain to give rise to the Fortescue Marsh and Fortescue River system (McKenzie *et al.*, 2002).

### 2.2 Climate

The Pilbara bioregion has a semi-desert to tropical climate, with rainfall occurring sporadically throughout the year, although mostly during summer (Thackway & Cresswell, 1995). Summer rainfall is usually the result of tropical storms in the north or tropical cyclones that impact upon the coast and move inland (Leighton, 2004). The winter rainfall is generally lighter and is the result of cold fronts moving north easterly across the state (Leighton, 2004). The average annual rainfall ranges from 200–400 millimetres (mm), although there are significant fluctuations between years (BoM, 2020a), with up to 1,200 mm falling in some locations in some years (McKenzie *et al.*, 2009). Annual rainfall on the Chichester and Hamersley Ranges is 400 mm (Tille, 2006).

Long-term climatic data are not available for the Study Area itself; however, long term climatic data are available from the Bureau of Meteorology (BoM) weather station at Newman Airport (Station 7176), 14 km east of the Study Area (BoM, 2020a). Newman Airport is expected to provide the most accurate long-term average (LTA) dataset for climatic conditions experienced within the Study Area (Figure 2.1).



**Figure 2.1: Long-term climatic averages (LTA) of monthly rainfall and temperature from Newman Airport Station 7176 (BoM, 2020a)**

### 2.3 Existing Land Use and Tenure

The Study Area is comprised of the mining lease M266SA and mineral lease ML244SA, held by BHP Iron Ore (Jimblebar) Pty Ltd (a subsidiary of the BHP Group) and BHP Billiton Minerals Pty Ltd respectively. A portion of the Study Area is located within the Ethel Creek and Prairie Downs pastoral leases, which are actively utilised for the grazing of cattle. Approximately half of the Study Area is located within the Prairie Downs pastoral lease, while a smaller portion in the southeast of the Study Area is located within the Ethel Creek pastoral lease. The remainder of the Study Area is located on Unallocated Crown Land. Pastoral infrastructure, including tracks and fences, exists within the Study Area. Mining and exploration works occur to the north of the Study Area (Mt Whaleback).

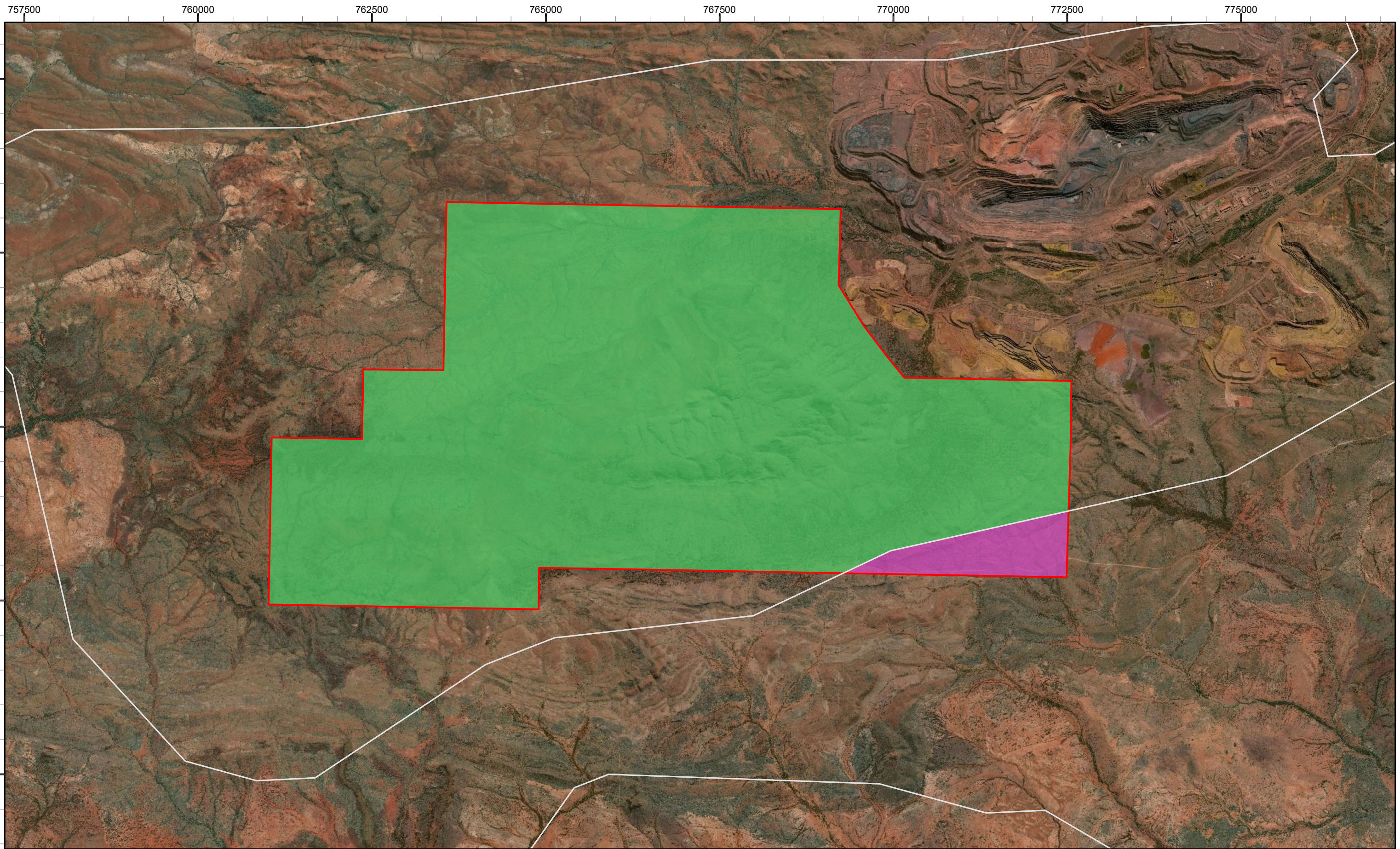
The Study Area is wholly located within the Shire of East Pilbara local government authority (LGA) (Figure 1.1). The boundary between the Shire of East Pilbara and the Shire of Meekatharra is located approximately 2 km to the south of the Study Area.

### 2.4 Soils and Landforms


The Atlas of Australian Soils (Northcote *et al.*, 1960-1968) was compiled by Commonwealth Scientific and Industrial Research Organisation (CSIRO) in the 1960s to provide a consistent national description of Australia's soils. It comprises of a series of 10 maps and associated explanatory notes and is published at a scale of 1:2,000,000, but the original compilation was at scales from 1:250,000 to 1:500,000.

The broad soil landscape units that have been mapped across the Study Area comprise Oc64 and Fa13 (Northcote *et al.*, 1960-1968) (Table 2.1 and Figure 2.2). The majority of the Study Area is mapped as Fa13, with a portion in the southeast mapped as Oc64 (Table 2.1).






**Legend**

 Study Area

**CSIRO Soil Unit**

 Fa13

 Oc64



**biologic**  
Environmental Survey

N  
1:50,000  
0 0.4 0.8 1.6 2.4 3.2 km

**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation**  
**Assessment**  
**Figure 2.2: Soil landscape units of the Study Area**

Coordinate System: GDA 1994 MGA Zone 50  
Projection: Transverse Mercator  
Datum: GDA 1994

Size A3. Created 11/05/2020

**Table 2.1: Soil landscape units mapped within the Study Area**

Code & Description	Study Area	
	ha	%
<b>Oc64:</b> Low stony hills and dissected pediments on granite with occasional basic dykes: chief soils are hard. Soils with predominantly physical limitations; hard-setting soils with dispersible clay subsoils.	175	4
<b>Fa13:</b> Ranges of banded jaspilite and chert along with shales, dolomites, and iron ore formations; some areas of ferruginous duricrust as well as occasional narrow winding valley plains and steeply dissected pediments. This unit is largely associated with the Hamersley and Ophthalmia Ranges. The soils are frequently stony and shallow and there are extensive areas without soil cover: chief soils are shallow stony earthy loams along with some soils on the steeper slopes.	4,590	96
<b>Total</b>	<b>4,765</b>	<b>100</b>

NB: values have been rounded to the nearest whole number

At a finer scale, the Study Area consists of shallow sands with red sandy earths, deeps sands and loamy earths. Soils on the ranges are predominantly stony soils with significant stone through the soil profile and high proportions of surface outcropping. Less dominant areas of red shallow loams, red brown hardpan shallow loams and calcareous shallow loams occur across the Study Area (van Vreeswyk *et al.*, 2004a). Calcareous shallow loams are mostly common on hills based on basalt, and shallow red/ brown non-cracking clays occur as isolated pockets of soil within the hill systems and within hill valleys. Soils become deeper downslope from the ranges. The Study Area consists of erosional surfaces, resulting from the higher relief, associated with the stony hills, ridges and plains (van Vreeswyk *et al.*, 2004a).

The Study Area occurs within the Hamersley Plateaus Zone. The dominant broad landforms in the Study Area are low stony hills, ranges with dykes and dissections, and extensive flat and gently sloping plains (Northcote *et al.*, 1960-1968).

## 2.5 Geology

According to the Australian Geological Provinces database, the Study Area is located within the Warakurna Large Igneous Province (Wingate *et al.*, 2004). The spatial data has been captured largely at approximately 1:1 million scale. The Warakurna Large Igneous Province consists of layered mafic-ultramafic intrusions, mafic to felsic volcanic rocks and dykes, extensive mafic sills and swarms of mafic dykes (Wingate *et al.*, 2004). The Warakurna Large Igneous Province consists of coeval mafic igneous rocks. The bulk of the magmatic products emplaced between 1,078 and 1,070 million years ago, along an east-west swath approximately 800 km wide and 2,400 km long (Wingate *et al.*, 2004).

At a finer scale (1:500,00) the Study Area (GSWA, 2016) is mapped (Figure 2.3) as:

- Fortescue Group (A-FO-od): Dolerite dyke or sill. Occurs as a negligible portion in the southeast corner across 0.05 ha (<1 %) of the Study Area.
- Jeerinah Formation (A-FOj-xs-b): Siliciclastic sedimentary rocks, mafic volcanic rocks and minor felsic volcanic rocks; local carbonate rocks, chert, and dolerite sills. Occurs across 376 ha (8 %) of the Study Area.
- Marra Mamba Iron Formation (A-HAm-cib): Chert, banded iron-formation, mudstone, and siltstone; minor carbonate; metamorphosed. Occurs across 965 ha (20 %) of the Study Area.
- Brockman Iron Formation (P\_-HAb-cib): Banded iron-formation, chert, mudstone, and siltstone; metamorphosed. Occurs centrally across 835 ha (18%) of the Study Area.
- Bunjinah Formation (A-FOu-bbo): Pillowed and massive basaltic flows; basaltic breccia and basaltic volcanic sandstone; minor chert; amygdaloidal basalt flows occur in upper parts of formation; metamorphosed. Occurs in the northwest across 1,039 ha (22%) of the Study Area.
- Mount McRae Shale and Mount Sylvia Formation (A-HAu-xsl-ci): Mudstone, siltstone, chert, banded iron-formation, and dolomite; metamorphosed. Occurs across 294 ha (6 %) of the Study Area.
- Weeli Wolli Formation (P\_-Haj-xci-od): Banded iron-formation (commonly jaspilitic), mudstone, siltstone, and numerous dolerite sills; metamorphosed. Occurs centrally across 342 ha (7%) of the Study Area.
- Wittenoom Formation (A-Had-kd): Thinly bedded dolomite and dolomitic shale, with minor black chert, shale, banded iron formation and sandstone. Occurs across 914 ha (19 %) of the Study Area.

## 2.6 Land Systems

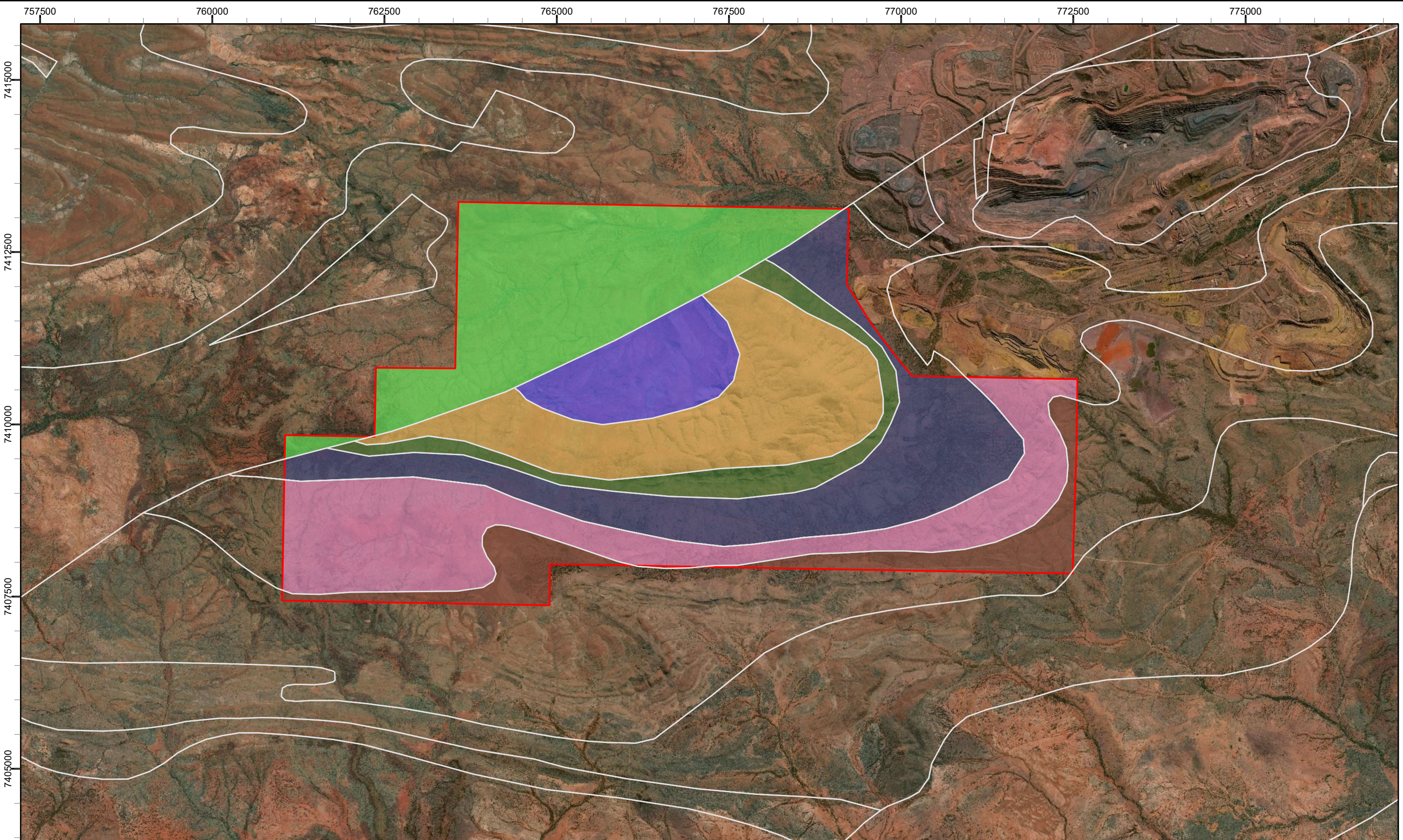
Work undertaken by a joint team from the (former) Department of Agriculture (now Department of Primary Industries and Regional Development) and the (former) Department of Lands Administration (now Department of Planning, Lands and Heritage) classified the pastoral areas of Western Australia (Payne *et al.*, 1988; van Vreeswyk *et al.*, 2004a). The purpose of the surveys were to provide a comprehensive description and mapping of the biophysical resources of the pastoral areas, together with an evaluation of the pastoral potential and the condition of the soils and vegetation (Payne *et al.*, 1988; van Vreeswyk *et al.*, 2004a).

Five land systems have been mapped as occurring across the Study Area, Boolgeeda, Egerton, Elimunna, Newman and Rocklea (Payne *et al.*, 1988; van Vreeswyk *et al.*, 2004a) (Table 2.2 and Figure 2.4). The dominant land system is the Newman land system, which covered approximately 49 % of the Study Area (Table 2.2). The land type for the Newman land system is described as rugged jaspilite plateaus, ridges and mountains supporting hard spinifex grasslands (Table 2.2).

**Table 2.2: Land Systems of the Study Area**

Land System	Land Type	Description	Extent in Study Area	
			Ha	%
Boolgeeda	Stony plains with spinifex grasslands	Stony lower slopes and plains below hill systems supporting hard and soft spinifex grasslands and mulga shrublands.	1,199	25
Egerton	Stony plains with spinifex grasslands	Highly dissected hardpan plains supporting mulga shrublands and hard spinifex hummock grasslands.	37	1
Elimunna	Hills and ranges with acacia shrublands	Gently undulating stony plains and granite hills supporting <i>Acacia-Eremophila-Senna</i> shrublands and minor soft spinifex grasslands.	81	2
Newman	Hills and ranges with spinifex grasslands	Rugged jaspilite plateaus, ridges and mountains supporting hard spinifex grasslands.	2,345	49
Rocklea	Hills, ridges, upper and lower slopes with spinifex grasslands	Basalt hills, plateaus, lower slopes and minor stony plains supporting hard spinifex (and occasionally soft spinifex) grasslands with <i>Acacia</i> and <i>Senna</i> shrubs.	1,103	23
<b>Total</b>			<b>4,765</b>	<b>100</b>

NB: hectare values have been rounded to the nearest whole number.



**Legend**

Study Area

**Geological Unit**

<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4a460; border: 1px solid black; margin-right: 5px;"></span> Brockman Iron Formation, P_-HAb-cib</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #90ee90; border: 1px solid black; margin-right: 5px;"></span> Bunjinah Formation, A-FOu-bbo</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8b4513; border: 1px solid black; margin-right: 5px;"></span> Jeerinah Formation, A-FOj-xs-b</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #ffc0cb; border: 1px solid black; margin-right: 5px;"></span> Marra Mamba Iron Formation, A-HAm-cib</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #3cb371; border: 1px solid black; margin-right: 5px;"></span> Mount McRae Shale and Mount Sylvia Formation, A-HAu-xsl-ci</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #8a2be2; border: 1px solid black; margin-right: 5px;"></span> Weeli Wollli Formation, P_-HAj-xci-od</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #483d8b; border: 1px solid black; margin-right: 5px;"></span> Wittenoom Formation, A-HAd-kd</li> </ul>
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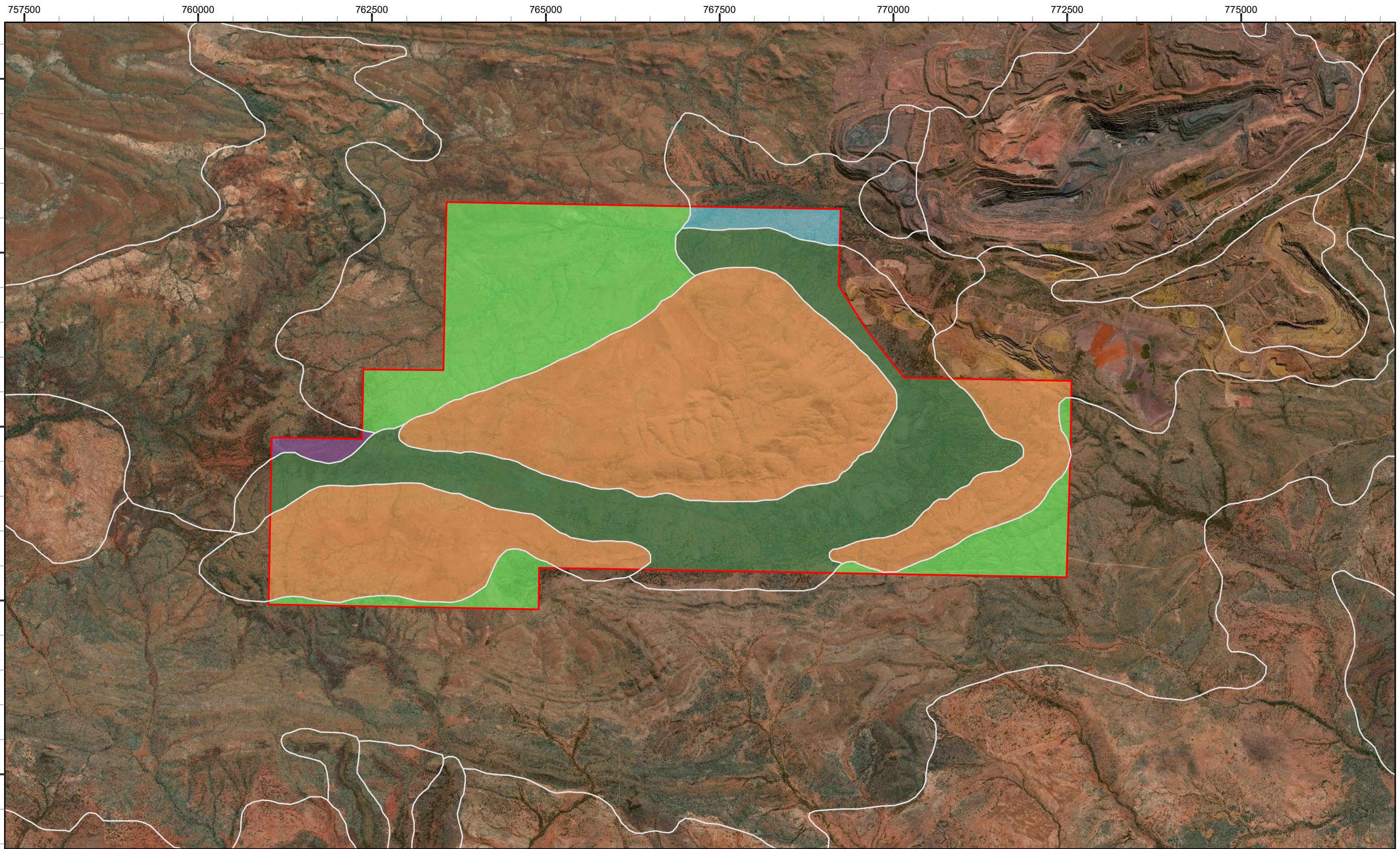
**biologic**  
Environmental Survey

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**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation Assessment**  
**Figure 2.3: Broad geology of the Study Area**

Coordinate System: GDA 1994 MGA Zone 50  
Projection: Transverse Mercator  
Datum: GDA 1994

Size A3. Created 11/05/2020



**Legend**

Study Area

**Land System**

<span style="display: inline-block; width: 15px; height: 10px; background-color: #4CAF50; margin-right: 5px;"></span> Boolgeeda Land System	<span style="display: inline-block; width: 15px; height: 10px; background-color: #2196F3; margin-right: 5px;"></span> Elimunna Land System
<span style="display: inline-block; width: 15px; height: 10px; background-color: #9C27B0; margin-right: 5px;"></span> Egerton Land System	<span style="display: inline-block; width: 15px; height: 10px; background-color: #FF9800; margin-right: 5px;"></span> Newman Land System
<span style="display: inline-block; width: 15px; height: 10px; background-color: #4CAF50; margin-right: 5px;"></span> Rocklea Land System	

N

1:50,000

0 0.4 0.8 1.6 2.4 3.2 km

**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation Assessment**  
**Figure 2.4: Land systems of the Study Area**

Coordinate System: GDA 1994 MGA Zone 50  
 Projection: Transverse Mercator  
 Datum: GDA 1994

Size A3. Created 11/05/2020

## 2.7 Hydrology

The surface and groundwater hydrology of the Pilbara is highly variable as a result of a dynamic climate with severe droughts and major flooding (DoW, 2010). Streamflows are usually a direct response to rainfall and are therefore highly seasonal and variable. Most runoff occurs from January to March as a result of episodic cyclonic activities (DoW, 2010).

The Study Area is located within the Fortescue River basin, which extends from the Upper Fortescue River, along the Fortescue Marsh, and through the Lower Fortescue River. At a finer scale, the Study Area is located within the Upper Fortescue River Catchment and at the juncture of the Ophthalmia Dam and Newman sub-catchments (Figure 2.5). At its closest point, the Study Area is approximately 11 km north-west of the Fortescue River (Figure 2.5). Several unnamed drainage lines are located to the north and west of the Study Area.

Surface water hydrology within the Study Area is regulated by minor drainage lines that flow from the west or south-west to the north and north-east (Figure 2.5). These minor drainage lines end up discharging into the Fortescue River. Two minor drainage lines are located within the Study Area.

Groundwater originates from direct infiltration by rainfall and from surface water flows. Groundwater occurs throughout the Pilbara but is most easily located and accessed near surface water drainage lines (alluvial channels). The most significant aquifers can be grouped into three types: alluvial aquifers that are either unconsolidated sedimentary aquifers or chemically deposited aquifers, consolidated sedimentary (or sedimentary rock) aquifers and fractured rock aquifers. Broadly, the groundwater associated with the Study Area is located within fractured and weathered rock aquifers. Groundwater is stored in fractures and voids in the rocks and therefore tends to be localised. Groundwater recharge is also episodic and affected by direct infiltration of rainfall over areas where the rocks are fractured.

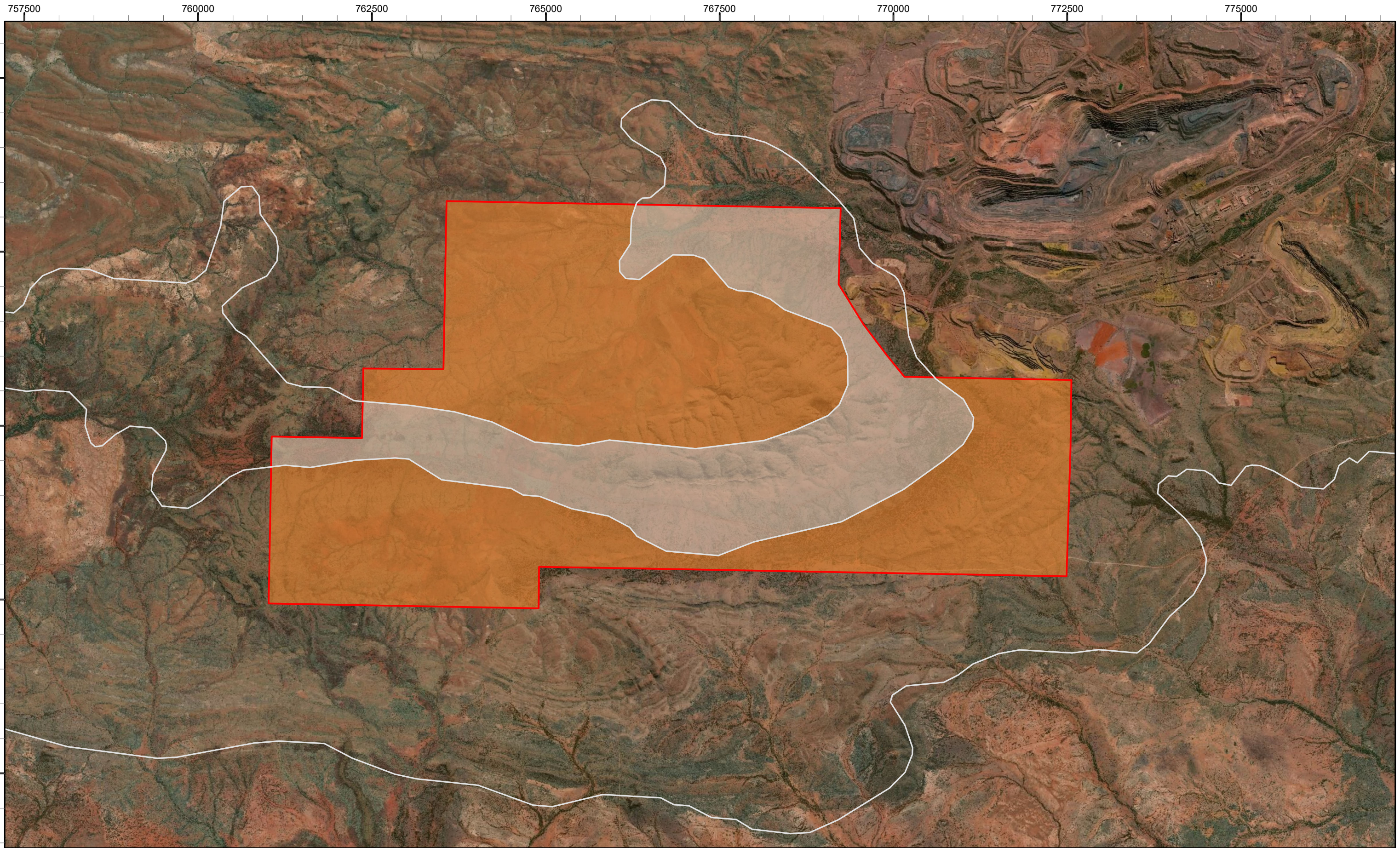
## 2.8 Flora and Vegetation Background

### 2.8.1 Vegetation Associations


The Study Area is located in the Fortescue Botanical District, which is a part of the Eremaean Province (Beard, 1990). The Fortescue Botanical District is essentially a tree- and shrub-steppe with *Eucalyptus* trees, *Acacia* shrubs, *Triodia pungens* and *Triodia wiseana* (Beard, 1990). Some mulga (*Acacia aneura* and close relatives) occurs in valleys and there are short-grass plains on alluvia (Beard, 1990). The vegetation associations of the Study Area were mapped by Beard (1975), in which he classified the following two vegetation associations (Figure 2.6):

- 18: Low woodland; mulga (*Acacia aneura* and close relatives) (with spinifex) low woodland on the Hamersley Plateau; and
- 82: Hummock grasslands, low tree steppe; snappy gum (*Eucalyptus leucophloia*) over *Triodia wiseana* on ranges and summits.

The majority of the Study Area was mapped as vegetation association 82, while a band through the central areas and into the north east corner was mapped as vegetation association 18 (Figure 2.6).




**Legend**

 Study Area

**Vegetation Unit**

 Hammersley, 18

 Hammersley, 82



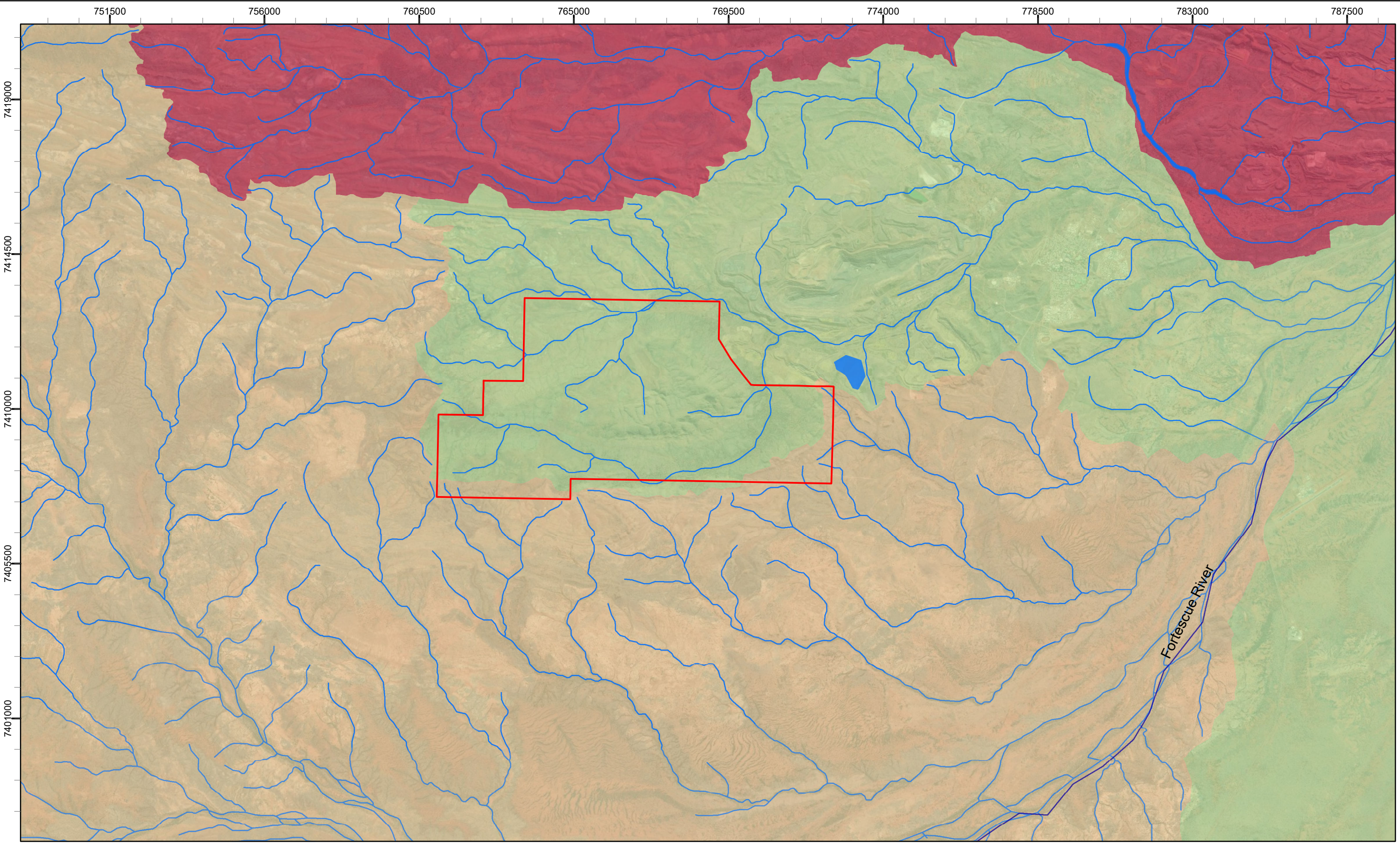
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**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation**  
**Assessment**  
**Figure 2.6: Vegetation association mapping in**  
**the Study Area**








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 Projection: Transverse Mercator  
 Datum: GDA 1994


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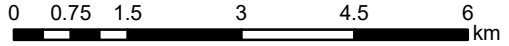


**Legend**

- |  |  |
|--|--|
|  Study Area      | <b>Fortescue River Upper Subcatchments</b>   |
|  Water Feature   |  Unnamed        |
|  Fortescue River |  Newman         |
|  Waterway        |  Ophthalmia Dam |



1:100,000



**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation Assessment**  
**Figure 2.5: Hydrology of the Study Area**

Coordinate System: GDA 1994 MGA Zone 50  
 Projection: Transverse Mercator  
 Datum: GDA 1994

Size A3. Created 11/05/2020

Shepherd *et al.* (2002) reinterpreted and updated the vegetation association mapping to reflect the National Vegetation Information System (NVIS Technical Working Group) standards (ESCAVI, 2003). The update also accounts for extensive clearing since Beard (1975) mapping. Shepherd *et al.* (2002) created a series of 'systems' to assist in removing mosaic vegetation associations originally mapped by Beard (1975); however, some mosaics still occur. The Study Area is located within the Hamersley System, and under Shepherd *et al.* (2002) comprises:

- 18.11: *Acacia* open shrubland / *Ptilotus* mixed open forbland; and
- 82.3: *Eucalyptus* sparse mallee shrubland / *Senna* mixed sparse shrubland / *Triodia* open hummock grassland.

The current extent of each of the vegetation system associations remaining exceeds 98% across the four regional scales: State, bioregion (Pilbara), subregion (Hamersley) and Local Government Authority (Shire of East Pilbara) (Government of Western Australia, 2018) (Table 2.3). Currently both vegetation system associations (18 and 82) are represented within the National Reserve System having greater than 19% and 12% of their current bioregional and subregional extent within reserves, respectively (Government of Western Australia, 2018) (Table 2.3).

**Table 2.3: Regional and local extent of the Hamersley System Associations within the Study Area**

Code	Study Area (ha / %)	Scale	Pre-European extent (ha)	Current extent remaining (ha / %)	Current extent remaining within reserves (ha / %)
18.11	1,541 / 32 %	State	580,556	575,851 / 99.19	113,404 / 19.69
		Pilbara	580,512	575,808 / 99.19	113,404 / 19.69
		Hamersley	580,512	575,808 / 99.19	113,404 / 19.69
		LGA	224,292	220,375 / 98.25	44 / 0.02
82.3	3,224 / 68 %	State	2,169,997	2,157,841 / 99.44	262,983 / 12.19
		Pilbara	2,168,702	2,156,547 / 99.44	262,983 / 12.19
		Hamersley	2,158,862	2,146,708 / 99.44	262,244 / 12.22
		LGA	573,313	565,215 / 98.59	0 / 0

NB: LGA (Local Government Authority): Shire of East Pilbara

Reserves – International Union of Nature Conservation (IUCN) Class I-IV reserves (i.e. National Parks, Strict Nature Reserves)

Source: Government of Western Australia (2018); NB: area values have been rounded to the nearest whole number.

## 2.8.2 Bioregional significance

Under the Convention of Biological Diversity, Australia has worked towards a target of 17% of the continent to be protected as part of the National Reserve System (NRSTG). In building the NRS, priority is given to under-represented bioregions that have less than 10% of their remaining area protected in

reserves (NRSTG, 2009). The Pilbara bioregion is an underrepresented bioregion, with less than 10% of its total area protected in reserves. The Hamersley subregion is adequately represented, with more than 13% of the subregional area protected in reserves.

Despite the Pilbara bioregion being underrepresented within the NRS, greater than 99% of the bioregional and the Hamersley subregional area remains intact (Government of Western Australia, 2018). As such, it has been determined that any potential vegetation clearing within the Study Area would not substantially impact the biological values of the bioregion (and subregion) as the region will remain intact, and therefore the State retains the ability to adequately reserve vegetation within the Pilbara bioregion (and the Hamersley subregion).

### 2.8.3 Introduced flora taxa

#### Weeds of National Significance

The Commonwealth of Australia, in collaboration with the states and territories, has identified 32 Weeds of National Significance (WoNS) based on an assessment process that prioritises these weeds according to their invasiveness, potential for spread and environmental, social and economic impacts. A list of 20 WoNS was endorsed in 1999 and a further 12 were added in 2012.

Landowners and land managers at all levels are responsible for managing WoNS. State and territory governments are responsible for legislation, regulation and administration of weeds. The WoNS were selected as they require coordination among all levels of government, organisations, and individuals with weed management responsibilities.

#### Declared Plant Pests

To protect Western Australian agriculture the Department of Primary Industries and Regional Development (DPIRD) (formerly the Department of Agriculture and Food Western Australia, DAFWA) regulates harmful plants under the *Biosecurity and Agriculture Management Act 2007* (BAM Act). Plants that are prevented entry into the state or have control or keeping requirements within the state are known as declared pests. The main purposes of the BAM Act and its regulations related to Declared Plant Pests (DPP) are to prevent new plant pests from entering Western Australia, manage the impact and spread of those pests already present in the state and safely manage the use of agricultural chemicals.

The BAM Act has categorised the weeds of Western Australia into four main classifications:

- Declared Pests (under Section 22 of the Act);
- Permitted (under Section 11 of the Act);
- Prohibited (under Section 12 of the Act); and
- Permitted requiring a permit (Section 73, BAM Regulations 2013).

Under the BAM Act, all DPP are placed in one of three categories:

- C1 (Exclusion) — Pests will be assigned to this category if they are not established in Western Australia and control measures are to be taken, including border checks, in order to prevent them entering and establishing in the State;

- C2 (Eradication) — Pests will be assigned to this category if they are present in Western Australia in low enough numbers or in sufficiently limited areas that their eradication is still feasible; and
- C3 (Management) — Pests will be assigned to this category if they are established in Western Australia but it is feasible, or desirable, to manage them in order to limit their damage. Control measures can prevent a C3 pest from increasing in population size or density or moving from an area in which it is established into an area which currently is free of that pest.

### Weed Prioritisation

In 2008, the Department of Parks and Wildlife (now DBCA) developed and implemented an integrated approach to weed management on Parks and Wildlife-managed lands in Western Australia, the Weed Prioritisation Process. It was updated in 2013 and further revised in 2016. Weeds were prioritised in each region, based on their:

- invasiveness;
- ecological impact;
- potential and current distribution; and
- feasibility of control.

The resulting priorities focus on weeds considered to be high impact, rapidly invasive and still at a population size that can feasibly be eradicated or contained to a manageable size. This means that weed taxa that are already widespread may not be ranked as a high priority. The weed prioritisation for the Pilbara bioregion has recently been revised by the DBCA. The key priorities are now centred on 'Priority Alert' weeds and weeds that receive a rating for 'ecological impact' and 'invasiveness'.

#### 2.8.4 Groundwater Dependent Ecosystems

Groundwater Dependent Ecosystems (GDEs) are ecosystems that rely upon groundwater for their continued existence (BoM, 2020b). GDEs can be represented by many different assemblages of biota which rely on groundwater, and as a result come in many forms. For terrestrial ecosystems there are three key types of GDE (BoM, 2020b);

1. Aquatic ecosystems: that rely on the surface expression of groundwater – this includes surface water ecosystems which may have a groundwater component, such as rivers, wetlands and springs.
2. Terrestrial ecosystems: that rely on the subsurface presence of groundwater – this includes all vegetation ecosystems or Groundwater Dependent Vegetation (GDV).
3. Subterranean ecosystems: this includes cave and aquifer ecosystems.

Aboveground terrestrial GDEs are typically characterised by the presence of flora species that rely on groundwater (i.e. phreatophytes). Phreatophytes may be classified as either obligate or facultative phreatophytes depending on their reliance on groundwater (Eamus *et al.*, 2016):

- Obligate phreatophytes are flora species confined to habitats with access to groundwater.
- Facultative phreatophytes are flora species that can utilise groundwater to satisfy a proportion of their ecological water requirement (EWR) when it is available. However, some individuals

may also satisfy their EWR by relying solely on uptake from upper unsaturated soils layers where groundwater is inaccessible.

The BoM has developed the Groundwater Dependent Ecosystems Atlas (GDE Atlas) as a national dataset of Australian GDEs to inform groundwater planning and management (BoM, 2020b). It is the first and only national inventory of GDEs in Australia.

The GDE Atlas contains information about three key types of ecosystems: Aquatic ecosystems, Terrestrial ecosystems, and Subterranean ecosystems. Importantly, the GDE Atlas also includes the national inflow-dependent landscapes layer which is derived from remotely sensed data. This layer indicates the likelihood that a landscape is accessing water in addition to rainfall (such as soil moisture, surface water or groundwater), and generally represents a potential GDE dataset for all areas not yet studied or investigated in any detail.

The GDE mapping in the GDE Atlas comes from two broad sources:

- National assessment – national-scale analysis based on a set of rules that describe potential for groundwater/ ecosystem interaction and available GIS data.
- Regional studies – more detailed analysis undertaken by various state and regional agencies using a range of different approaches including field work, analysis of satellite imagery and application of rules/conceptual models.

The BoM GDE Atlas indicates that the Study Area is unlikely to support GDEs. The Study Area has a low (from national assessment) potential for GDEs. The Fortescue River, located approximately 11 km to the southeast, has the greatest potential of supporting GDEs in close proximity to the Study Area (moderate potential from national assessment) (BoM, 2020b). The current Mt Whaleback mine is also categorised as a moderate potential for GDE from the national assessment, however this may be a result of the national-scale analysis following a set of rules which uses 25 m resolution and identifies landscape areas where evaporative loss from the landscape exceeds rainfall (Doody *et al.*, 2017; Doody *et al.*, 2019). Areas with higher evaporative losses indicate additional but undefined water sources (Doody *et al.*, 2017; Doody *et al.*, 2019) and may be aligned at Mt Whaleback from groundwater drawdown associated with mining.

### **2.8.5 Sheet-flow dependent ecosystems**

Mulga is a large, variable and taxonomically complex group of plants allied to *Acacia aneura* that dominate significant areas of the vast Australian arid zone (Maslin *et al.*, 2012). The term Mulga is also used to describe vegetation communities in which these taxa predominate (Maslin *et al.*, 2012). A recent revision of the Mulga group (*Acacia aneura* and its close relatives) classified 12 separate entities, excluding informal variants, putative hybrids and intergrades (Maslin & Reid, 2012). The structure and patterning of mulga communities varies from strongly banded (groved) through to open shrublands and woodlands across the landscape (Page & Grierson, 2012). The bandings act as a sink for nutrients and water to infiltrate the soil and are readily available for uptake by the flora located within the banding. This banding and overland sheet-flow supports a diverse biota within the Mulga bands and plays an important ecological function which is well documented (Dawson & Ahern, 1973; Saco *et al.*, 2007; Winkworth, 1973).

Of the five land systems occurring in the Study Area, the Elimunna land system, which supports hardpan plains that are relatively level, can be subject to sheet-flow (van Vreeswyk *et al.*, 2004a). The Elimunna land system occurred in the northeast, while the vegetation present did not display obvious banding or grooving/ intergrooving which would indicate sheet-flow dependency.

### 3 METHODOLOGY

#### 3.1 Compliance

The survey was carried out in a manner consistent with the Western Australian EPA, DBCA and BHP WAIO guidelines for the environmental surveying and reporting of flora and vegetation. The following guidelines, procedures and documents were used prior to, during and after completion of the field survey:

- EPA (2018) Statement of Environmental Principles, Factors and Objectives;
- EPA (2016a) Environmental Factor Guideline: Flora and Vegetation;
- EPA (2016b) Technical Guidance – Flora and Vegetation Surveys for Environmental Impact Assessment;
- BHP WAIO's Biological Survey Spatial Data Requirements (SPR-IEN-EMS-015) (BHP, 2018a); and
- BHP WAIO's Vegetation and Flora Survey Procedure (0124627) (BHP, 2018b).

#### 3.2 Desktop Assessment

##### 3.2.1 Literature review

Background information on the Study Area and surrounds was compiled prior to, during and after the field survey. Historic vegetation mapping conducted by Beard (1975) and Shepherd *et al.* (2002), land systems mapping (van Vreeswyk *et al.*, 2004a), and the IBRA classification system (Desmond *et al.*, 2001) were consulted to provide broad contextual knowledge of the vegetation types likely to be encountered within the Study Area. The literature review also considered 37 sources of relevance to the Study Area (Table 3.1) including field surveys and desktop assessments. The previous surveys and assessments that were considered were provided by BHP WAIO and the Index of Biological Surveys for Assessments (IBSA). All are located within a radius of 20 km from the Study Area.

**Table 3.1: Literature sources used for the review**

Survey Title	Reference	Survey Type	Distance from Study Area (km)
Mt. Whaleback <i>Lepidium catapycnon</i> Survey	HGM (1997)	Targeted Searching Survey	Adjacent (north)
Field Search and Observations of <i>Lepidium catapycnon</i> Populations, Mt. Whaleback, Newman	ENV (1999a)	Targeted Searching Survey	Adjacent (north)
Regional Search for <i>Lepidium catapycnon</i> in the Greater Newman Area (Pilbara), Western Australia	ENV (1999b)	Targeted Regional Searching Survey	Adjacent and surrounding
Follow-up Survey of Mt. Whale back <i>Lepidium catapycnon</i> Population	HGM (1999)	Targeted Searching Survey	Adjacent (north)
Mt Whaleback OB30 and OB35 Soil and Biological Survey	Halpern Glick Maunsell (1999)	Reconnaissance Flora and Vegetation Survey, Fauna Survey, Soil Assessment, Desktop Assessment	Partially overlaps the Study Area

Survey Title	Reference	Survey Type	Distance from Study Area (km)
Baseline Biological & Soil Surveys and Mapping for ML244SA West of the Fortescue River	Biota (2001)	Baseline Flora, Fauna and Soils Survey	Adjacent (north)
Newman Hub: Priority Flora and Weed Survey	Ecologia (2004)	Targeted Searching Survey, Weed Survey	Adjacent (north)
Western Ridge Exploration Project - Biological Survey	Ecologia (2005)	Detailed Flora and Vegetation Survey, Level One Fauna Assessment, Desktop Review	Partially overlaps the Study Area
Newman Ammonium Nitrate Storage Facility - Phase 2 Conservation Significant Flora Survey	Ecologia (2006b)	Targeted Searching Survey	7 km northeast
Newman Ammonium Nitrate Storage Facility Conservation Significant Flora Survey	Ecologia (2006a)	Targeted Searching Survey	7 km northeast
Western Ridge Exploration Project Biological Survey	Ecologia (2006c)	Detailed Flora and Vegetation Survey, a Level One Fauna Assessment, Desktop Review	Adjacent (south)
Proposed Kurra Village Extension Area Flora and Vegetation Assessment	ENV (2006b)	Reconnaissance Flora and Vegetation Survey	12 km northeast
RGP4 Newman Hub Infrastructure Area Flora and Vegetation Assessment	ENV (2006c)	Reconnaissance Flora and Vegetation Survey	Adjacent (north)
RRG4 Newman Hub Topsoil Stockpile and Borrow Areas for Construction Flora and Vegetation Assessment	ENV (2006d)	Reconnaissance Flora and Vegetation Survey	Adjacent (north)
Mount Whaleback Flora & Vegetation Assessment – Phase III	ENV (2006a)	Detailed Flora and Vegetation Survey	Adjacent (north)
Myopic Project Area Flora and Fauna Assessment	GHD (2008)	Detailed Flora and Vegetation Survey, a Level One Fauna Assessment	16 km northeast
Newman Power Network Flora and Fauna Survey	Biologic (2009)	Detailed Flora and Vegetation Survey, a Level One Fauna Assessment	Adjacent (north)
Newman to Yandi Transmission Line Flora and Vegetation Assessment	ENV (2009b)	Detailed Flora and Vegetation Survey	8 km northeast
Whaleback Power Station Flora and Vegetation Assessment	ENV (2009c)	Detailed Flora and Vegetation Survey	Adjacent (north)
Homestead Creek Culvert Flora and Vegetation Assessment	ENV (2009a)	Reconnaissance Flora and Vegetation Survey	18 km northeast
Whaleback Flora & Vegetation Survey and Fauna Assessment	Onshore and Biologic (2009)	Detailed Flora and Vegetation Survey, Level One Fauna assessment	Partially overlaps the Study Area
Whaleback TSF Flora and Vegetation and Fauna Survey	Astron (2010)	Detailed Flora and Vegetation Survey, a Level One Fauna Assessment	Adjacent (northeast)
Orebody 35 Vegetation Clearing Permit Area Flora and Fauna Assessment	ENV (2010)	Detailed Flora and Vegetation Survey, Level One Fauna Assessment	Partially overlaps the Study Area



Survey Title	Reference	Survey Type	Distance from Study Area (km)
Newman Power Line Corridor Level 1 Flora and Fauna Survey	Eco Logical (2011)	Reconnaissance Flora and Vegetation Survey, Level One Fauna Assessment	6 km northeast
Whaleback East Flora, Vegetation and Fauna Report and NVCP Letter	ENV (2011)	Detailed Flora and Vegetation Survey, Level One Fauna Assessment and the NVCP Letter	Adjacent (north)
Orebody 35 and Surrounds Flora and Vegetation Survey	GHD (2011a)	Detailed Flora and Vegetation Survey	Partially overlaps the Study Area
Level 1 Flora and Fauna Surveys Along the Great Northern Highway for Jimblebar Mine Module Transport	Eco Logical (2012)	Reconnaissance Flora and Vegetation Survey, Level One Fauna Assessment	13 km northeast
Eastern Ridge (OB23/24/25) Flora and Vegetation Assessment	ENV (2012)	Detailed Flora and Vegetation Survey	12 km northeast
Whaleback AML 7/244 Flora and Vegetation and Vertebrate Fauna Review	Onshore (2013)	Desktop Assessment	Adjacent (north)
Coolibah Village Level 1 Flora and Vegetation Survey and Level 1 Fauna Assessment	Astron (2014)	Reconnaissance Flora and Vegetation Survey, Level One Fauna Assessment	13 km east
Consolidation of Regional Vegetation Mapping BHP Billiton Iron Ore Pilbara Tenure	Onshore (2014a)	Review	Adjacent and surrounding
Western Ridge Biological Survey	Onshore (2014b)	Detailed Flora and Vegetation Survey, Level One Fauna assessment	Adjacent (south)
Kurra Village Targeted Flora, Vegetation and Fauna Survey	Onshore (2015)	Reconnaissance Flora and Vegetation Survey, Level One Fauna Assessment	9 km northeast
Western Ridge Southern Tenements (E52/3360 and E52/3361) Flora and Vegetation Desktop Assessment Biological Survey	Onshore (2016)	Desktop Assessment	Adjacent (south)
Western Ridge E52/3448 Desktop Flora and Fauna Assessment	Onshore (2018)	Desktop Assessment	Adjacent (south)
Coomanbunna Well Detailed Flora and Vegetation Survey	Biologic (2020a)	Detailed Flora and Vegetation Survey	Adjacent (south)
Western Ridge Detailed Flora and Vegetation Survey	Biologic (2020b)	Detailed Flora and Vegetation Survey	Adjacent (south)

### 3.2.2 Database searches

Database searches were undertaken to generate a list of vascular flora taxa previously recorded within, and near, the Study Area, including introduced and conservation significant taxa. The database searches also identified ecological communities/ vegetation types of conservation significance that occur, or may occur, within and near the Study Area. Conservation codes for flora and vegetation of conservation significance are provided in Appendix A. Six database searches were conducted around

a central coordinate (23°23'50.00"S; 119°36'26.00"E), with varying buffers as deemed appropriate (Table 3.2).

**Table 3.2: Details of database searches conducted**

Provider	Reference	Database	Parameters
Department of Biodiversity, Conservation and Attractions	DBCA (2020a)	NatureMap	Circle of radius 40 km centred on the coordinates: 23°23'50.00"S; 119°36'26.00"E
Department of Biodiversity, Conservation and Attractions	DBCA (2020b)	Threatened and Priority Ecological Communities	Circle of radius 50 km centred on the coordinates: 23°23'50.00"S; 119°36'26.00"E
Department of Biodiversity, Conservation and Attractions	DBCA (2020c)	Threatened and Priority Flora	Circle of radius 50 km centred on the coordinates: 23°23'50.00"S; 119°36'26.00"E
Department of Agriculture, Water and the Environment	DAWE (2020)	Protected Matters Search (MNES) <sup>1</sup>	Circle of radius 40 km centred on the coordinates: 23°23'50.00"S; 119°36'26.00"E
Atlas of Living Australia	ALA (2020)	Occurrence search	Circle of radius 40 km centred on the coordinates: 23°23'50.00"S; 119°36'26.00"E
Department of Primary Industry and Regional Development (DPIRD)	DPIRD (2020)	Declared Plants Database (WAOL) <sup>2</sup>	Search of the entire Shire of East Pilbara

<sup>1</sup>MNES – Matters of National Environmental Significance. <sup>2</sup>WAOL – Western Australian Organism List. This list was filtered to only include declared plant pests listed under Section 22 of the *Biosecurity and Agricultural Management Act 2007*.

The conservation significant flora taxa identified from the database searches were assessed and ranked on the likelihood of occurring within the Study Area (see Section 4.2). The rankings were assigned using the following definitions presented in Table 3.3.

**Table 3.3: Flora likelihood of occurrence decision matrix**

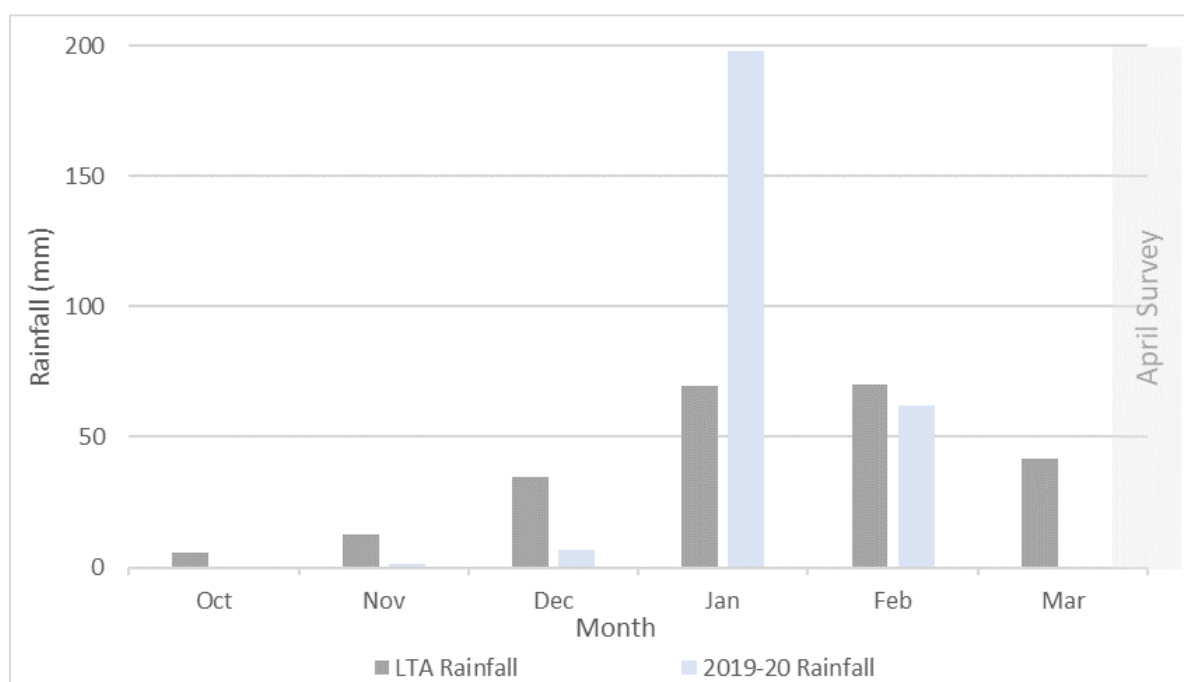
Occurrence categories	Habitat categories (within the Study Area)			
	Core/ critical habitat present	Suitable habitat present/ within known distribution	Marginal habitat present/ adjacent to known distribution	No suitable habitat present/ outside of known distribution
Recorded in the Study Area	Confirmed	Confirmed	Confirmed	Confirmed
Recorded within <5 km	Highly Likely	Likely	Possible	Possible
Recorded within 5-15 km	Likely	Possible	Possible	Unlikely
Recorded within 15 - 50 km	Possible	Possible	Unlikely	Unlikely
Recorded >50 km	Possible	Unlikely	Unlikely	Highly Unlikely
Species considered locally/ regionally extinct	Unlikely	Unlikely	Highly Unlikely	Highly Unlikely

### 3.3 Field Survey

#### 3.3.1 Survey type, timing and weather

A single season Detailed flora and vegetation survey was requested by BHP. The field survey was undertaken over seven days, equivalent to approximately 504 person hours, between 16 and 22 April 2020 (including mobilisation and demobilisation). The day time climatic conditions during the field survey (hot temperatures and clear skies; BoM, 2020a) were adequate to complete the survey on foot.

The field survey was undertaken following a winter, spring and summer season of large fluctuations. Late 2019 received below-average rainfall, with the period from October–December receiving only 8.4 mm compared to the LTA of 53.2 mm (Figure 3.1). Above-average rainfall was recorded in January 2020 (198.2 mm compared to 69.8 mm), but declined during February and March (Figure 3.1). Rain was recorded on 7 and 9 April (17.4 mm total), however, the hot weather and dry conditions during March likely negated any effect of this as the rainfall would have quickly infiltrated the soil or evaporated off the surface. No rainfall was recorded in the week prior to the survey.



**Figure 3.1: Long-term average (LTA) rainfall and 2019–2020 rainfall for Newman Airport (BoM, 2020a).**

#### 3.3.2 Survey team and licensing

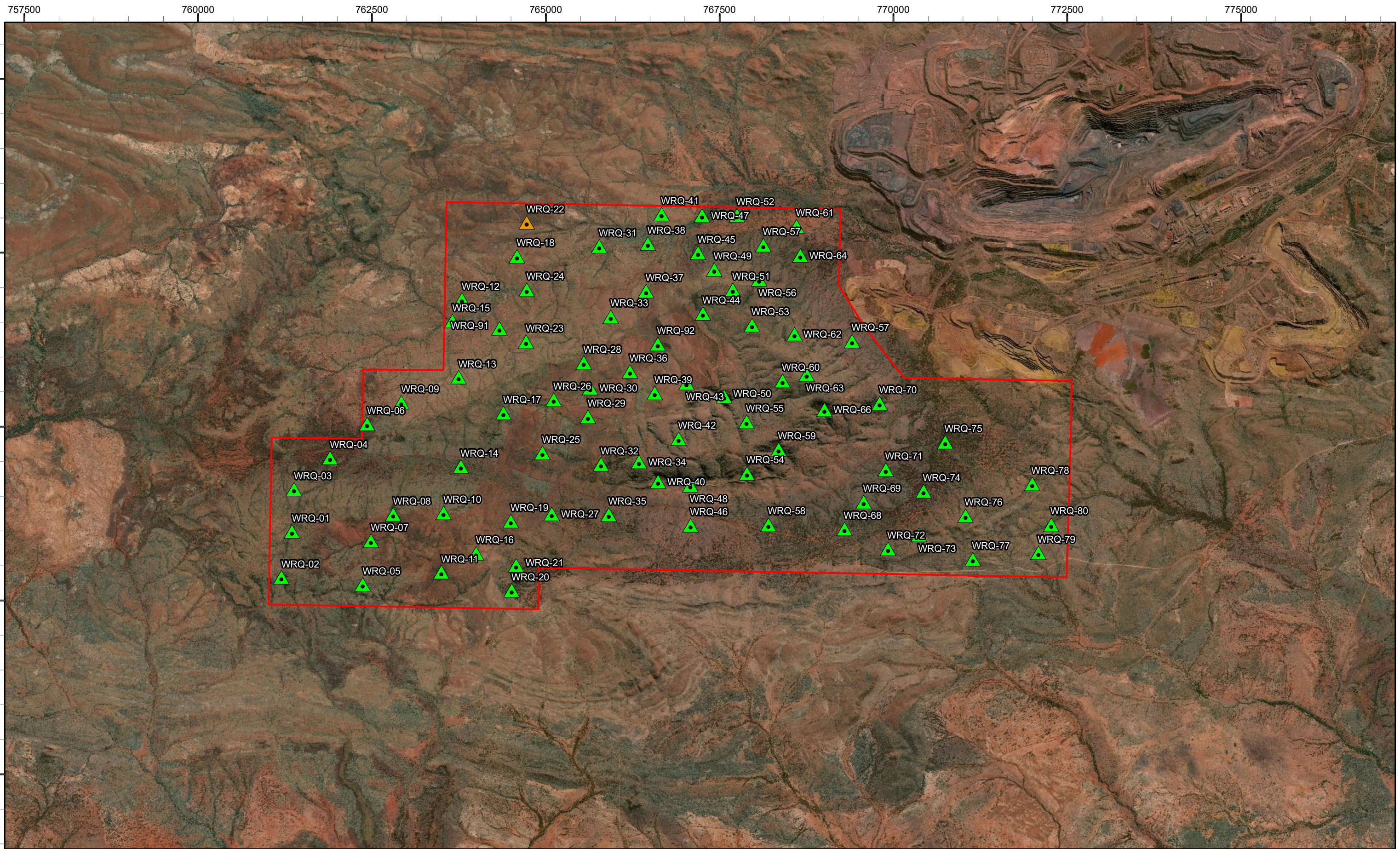
The field survey was managed by Mr Clinton van den Bergh, a principal botanist with over 14 years' experience. Clinton was assisted by team leaders Mr Samuel Coultas and Ms Mary van Wees during the field survey, all exceeding the minimum requirement (5+ years' experience in the bioregion) to lead and manage a flora survey in the Pilbara, as prescribed by the EPA (2016b). Team leaders were assisted by graduate botanists Emily Eakin-Busher, Kaylin Geelhoed and Jake Eckersley. The collection of flora specimens was taken under flora collecting permits (FB62000105, FB62000017-2, FB62000160, FB62000237, FB62000238) pursuant to the BC Act (Regulation 61). Clinton, Sam and

Emily also hold a *Permit to Take Declared Rare Flora* for identification purposes (TFL 59-1819, 60-1819 and 53-1920 respectively), issued under the BC Act, Section 40.

### 3.3.3 Flora and vegetation survey design

Before the field survey, aerial photography (Scale 1:30,000) of the Study Area and Google Earth Pro®, were reviewed, along with previous vegetation mapping (Beard, 1976; Biologic, 2015, 2020a, 2020b; Onshore, 2014a, 2014b, 2016, 2017, 2018; Shepherd *et al.*, 2002), land systems mapping (van Vreeswyk *et al.*, 2004) and soil landscape mapping (Northcote *et al.*, 1960-1968), to determine broad preliminary vegetation unit boundaries. Following the review of the aerial imagery and broad contextual information, survey plans were designed to ensure the Study Area was appropriately traversed, sampled and targeted to capture the data required for a single season Detailed flora and vegetation survey.

During the survey, 80 quadrats (50 m × 50 m or 100 m × 25 m, total 2,500 square metres) were established and sampled across the Study Area, supplemented by one relevé (Figure 3.2; Appendix B). Quadrats were orientated with corner points in the north west, north east, south west and south east and any deviation from this was recorded in the site data. To assist with any future re-sampling, posts were left in the north west and south east corners. At least three quadrats were established in each of the preliminary vegetation type areas, to ensure that each vegetation type occurring within the Study Area was captured by the survey and described appropriately and in accordance with EPA (2016b). The only exceptions to this were nine vegetation types which either covered areas too small (generally less than 50 ha) to warrant additional survey effort, or the vegetation types occurred across the southern boundary into adjacent areas that have been sampled by Biologic (2020a, 2020b), therefore resulting in adequate sampling effort. The relevé was sampled in vegetation that had been impacted by a high intensity fire which had altered the natural stratum, with all *Acacia* species being killed by the fire. Mapping notes were used to ensure adequate spatial coverage across the Study Area and to assist with delineation of vegetation boundaries. Information recorded for the relevé was from a central coordinate to an approximate radius of 50 m.



**Legend**

- Study Area
- Site Type**
- ▲ Quadrat
- ▲ Relevé

biologic  
Environmental Survey

N  
1:50,000  
0 0.4 0.8 1.6 2.4 3.2 km

**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation**  
**Assessment**  
**Figure 3.2: Flora sampling sites**

Coordinate System: GDA 1994 MGA Zone 50  
 Projection: Transverse Mercator  
 Datum: GDA 1994

Size A3. Created 11/05/2020

All vascular flora taxa within each quadrat and relevé (including overhang from plants rooted outside the boundary of quadrats) were recorded, with their corresponding height and cover class (excluding the relevé). A brief summary of the vegetation assemblage at each site was also recorded to aid in producing vegetation type descriptions (NVIS Technical Working Group, 2017) (Appendix C). In addition, the following information was recorded at each quadrat (and relevé):

- quadrat (or relevé) number;
- date of survey;
- personnel;
- GPS coordinates of each corner (GDA 94) (or a central coordinate for the relevé);
- site photograph – taken from the north-west corner, facing south-east;
- soil characteristics (texture and colour);
- geology (type, size and nature of any rocks, stones, gravel, or outcropping);
- topography (landform type and aspect);
- vegetation condition (based on BHP, 2018b; Trudgen, 1988) (Appendix D);
- disturbance (if present); and
- approximate time since last fire.

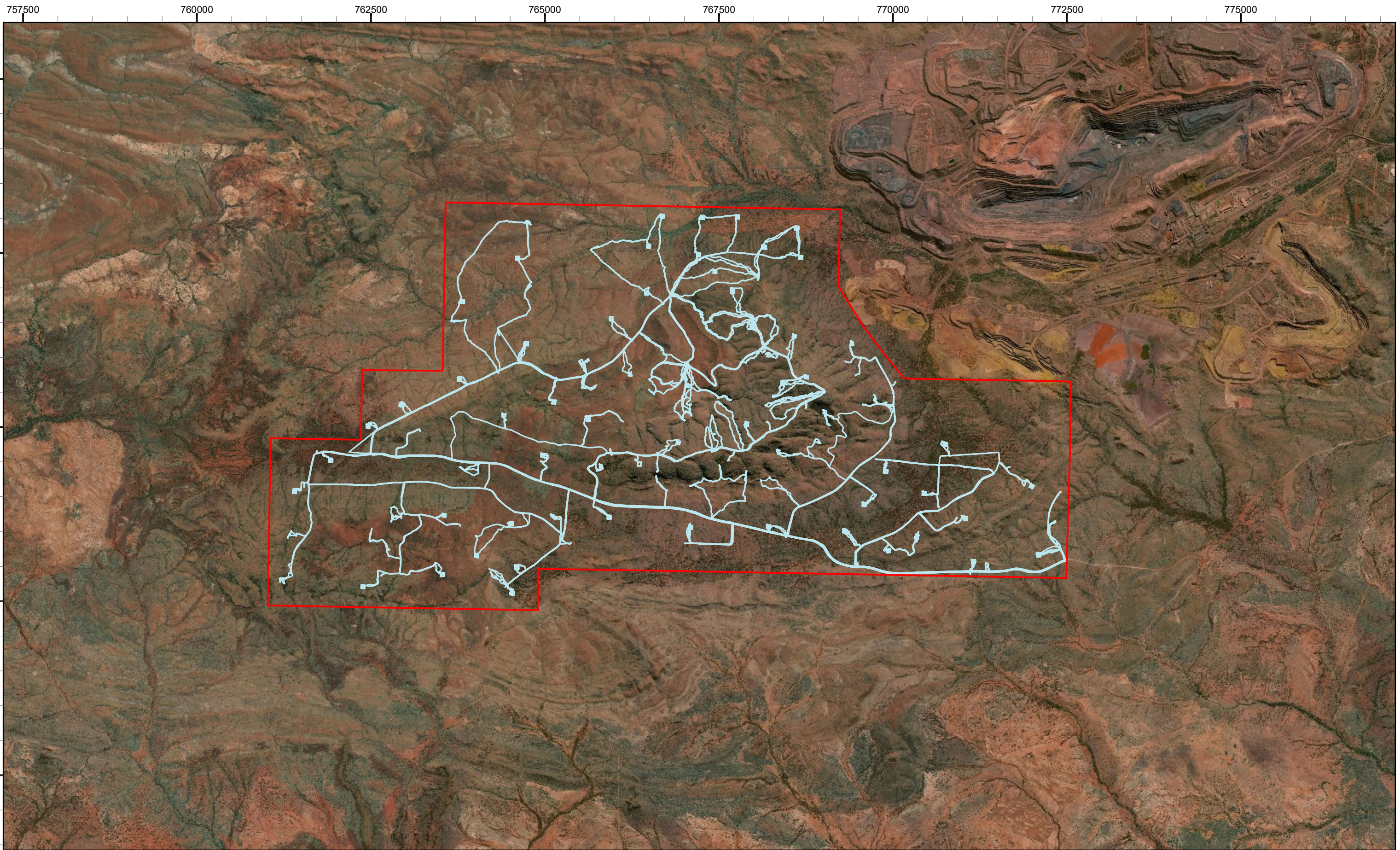
Flora taxa observed opportunistically in the vicinity of sample sites, or while traversing the Study Area, were also recorded. For any populations of taxa known to be of conservation significance or introduced, a GPS location and a count of the individuals present, or percentage foliage cover for a given area, were recorded.

#### **3.3.4 Targeted searches**



Prior to the survey, a list of conservation significant flora known, highly likely, likely or possible, to occur within the Study Area was compiled (desktop assessment). Field personnel familiarised themselves with photographs, reference samples and descriptions of these taxa before conducting the survey. Once on the ground, personnel actively searched while traversing the Study Area focussing on habitat and features considered likely to support conservation significant flora (i.e. hill summits, gorges, and drainage lines) (Figure 3.3).

Where conservation significant flora taxa were located in the field, a GPS coordinate of the individual was taken, or if the species existed within a small population, a central coordinate with an approximate 20 m radius was used. For larger populations the extent was mapped using a GPS to record the spatial extent of the population. Generalised information was collected for each occurrence, including an estimate of the number of individuals, reproductive status, condition and broad vegetation community and condition.

*Threatened and Priority Flora Report Forms* will be provided to the Parks and Wildlife Division (Parks and Wildlife) of DBCA, as required under the flora collecting permits. Conservation significant flora specimens will be vouchered with the Western Australian Herbarium (WAH), where required and appropriate.



**Legend**

-  Study Area
-  Traverses



**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation**  
**Assessment**  
**Figure 3.3: Sampling traverses**

Coordinate System: GDA 1994 MGA Zone 50  
Projection: Transverse Mercator  
Datum: GDA 1994

Size A3. Created 11/05/2020

Where significant environmental weeds (WoNS and DPP listed under Section 22 of the BAM Act) are identified in the field, searches were conducted within a minimum radius of 20 m from the given specimen, to document the number of individual plants and map the spatial extent of the infestation. The methodology and information collected for significant environmental weeds was consistent with that of conservation significant flora.

### **3.3.5 Groundwater dependent and sheet-flow dependent vegetation**

The Survey included an assessment of vegetation that may be reliant on groundwater for part or all of their lifecycle. The determination of groundwater dependency was undertaken with a review of the flora assemblage present within the Study Area and a review of the literature. The review concentrated on flora species that are considered obligate/ facultative phreatophytes or mesophytic<sup>1</sup>/ hydrophytic<sup>2</sup> flora species.

The Survey delineated and described communities that are, or could potentially be, sheet-flow dependent determined through landform position, vegetation patterning and species composition. Contextual information, for example, land system data, was also used to determine the occurrence of sheet-flow dependent ecosystems.

### **3.3.6 Identification of flora specimens**

Plant taxa that could not be identified during the field survey were collected, assigned a unique number for tracking purposes, and pressed for subsequent identification. Identifications were carried out by Biologic's principal taxonomist, Mrs Sharnya Yates, utilising her personal reference collections, WAH reference collection, taxonomic keys and reference material. All taxa were checked against Florabase<sup>®</sup> (version 2.9.31; WAH, 1998-) to ensure their currency and validity. Any conservation significant flora taxa, range extensions and potential new taxa have been verified and vouchered (if appropriate) at the WAH.

## **3.4 Statistical Analysis**

### **3.4.1 Floristic Community Types**

#### **Data Transformation and Reconciliation**

All statistics were carried out using R (version 4.0.0; R Core Team, 2018). The floristics of the Study Area quadrats were recorded on a cover abundance basis, with an estimate of the foliage cover of each species made at each site. The hummock grassland layer of the Pilbara can exceed 50% cover within a quadrat, while most other taxa cover less than 1% of a quadrat. To allow for this large disparity in cover and the potential for ambiguities in determining cover between observers, the cover values were reduced to cover codes, based on an adapted Braun-Blanquet method (1 = <1%; 2 = 1-5%; 3 = 6-25%; 4 = 26-50%; 5 = 51-75%; and 6 = >75%). The flora species list was then reconciled to amalgamate

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1 Mesophytes are plants that require a moderately continuous (outside of drought) supply of moisture (and potentially surface moisture).

2 Hydrophytes are plants which live in waterlogged soil or partly or wholly submerged in water. Generally associated with aquatic flora



selected taxa (Appendix E). Following the reconciliation of the dataset, weeds and singletons were removed and tentative genus identifications (? Genus species) remained, while tentative species identifications (Genus ? species) were grouped with confirmed taxa of the same name. The relevé site (WRQ-22) was removed due to low species richness (four), but all quadrats were included as species richness ranged from 11–61.

### Hierarchical clustering

The cover code values for the floristic data recorded for each quadrat were compiled in R before a resemblance matrix and dendrogram were created. The dataset used in the analysis comprised 246 flora taxa from 80 sample sites from the present study, and 185 flora taxa from 80 adjacent sample sites (Biologic, 2020a, 2020b). The survey data from the adjacent Coombanbunna Well (Biologic, 2020a) and Western Ridge Southern Tenements (Biologic, 2020b) study areas were included in the floristic analysis as all three areas abut each other with the vegetation crossing over the study area boundaries. The inclusion of floristic data collected by Biologic (2020a, 2020b) allowed for a comparison across a larger extent and provided limited information on extents outside of the Study Area.

The overall dataset was therefore 285 flora taxa from 160 sample sites. The similarity testing was undertaken using the BrayCurtis coefficient. Vegetation units were defined based on 40–80% similarity and distinguished visually in a dendrogram based on a Similarity Profile Test (SIMPROF) cluster analysis.

The presence of ephemeral taxa is strongly influenced by seasonal rainfall, and can be highly variable in the Pilbara (van Etten & Fox, 2004). The weather conditions prior to the survey directly influence the presence of ephemeral taxa. Newman Aero received well above average rainfall in January 2020, while February 2020 and March 2020 were below average (Figure 3.1) (BoM, 2020a). Observations made in the field by the lead botanist indicated that ephemeral taxa diversity and density was not excessively high that it would have influenced the analysis. Ephemeral taxa can also be short-lived perennials and may persist for some time. To confirm the field observations, several permutations of the analysis was undertaken with and without ephemeral taxa and it was determined that the ephemeral taxa is not influencing the grouping of sites. As such, the ephemeral taxa were included in the analysis.

#### 3.4.2 Species Accumulation Curve

To determine the adequacy of the field survey, species accumulation curves were plotted. The species accumulation curves were created using the reconciled native flora taxa list for each quadrat. When a curve approaches an asymptote it suggests that sampling effort has been sufficient to adequately collect the species comprising the floral assemblage at the locations sampled (Thompson & Withers, 2003). The value at which the curve asymptotes can also be used as an approximate measure of the total size of the species complement at that location (Thompson *et al.*, 2003).

The species accumulation curve was based on presence absence data, with a random sample order and a maximum 999 permutations. Three estimator curves (Chao, Jackknife 1 and Bootstrap) were used to help predict the true number of species that would be observed with increasing number of sampling sites.

### 3.5 Vegetation Unit Mapping

Broad vegetation mapping was conducted in the field, with vegetation boundaries delineated over aerial photography. Following the completion of sampling and taxonomic identifications, broad vegetation units were refined based on the review of floristic data collected from the quadrats and relevé, and the results of the hierarchical clustering. The vegetation type mapping was then digitised using geographic information systems (GIS) software.

Vegetation associations were delineated and described from aerial imagery utilising flora sampling data. The vegetation structure information collected from the quadrats, relevé and mapping points was reviewed to describe the vegetation associations based on the dominant taxa, foliar cover and height of the three traditional strata (upper, mid and lower/ground). This method of vegetation type determination is consistent with EPA (2016b) and BHP (2018b).

The vegetation types have been described to Level 5 (Vegetation Association) in the NVIS hierarchical structure (NVIS Technical Working Group, 2017) and coded in accordance with BHP (2018b) standards. The mapping reliability is high across the Study Area, with the majority of the Study Area traversed and all vegetation units sampled.

### 3.6 Vegetation Condition Mapping

Vegetation condition was defined within the Study Area using the BHP (2018b) vegetation condition scale which has been adapted from Keighery (1994) and Trudgen (1988) and is also presented in the EPA Technical Guidance (EPA, 2016b) (Appendix D). Condition was recorded at each sampling site, while additional notes were taken while traversing the Study Area and used to broadly map vegetation condition boundaries. The vegetation condition mapping was then digitised using GIS software.

### 3.7 Potential Limitation and Constraints

There are a number of possible limitations and constraints that can affect the adequacy of vegetation and flora surveys (EPA, 2016b). The limitations of the current assessment are presented in accordance with the Technical Guidance (EPA, 2016b) (Table 3.4).

The survey was undertaken during a time considered to be optimal for the Pilbara bioregion (optimal timing is considered to be between March and June, EPA, 2016b). However, despite above average rainfall occurring during January 2020, the dry months prior and lack of rainfall during March 2020 resulted in relatively dry survey conditions. There were limited annual and ephemeral taxa present, while many perennials lacked flowering and fruiting material. Although the survey was undertaken in dry conditions, the survey outcomes were not constrained or limited by the conditions with a high floristic diversity recorded.

**Table 3.4: Botanical survey limitations and constraints**

Limitation	Constraint	Comment
Availability of contextual information at a regional and local scale	No	Sufficient contextual information was available for the Study Area, including broad information on land systems and vegetation associations. The Study Area is located immediately southwest of the Mt Whaleback mine operated by BHP. An extensive amount of biological survey work has occurred across Mt Whaleback and surrounds, as well as surveys within the Study Area, the data and reports of which were all available for this assessment.
Competency/experience of the team carrying out the survey, including experience in the bioregion surveyed	No	The survey was led by a Senior Botanist with over 14 years' experience. The lead botanist met the minimum requirements to manage a flora and vegetation field survey in the Pilbara bioregion (EPA, 2016b).
Proportion of flora recorded and/or collected, any identification issues	Yes minor	The survey intensity (Detailed) is designed to capture most of the flora within the Study Area. The seasonal conditions prior to the survey may have been adequate, however, there were many taxa that were not able to be identified to species level due to a lack of flowering and/or fruiting material. These species occurred predominantly in the Fabaceae family, within many <i>Acacia</i> species difficult to identify without fruit, while numerous potential hybrids were observed.
Was the appropriate area fully surveyed (effort and extent)	No	The Study Area was traversed and surveyed on foot with all major vegetation units visited. The Study Area is more than 4,700 ha in size, and it was not feasible to traverse the entire Study Area. Therefore, further targeted surveys are likely to document additional locations of conservation significant flora. However, the survey intensity and coverage (related to quadrat sampling) match that of which is required for a Detailed survey and is not considered to be a constraint.
Access restrictions within the survey area	No	The Study Area was accessed via mining, exploration and pastoral tracks which provided access across most of the Study Area. Much of the Study Area was traversed with the survey completed on foot and via vehicle. Walking traverses were limited to a maximum distance of 2 km from the vehicle due to safety reasons.
Survey timing, rainfall, season of survey	No	The survey was undertaken during a period which is considered to be optimal, between March and June for the Eremaean region (EPA, 2016b). Rainfall three months before the survey was well above average, but hot daytime temperatures and dry conditions occurred in the month prior to the survey. This may have limited the capacity of the rainfall to infiltrate the soil, and soil moisture was likely to have been quickly lost. Several the perennials (i.e. <i>Acacia</i> species) lacked sufficient material for confident taxonomic identifications, while some annual and ephemeral taxa may not have been present due to the conditions. There may be a minor constraint due to the dry conditions prior to and during the survey, however the total taxa recorded and the occurrence of numerous priority taxa suggest that the constraint is very minor, so is rated as No for this survey.

Limitation	Constraint	Comment
<p>Disturbance that may have affected the results of survey such as fire, flood or clearing</p>	<p>No</p>	<p>Sections of the Study Area are located within two active pastoral leases and multiple current mining leases. Disturbances recorded during the survey included fire, grazing and weeds. Disturbances were highest within areas that have high cattle visitation (i.e. drainage lines and mulga flats). The north-west of the Study Area had been burnt within the last 36 months prior to the survey. These disturbances did not limit the results of the survey. The Study Area is also under active exploration and numerous exploration tracks and drill pads were located throughout the Study Area.</p>

## 4 RESULTS

### 4.1 Literature Review

The results and outcomes of the review of 37 flora and vegetation reports identified from the literature review are presented in Appendix F. The literature review identified two conservation significant flora taxa confirmed within the Study Area (*Indigofera gilesii* (P3) and *Gymnanthera cunninghamii* (P3)), while an additional nine conservation significant flora taxa have been previously recorded in close proximity to the Study Area (*Aristida lazaridis* (P2), *Ipomoea racemigera* (P2), *Isotropis parviflora* (P2), *Aristida jerichoensis* var. *subspinulifera* (P3), *Eremophila magnifica* subsp. *velutina* (P3), *Triodia* sp. Mt Ella (M.E. Trudgen 12739) (P3), *Eremophila magnifica* subsp. *magnifica* (P4), *Goodenia nuda* (P4), and *Lepidium catapycnon* (P4)). The 37 reports, excluding Onshore (2014a) which includes all of BHP WAIO Pilbara tenure, did not identify any conservation significant vegetation associations occurring near the Study Area (Appendix F). However, one vegetation association identified from Onshore (2016) was closely affiliated to the West Angelas Cracking-Clays PEC (Priority 1).

### 4.2 Database Search Results

#### 4.2.1 Flora of conservation significance

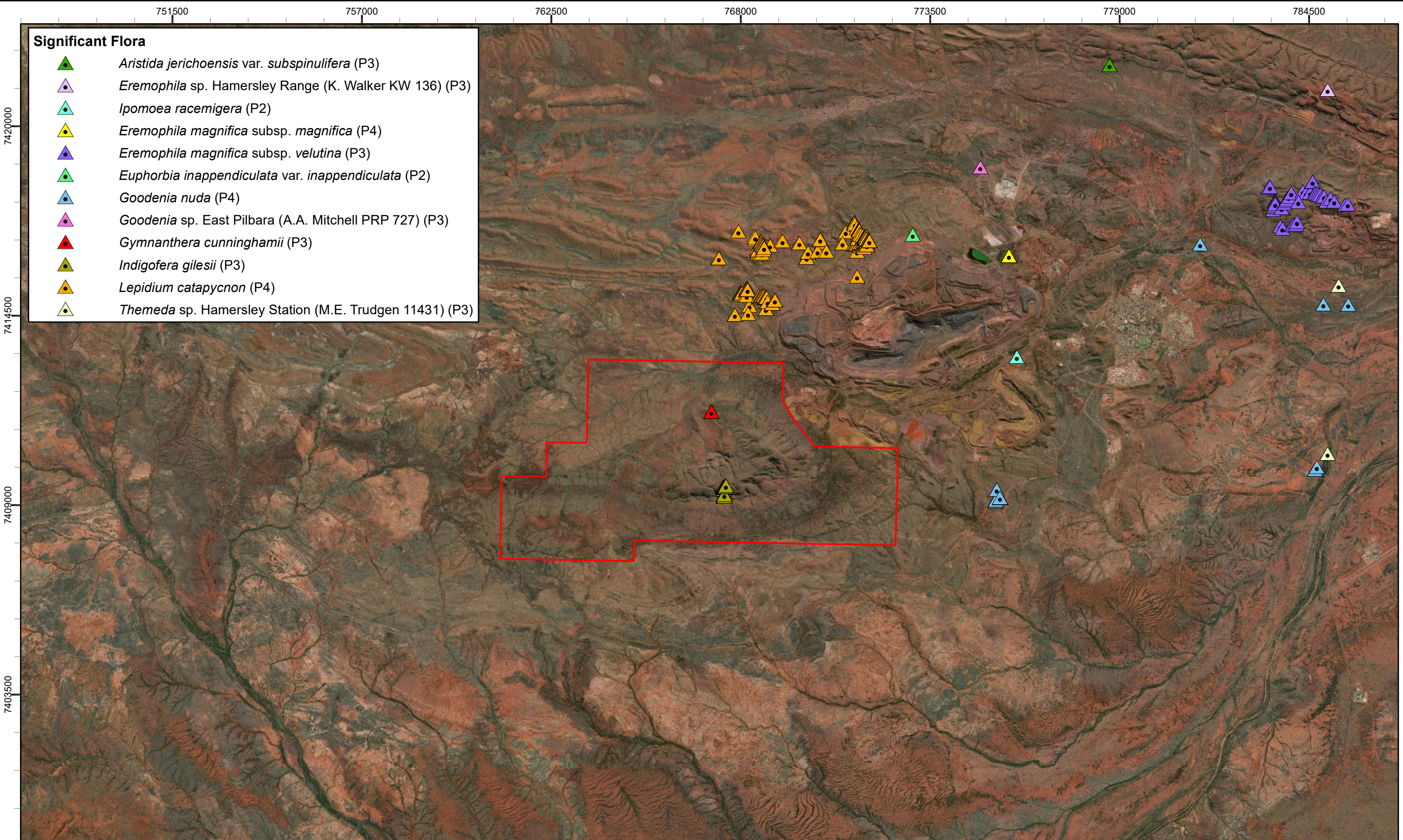
A total of 39 conservation significant flora taxa (those listed under the EPBC Act, WC Act, or DBCA's Priority List) were identified from the database searches (Appendix G). Two of these taxa, *Triodia pascoeana* and *Calytrix nematoclada*, are assumed to be misidentifications. *Triodia pascoeana* records are restricted to locations in the Northern Province, while *Calytrix nematoclada* is only found in the southwest of WA. These taxa are therefore not considered further.

Of the remaining 37 taxa, one (*Pityrodia augustensis*) was listed as Threatened under the EPBC Act and BC Act. However, this taxon is only known to occur on rocky hillsides within Mount Augustus National Park, in the Gascoyne bioregion (WAH, 1998-), and is therefore considered highly unlikely to occur in the Study Area.

There were six Priority 4 taxa, 17 Priority 3 taxa, seven Priority 2 taxa and the remaining six taxa listed as Priority 1. Flora taxa of conservation significance identified by the desktop assessment were assessed and ranked on the likelihood of occurring within the Study Area (Appendix H). Two priority listed taxa have previously been recorded from the Study Area; *Indigofera gilesii* (P3) and *Gymnanthera cunninghamii* (P3) (Figure 4.1).

One taxon was considered highly likely to occur, three were considered likely to occur and 10 were considered to possibly occur within the Study Area (Table 4.1). The remaining 21 taxa were considered unlikely (18) or highly unlikely (three) to occur within the Study Area (Appendix H).

In addition to the conservation significant species discussed above, a disjunct unconfirmed population of *Hibiscus campanulatus* (P1) has previously been recorded in close proximity to the study area (12 km northeast) (BHP, 2020). This taxon has affinities with *Hibiscus campanulatus* but is potentially of interest as a separate taxon.



- Significant Flora**
- ▲ *Aristida jerichoensis* var. *subspinulifera* (P3)
  - ▲ *Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3)
  - ▲ *Ipomoea racemigera* (P2)
  - ▲ *Eremophila magnifica* subsp. *magnifica* (P4)
  - ▲ *Eremophila magnifica* subsp. *velutina* (P3)
  - ▲ *Euphorbia inappendiculata* var. *inappendiculata* (P2)
  - ▲ *Goodenia nuda* (P4)
  - ▲ *Goodenia* sp. East Pilbara (A.A. Mitchell PRP 727) (P3)
  - ▲ *Gymnanthera cunninghamii* (P3)
  - ▲ *Indigofera gilesii* (P3)
  - ▲ *Lepidium catapycnon* (P4)
  - ▲ *Themeda* sp. Hamersley Station (M.E. Trudgen 11431) (P3)

**Legend**  
 Study Area

**biologic**  
 Environmental Survey

N  
 1:100,000  
 0 0.75 1.5 3 4.5 6 km

**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation**  
**Assessment**  
**Figure 4.1: Conservation significant flora**  
**database search results**

Coordinate System: GDA 1994 MGA Zone 50  
 Projection: Transverse Mercator  
 Datum: GDA 1994

Size A3. Created 11/05/2020

**Table 4.1: Conservation significant flora taxa known to occur near the Study Area based on the desktop assessment**

Taxon	Description (WAH, 1998-)	Location
<b>Confirmed</b>		
<i>Gymnanthera cunninghamii</i> (P3)	Erect shrub, 1-2 m high. Fl. cream-yellow-green, Jan to Dec. Sandy soils.	Within
<i>Indigofera gilesii</i> (P3)	Shrub, to 1.5 m high. Fl. purple-pink, May or Aug. Pebbly loam. Amongst boulders & outcrops, hills.	Within
<b>Highly Likely</b>		
<i>Goodenia nuda</i> (P4)	Erect to ascending herb, to 0.5 m high. Fl. yellow, Apr to Aug.	~ 2.9 km east
<b>Likely</b>		
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i> (P2)	Prostrate annual herb, to 0.1 m high. Red brown clay loam. Flat plain, cracking clay floodplain, gentle slopes.	~ 5.3 km northeast
<i>Eremophila magnifica</i> subsp. <i>magnifica</i> (P4)	Shrub, 0.5-1.5 m high. Fl. blue, Aug to Nov. Skeletal soils over ironstone. Rocky screes.	~ 6.5 km northeast
<i>Lepidium catapycnon</i> (P4)	Open, woody perennial, herb or shrub, 0.2-0.3 m high, stems zigzag. Fl. white, Oct. Skeletal soils. Hillsides.	~ 1.4 km north
<b>Possible</b>		
<i>Isotropis parviflora</i> (P2)	Shrub, 0.1 m high. Fl. white/pink, Mar. Valley slope of ironstone plateau.	~ 18.2 km northwest
<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3)	Erect shrub, 1-3 m high. Fl. White/pale blue. Red brown sandy clay loam. Upper slopes, gullies, gorges.	~ 16.3 km northeast
<i>Ipomoea racemigera</i> (P2)	Creeping annual, herb or climber. Fl. white.	~ 4.4 km northeast
<i>Aristida jerichoensis</i> var. <i>subspinulifera</i> (P3)	Compactly tufted perennial, grass-like or herb, 0.3-0.8 m high, lemma groove muricate. Hardpan plains.	~ 12.7 km northeast
<i>Themeda</i> sp. Hamersley Station (M.E. Trudgen 11431) (P3)	Tussocky perennial, grass-like or herb, 0.9-1.8 m high. Fl. Aug. Red clay. Clay pan, grass plain.	12.5 km east
<i>Triodia</i> sp. Mt Ella (M.E. Trudgen 12739) (P3)	Perennial, grass-like or herb, 0.4 m high. Light orange-brown, pebbly loam. Amongst rocks & outcrops, gully slopes.	~ 11.1 km north
<i>Eremophila</i> sp. West Angelas (S. van Leeuwen 4068) (P1)	Spindly shrub, 0.4-3 m high. Skeletal brown-red soil or loam. Hill slopes and summits.	~ 26.5 km northwest
<i>Eremophila magnifica</i> subsp. <i>velutina</i> (P3)	Shrub, 0.5-1.5 m high. Fl. blue-purple, Aug to Sep. Skeletal soils over ironstone. Summits.	~ 12.9 km northeast
<i>Goodenia</i> sp. East Pilbara (A.A. Mitchell PRP 727) (P3)	Open, erect annual or biennial, herb, to 0.2 m high. Fl. yellow. Red-brown clay soil, calcrete pebbles. Low undulating plain, swampy plains.	~ 8.1 km northeast
<i>Acacia bromilowiana</i> (P4)	Tree or shrub, to 12 m high, bark dark grey, fibrous; phyllodes more or less glaucous and slightly pruinose; inflorescence in spikes. Fl. yellow/pink, Jul to Aug. Red skeletal stony loam, orange-brown pebbly, gravel loam, laterite, banded ironstone, basalt. Rocky hills, breakaways, scree slopes, gorges, creek beds.	~ 26.5 km northwest

#### 4.2.2 Vegetation of conservation significance

One Threatened Ecological Community (TEC) listed under the BC Act (that is relevant to vegetation), Themeda Grasslands on Cracking Clays, is recognised in the Pilbara region of Western Australia. The TEC is restricted to cracking clay alluvial soils near Tom Price. The cracking-clay alluvial soils do not occur in the Study Area. A further TEC, Ethel Gorge Aquifer Stygobiont Community was identified as occurring within 40 km of the Study Area (5 km west) during the database search. However, this TEC does not represent terrestrial vegetation and is not considered any further.

No PECs were identified as occurring within the 40 km search radius of the Study Area.

#### 4.2.3 Introduced flora taxa from database searches

The NatureMap (DBCA, 2020a), Protected Matters (DAWE, 2020), ALA (ALA, 2020) and The Western Australian Organism List (WAOL) (DPIRD, 2020) database searches identified a list of 70 introduced taxa that may potentially occur within the Study Area. An additional 18 species known to occur in the general area were provided by BHP WAIO. The list of introduced taxa known to occur or potentially occur within the Study Area (Appendix I) was reviewed to identify WoNS and DPP.

#### Weeds of National Significance

Of the list of introduced taxa identified during the desktop assessment as occurring in or near the Study Area, 28 are listed as WoNS (Appendix I). The 28 WoNS were identified from the WAOL database search for the entire Shire of East Pilbara and occur or may potentially occur within the shire boundaries. No other database search or literature review identified any WoNS. The 28 taxa include numerous *Opuntia* and *Cylindropuntia* species that are grouped together in the WoNS listing.

#### Declared Plant Pests

The desktop assessment identified 48 DPPs (including numerous cacti species that are all listed as DPPs, Appendix I), previously recorded or potentially located within the Shire of East Pilbara. The desktop assessment did not identify any DPPs as occurring within the Study Area but identified *\*Tamarix aphylla* occurring in the region. *\*Tamarix aphylla* has previously been recorded adjacent (east) to the Study Area (Onshore, 2014a).

#### Weed Prioritisation

Fifteen introduced taxa have been identified by Parks and Wildlife as 'Priority Alert' weeds for the Pilbara region, comprising *\*Azadirachta indica*, *\*Calotropis procera*, *\*Chloris gayana*, *\*Clitoria ternatea*, *\*Cryptostegia grandiflora*, *\*Cylindropuntia* spp., *\*Euphorbia tirucalli*, *\*Jatropha gossypifolia*, *\*Lantana camara*, *\*Moringa oleifera*, *\*Ricinus communis*, *\*Schinus molle* var. *areira*, *\*Vachellia nilotica*, *\*Washingtonia robusta* and *\*Xanthium strumarium*.

No Priority Alert weeds have previously been recorded within the Study Area. None of these introduced taxa are expected to occur in the Study Area.

### 4.3 Flora Composition

A total of 379 vascular flora taxa from 49 families and 147 genera were recorded from the Study Area during the field survey (Appendix J). The total number of vascular flora taxa recorded comprised 368 native taxa and 11 introduced taxa (Appendix J).

The dominant families equate to 44.3 % of the total taxa recorded and comprised Fabaceae (96 taxa), Poaceae (59 taxa), and Malvaceae (37 taxa). Of the 49 families recorded, 12 were represented by one taxon, which equates to 2.7% of the total taxa recorded.



The dominant genera make up 22.1 % of the total taxa recorded and comprised *Acacia* (48 taxa), *Eremophila* (17 taxa), *Senna* (17 taxa), and *Ptilotus* (13 taxa). Of the 147 genera recorded, 66 were represented by only one taxon, which equates to 15.3 % of the total taxa recorded.

A substantial number of taxa (15% or 58 taxa) observed and collected from the field were difficult to confidently identify to species or infraspecies level. This was mainly due to the taxa lacking suitable flowering and fruiting material for confident taxonomic identification. The below average rainfall in February and March may be the key reason for the lack of suitable material, however a high proportion (32% or 19 of the 58 tentatively identified taxa) of the taxa that were difficult to identify were *Acacia* species that flower and fruit later in the year. A total of 58 taxa were tentatively identified to species or infraspecies level, while 25 have only been identified to genus level.

None of the taxa that have been identified to genus level are considered to be analogous with the 13 priority listed flora highly likely, likely, or with potential to occur in the Study Area (Table 4.1).

#### 4.4 Survey Adequacy

A total of 81 sites have been sampled across the Study Area (80 quadrats and one relev ), totalling 0.017 sites sampled per hectare of native vegetation. BHP (2018b) suggest that the intensive sampling of quadrats (i.e. during detailed surveys) shall allow for a minimum of one quadrat per square kilometre (km<sup>2</sup>). The Study Area is approximately 48 km<sup>2</sup> in size, therefore, the establishment and sampling of 80 quadrats adequately addresses BHP minimum survey intensity.

The sampling intensity is consistent with the flora and vegetation surveys reviewed in the desktop assessment, ranging from 0.003 to 0.321 sites per hectare (Table 4.2). Not all the reports reviewed in the desktop assessment are included due to survey type and missing information in the reports (i.e. size of the study areas).

**Table 4.2: Comparison of survey intensity and effort in the Study Area**

Survey	Study Area (ha)	Taxa recorded	Sampling sites	Sites/ ha
ENV (2006b)	28	117	9	0.321
Astron (2010)	23	71	7	0.304
ENV (2006d)	220	285	45	0.204
Onshore (2014b)	720	199	128	0.178
ENV (2009b)	~2,300	501	180	0.078
ENV (2009c)	~170	124	10	0.058
ENV (2006c)	250	168	10	0.040
GHD (2008)	3,600	321	141	0.039
ENV (2010)	844	189	29	0.034
ENV (2011)	703	127	15	0.021
GHD (2011a)	6100	347	123	0.020
<b>This Survey</b>	<b>4,765</b>	<b>379</b>	<b>81</b>	<b>0.017</b>

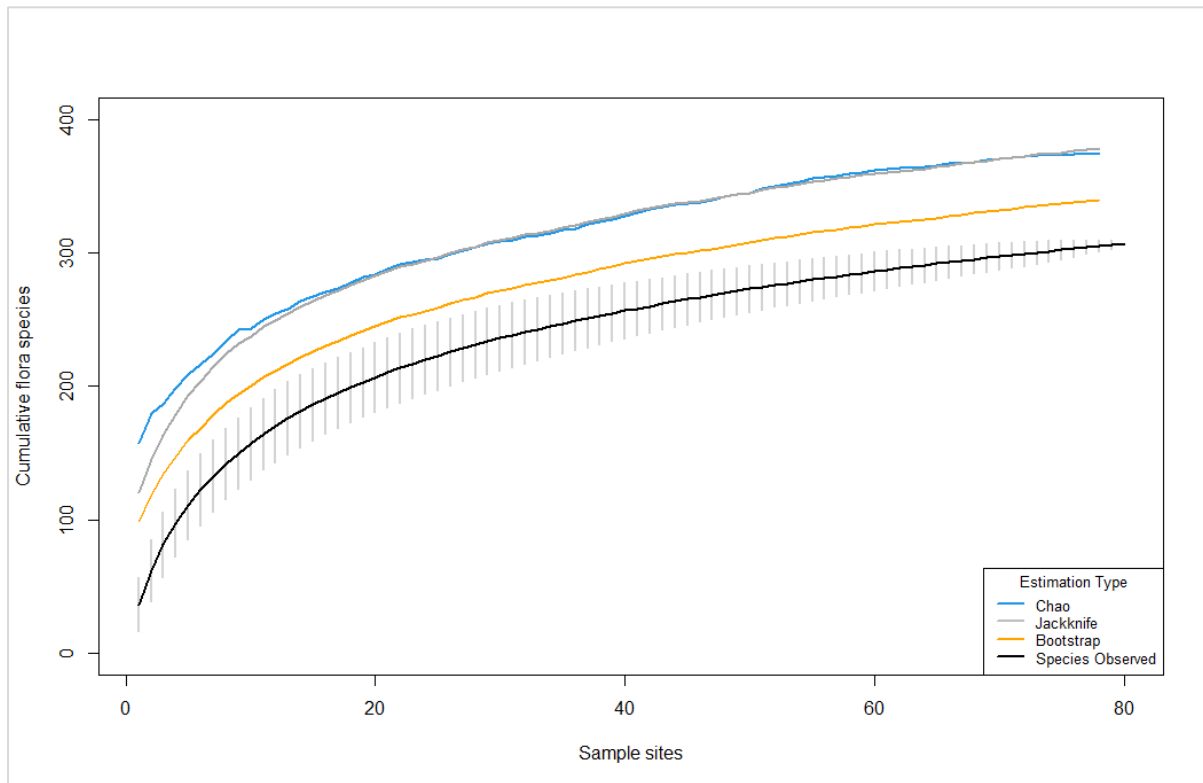
Survey	Study Area (ha)	Taxa recorded	Sampling sites	Sites/ ha
Onshore and Biologic (2009)	2,609	201	30	0.011
Biota (2001)	17,060	380	60	0.003

The species accumulation curve for the Study Area produced a curve that steadily increases, with estimators starting to plateau, with Chao 1 estimator starting to reach asymptote (Figure 4.2). Richness estimators indicated that the survey was approximately 81% (Jackknife 1) to 90% (Bootstrap) adequate, with an observed value of 307 vascular flora taxa (confirmed native vascular flora taxa recorded from sample sites) (Table 4.3). The survey adequacy increases when the nine opportunistic observations (not observed from the sample sites) are included in the assessment (Table 4.3).

**Table 4.3: Expected native species richness for the Study Area**

Treatment	Results	Richness estimates based on species observed (307)	Richness estimates based on total (316)
Chao 1	375	82%	84%
Jackknife 1	378	81%	84%
Bootstrap	340	90%	93%
Species Observed	307	N/A	N/A

NB: percentage values have been rounded to the nearest whole number.



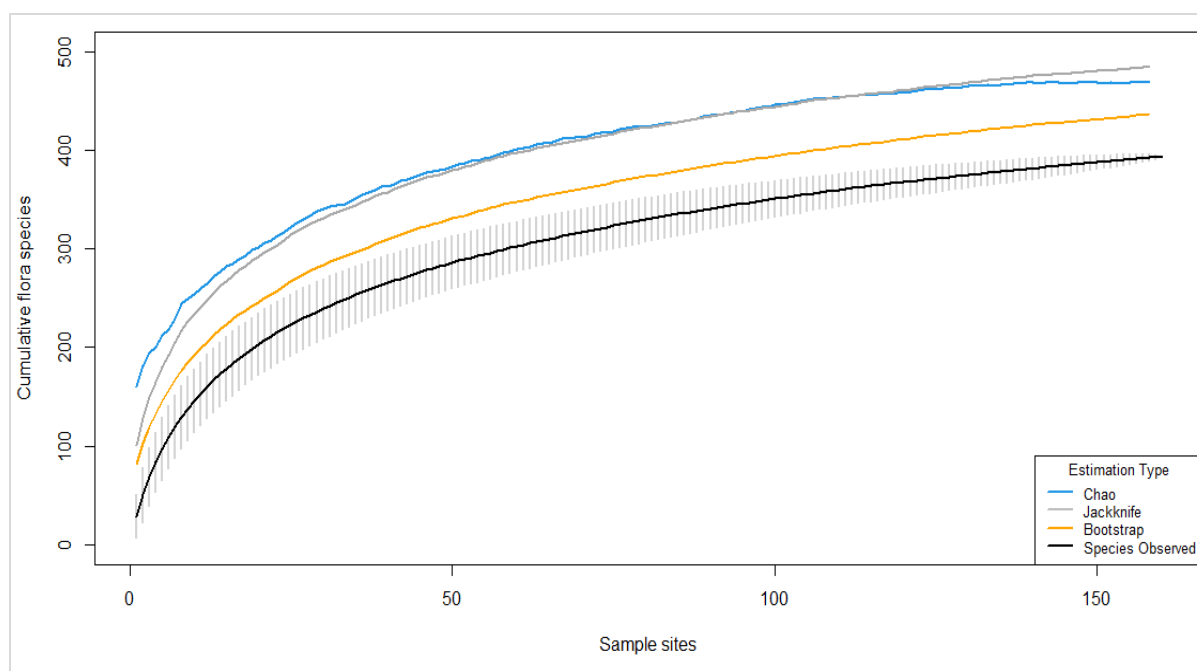
**Figure 4.2: Species accumulation curve for the Study Area**

When the current survey is combined with Western Ridge southern tenements (Biologic, 2020b) and Coomabanbunna Well (Biologic, 2020a) Study Areas (Appendix K), the analysis produced a curve that steadily increases, with a slight plateau from the Chao 1 estimator (Figure 4.3). Richness estimators indicated that the surveys were approximately 81% (Jackknife 1) to 90% (Bootstrap) adequate, with an observed value of 361 vascular flora taxa (confirmed native vascular flora taxa recorded from sample sites) (Table 4.4). The survey effort may be considered adequate when the additional native vascular flora taxa recorded opportunistically (15 confirmed native taxa) within the combined Study Areas are taken into account (Table 4.4).

**Table 4.4: Expected native species richness for the combined Study Areas (Western Ridge 2020 survey and Western Ridge and Coomabanbunna Well surveys in 2019)**

Treatment	Results	Richness estimates based on species observed (361)	Richness estimates based on total (376)
Chao 1	434	83%	87%
Jackknife 1	444	81%	85%
Bootstrap	399	90%	94%
Species Observed	361	N/A	N/A

NB: percentage values have been rounded to the nearest whole number.



**Figure 4.3: Species accumulation curve for the Study Area, Coomabanbunna Well and Western Ridge Southern Tenements**

#### 4.5 Flora of Conservation Significance

The desktop assessment identified one federal or state listed Threatened flora taxon (*Pityrodia augustensis*) as occurring near the Study Area, however this species is restricted to Mount Augustus in the Gascoyne bioregion. The field survey confirmed that there were no threatened flora occurring, or likely to occur within the Study Area due to known records and distribution and a lack of preferred habitat.

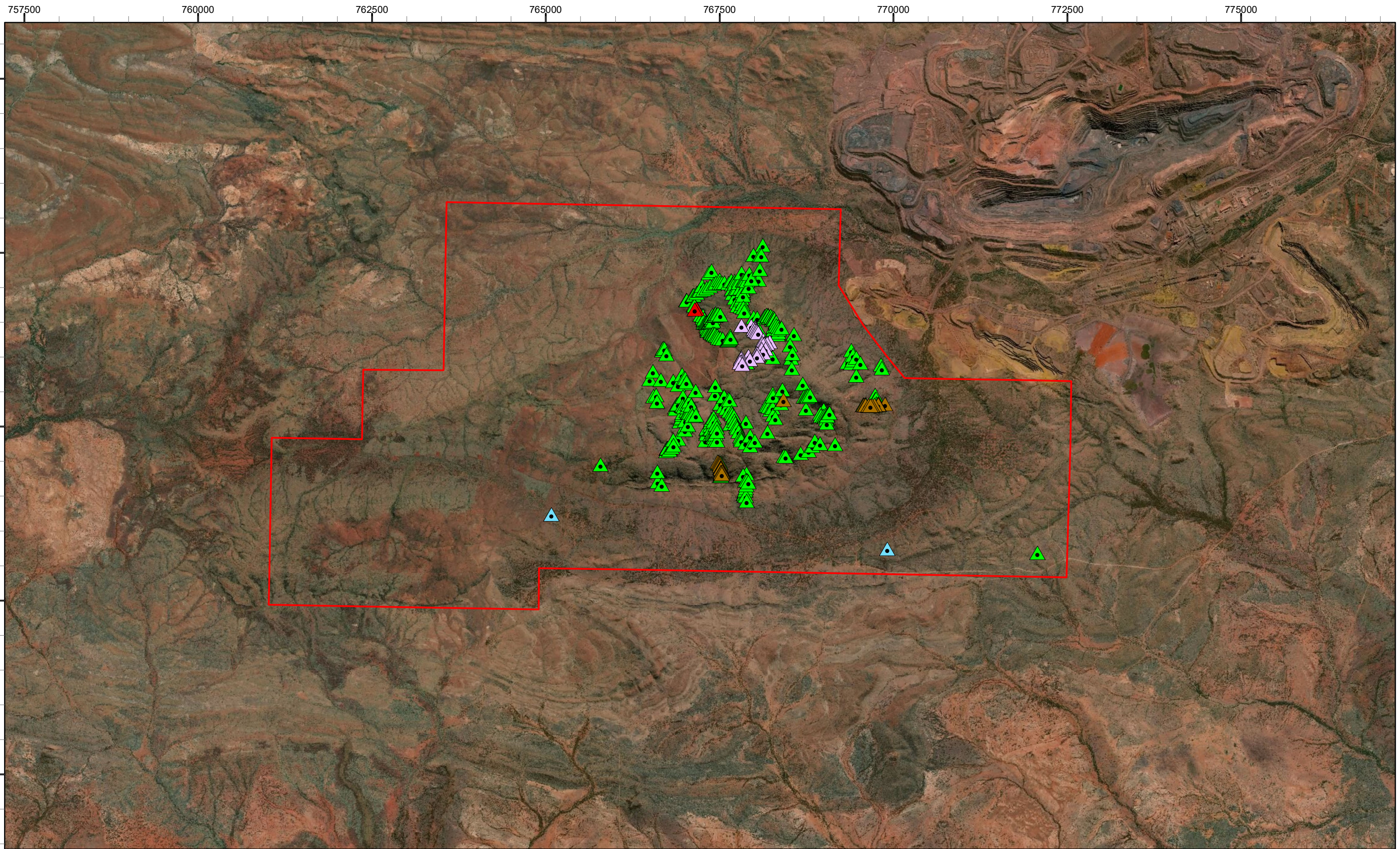
The desktop assessment identified 39 priority listed taxa as potentially occurring within the Study Area (Section 4.2.1). During the field survey, five priority listed taxa were recorded from the Study Area; *Isotropis parviflora* (P2), *Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3), *Gymnanthera cunninghamii* (P3), *Indigofera gilesii* (P3), and *Goodenia nuda* (P4) (Figure 4.4).

##### ***Isotropis parviflora* (P2)**

*Isotropis parviflora* is a Priority 2 taxon which occurs in the Eremaean Botanical Province, in the Pilbara, Great Sandy Desert and Tanami regions (WAH, 1998-). *Isotropis parviflora* is a small, erect spindly shrub, growing to 0.1 m (Plate 4.1). Stems are terete and hairy, while leaves are clearly present, simple, and alternately arranged (WAH, 1998-). Flowers are multicoloured, but mostly pink or white and appear during March (WAH, 1998-). This species is mostly recorded from hill slopes with mallee or with hard spinifex on ironstone (Rio Tinto & WAH, 2015). Currently, the WAH has 30 records for this species (WAH, 1998-). In the Study Area, we recorded 73 *Isotropis parviflora* individuals from one population (individuals within 500 m of each other are considered the same population; Stack, 2017), generally extending down the southern, slightly shaded side of the highest rounded hill summits (Figure 4.4).



**Plate 4.1: *Isotropis parviflora* (P2) with flowers and pods observed during the field survey (Biologic photo)**



**Legend**

Study Area

**Taxon**

*Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3)

*Goodenia nuda* (P4)

*Gymnanthera cunninghamii* (P3)

*Indigofera gilesii* (P3)

*Isotropis parviflora* (P2)

N  
1:50,000  
0 0.4 0.8 1.6 2.4 3.2 km

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**Figure 4.4: Conservation significant flora**  
**observed in the Study Area**

Coordinate System: GDA 1994 MGA Zone 50  
 Projection: Transverse Mercator  
 Datum: GDA 1994

Size A3. Created 11/05/2020

***Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3)**

*Eremophila* sp. Hamersley Range (K. Walker KW 136) is an erect shrub growing to between 1 and 3.5 m tall. The branches, leaves, pedicels and the outer surface of the sepals have a light grey, appressed tomentum (Rio Tinto & WAH, 2015). Branches are terete in older parts, while young branchlets are rough, due to persistent leaf bases (Rio Tinto & WAH, 2015). Leaves are alternately arranged, are lanceolate in shape, and are usually clustered towards the branch tips (Rio Tinto & WAH, 2015). *Eremophila* sp. Hamersley Range (K. Walker KW 136) flowers from June to October, producing pale pink to white flowers which occur in clusters of two to four per axil (Rio Tinto & WAH, 2015). The WAH currently has 17 records for this species (WAH, 1998-), with plants having been recorded growing in open rocky slopes, gullies and rock faces associated with large hills and cliffs of the southern central Pilbara region (Rio Tinto & WAH, 2015). More than 8,000 individuals were recorded from one large population across the Study Area, with a small isolated population in the southeast of the Study Area. The individuals were commonly recorded from rocky gorges and along drainage lines (Plate 4.2, Figure 4.4).



**Plate 4.2: *Eremophila* sp. Hamersley Range (K. Walker KW 136) shrub (left) and old flowers (right) observed during the field survey (Biologic photo)**

***Gymnanthera cunninghamii* (P3)**

*Gymnanthera cunninghamii* is an erect, woody shrub that grows to 1.5 m high with cylindrical, glabrous stems. It releases a milky latex if cut, and is conspicuously lenticellate (Rio Tinto & WAH, 2015). Leaves are simple and glabrous with a lanceolate to elliptic shape and an acute apex (Rio Tinto & WAH, 2015). It produces cream to green yellow flowers from January to December (Rio Tinto & WAH, 2015). *Gymnanthera cunninghamii* has been recorded growing in the surrounding areas of permanent or semi-permanent watercourses in sandy soils. This species is widespread throughout northern Australia, and is recorded sporadically in Western Australia, from the Gascoyne, Pilbara and Kimberleys (Rio Tinto & WAH, 2015), with the WAH currently having 39 records (WAH, 1998-). This taxon was only observed in an area with permanent (to semi-permanent) water in the Study Area and coincided with a previously known record (Plate 4.3, Figure 4.4).



**Plate 4.3: *Gymnanthera cunninghamii* in situ observed during the field survey (Biologic photo)**

#### ***Indigofera gilesii* (P3)**

*Indigofera gilesii* is a spreading shrub, or sub-shrub, that grows to between 0.3 and 0.75 m high, with a woody rootstock (Wilson & Rowe, 2015). Stems are terete, green to yellowish or brown in colour, and have dense biramous hairs (Wilson & Rowe, 2015). Leaves are pinnate, with between five and 15 leaflets that are oppositely arranged and have a green upper surface (Wilson & Rowe, 2015). Flowers are a deep pink to purple and appear between May and August (WAH, 1998-; Wilson & Rowe, 2015). *Indigofera gilesii* is mostly found in ranges or on stony ground in red sandy soils throughout central Australia. It occurs in south-western parts of the Northern Territory and in a number of disjunct populations in Western Australia, extending to the Pilbara bioregion (Wilson & Rowe, 2015). The WAH currently has 29 records for this species (WAH, 1998-). *Indigofera gilesii* was recorded from three populations in gorges in the Study Area (one previous location and two new locations), totalling approximately 179 individuals (Plate 4.4, Figure 4.4).



**Plate 4.4: *Indigofera gilesii* (P3) shrub observed during the field survey (Biologic photo)**

#### ***Goodenia nuda* (P4)**

*Goodenia nuda* is described as a prostrate or erect to ascending annual herb which grows up to 0.5 m high. *Goodenia nuda* is a Western Australian endemic species that mostly occurs in the Pilbara region,

though some records exist from the Carnarvon and eastern Gascoyne bioregions. This species is a pale green to glaucous colour and is glabrous, or with very few simple and glandular hairs (Rio Tinto & WAH, 2015; WAH, 1998-). Basal leaves are prominently three-veined towards the base, are an oblanceolate to narrowly elliptic shape, and are generally entire or have few narrow teeth (Rio Tinto & WAH, 2015). Flowers are yellow with a maroon centre, generally appear between April and August (Rio Tinto & WAH, 2015; WAH, 1998-). This species is mostly recorded from seasonally inundated clay soils, floodplains and drainage lines, often in mulga. It has also been recorded from sand in scoured riverbeds and from hillslopes (Rio Tinto & WAH, 2015) and the WAH currently has 105 records of the species (WAH, 1998-). During the field survey, *Goodenia nuda* was recorded from two populations equating to approximately four individuals, from a drainage line with clay soil and a mulga woodland (Plate 4.5, Figure 4.4).



**Plate 4.5: *Goodenia nuda* (P4) in flower observed during the field survey (Biologic photo)**

#### **4.5.1 Review of conservation significant flora likelihood of occurrence**

Given the occurrence of priority listed taxa during the field survey, *Goodenia nuda* (P4) was changed from highly likely to confirmed, while *Isotropis parviflora* (P2) and *Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3) were changed from possible to confirmed. The two taxa previously listed as confirmed were also recorded during the field survey.

Following the survey, two taxa which were previously considered likely to occur in the Study Area, *Euphorbia inappendiculata* var. *inappendiculata* (P2), and *Lepidium catapycnon* (P4) are now considered possible. *Eremophila magnifica* subsp. *magnifica* (P4) was also considered likely but is now considered unlikely as it is a fairly conspicuous plant that would have been identified during the field survey. *Euphorbia inappendiculata* var. *inappendiculata* (P2), and *Lepidium catapycnon* (P4) are not considered unlikely as they are relatively small herbs/ subshrubs and may be inconspicuous in the landscape. The key landforms and habitats were searched with no individuals located.

Most of the priority listed taxa previously considered to possibly occur (*Eremophila* sp. West Angelas (S. van Leeuwen 4068) (P1), *Aristida jerichoensis* var. *subspinulifera* (P3), *Eremophila magnifica* subsp. *velutina*, *Goodenia* sp. East Pilbara (A.A. Mitchell PRP 727), *Themeda* sp. Hamersley Station (M.E. Trudgen 11431), *Triodia* sp. Mt Ella (M.E. Trudgen 12739) (P3), and *Acacia bromilowiana* (P4)) are



now considered to be unlikely. The *Eremophila* spp. are generally found on hill slopes and summits, which were targeted during traverses but only *Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3) was observed. Similarly, the Study Area lacked the habitat and conditions for the remaining species.

*Eremophila rhexos* (P1), *Goodenia hartiana* (P2), *Acacia subtiliformis* (P3), *Crotalaria smithiana* (P3), *Dampiera metallorum* (P3), *Eremophila rigida* (P3), *Grevillea saxicola* (P3), *Maireana prosthocochaeta* (P3), *Sida* sp. Barlee Range (S. van Leeuwen 1642) (P3), *Xerochrysum boreale* (P3), and *Eremophila youngii* subsp. *lepidota* (P4) were changed from unlikely to highly unlikely after the survey, as the nearest records are 19–45 km from the Study Area, and marginal or unsuitable habitat for these taxa was observed.

#### 4.5.2 Flora of other significance

The EPA (2004) advises that flora species, subspecies, varieties, hybrids and ecotypes may be considered significant for reasons other than listing as a Threatened or Priority Flora taxa. This may include, but is not limited to, range extensions, keystone species, relic status, local endemism and anomalous features. Based on these features, no taxa recorded from the Study Area during the current assessment were considered to be flora of “other” significance.

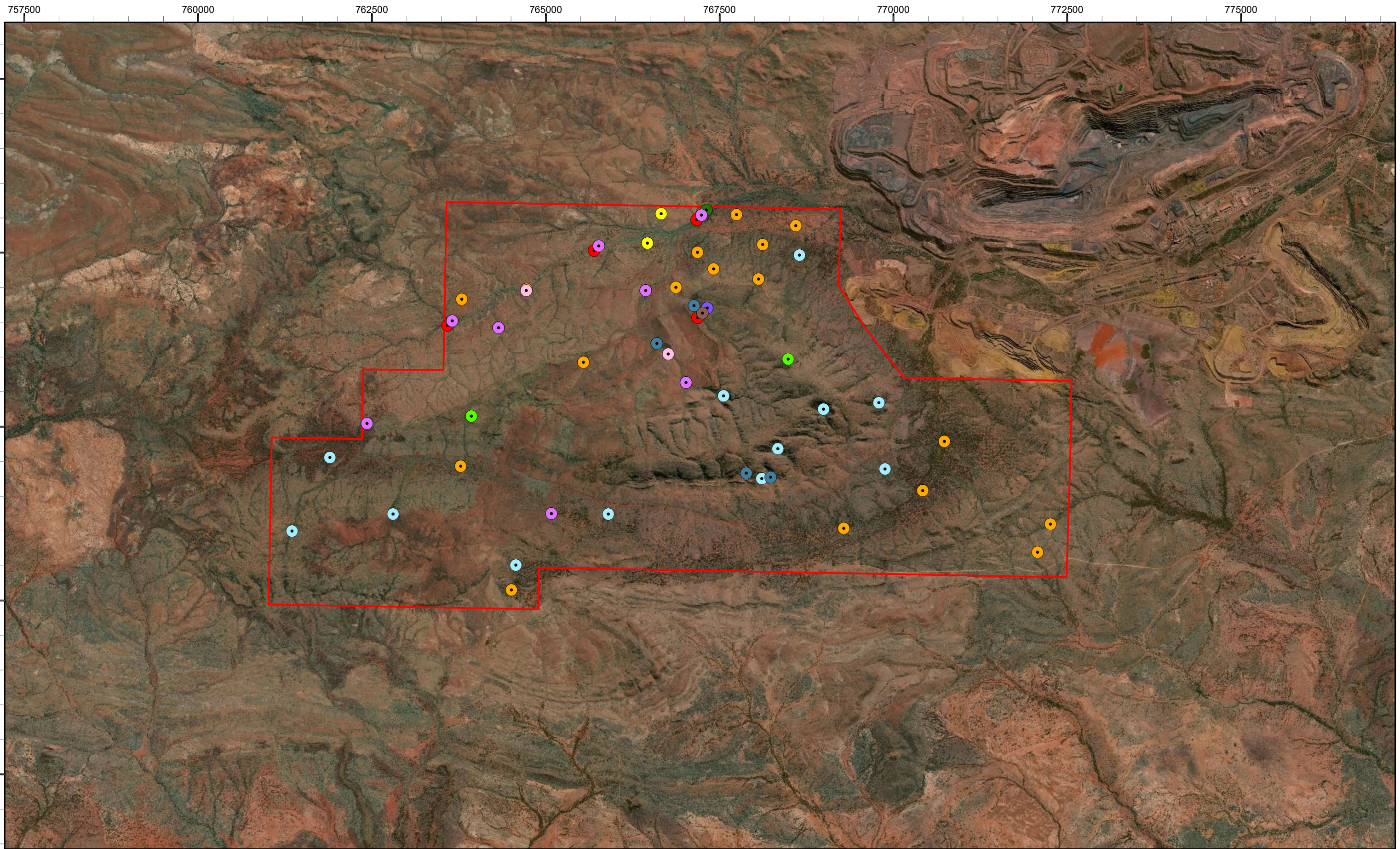
#### 4.6 Introduced Flora Taxa

Eleven introduced taxa, *\*Aerva javanica*, *\*Bidens bipinnata*, *\*Cenchrus ciliaris*, *\*Cenchrus setiger*, *\*Flaveria trinervia*, *\*Malvastrum americanum*, *\*Portulaca pilosa*, *\*Rumex vesicarius*, *\*Setaria verticillata*, *\*Solanum nigrum*, and *\*Sonchus oleraceus* were recorded from the Study Area. The introduced taxa are not listed as WoNS or DPPs under the BAM Act, or as ‘Priority Alert’ weeds by Parks and Wildlife.

The most frequently observed introduced flora taxa (*\*Bidens bipinnata* and *\*Cenchrus ciliaris*) were recorded in many of the quadrats across the Study Area (Figure 4.5). *\*Cenchrus ciliaris* was a dominant understorey species present in 26 of the quadrats, generally occurring along drainage lines, floodplains, and track edges. *\*Cenchrus ciliaris* was commonly aerial seeded as a fodder crop for pastures and has since spread throughout arid and tropical regions of Australia (Hussey *et al.*, 2007). Spread occurs mainly by seeds transported through waterways and roads. The cover of *\*Cenchrus ciliaris* ranged from 0.1–60 % in quadrats, while an opportunistic record along a track edge recorded hundreds of individuals.

*\*Bidens bipinnata* was recorded from 29 locations across the study area, and did not appear to be restricted to a particular landform (Figure 4.5), though often occurred at the shaded base of trees. The coverage of *\*Bidens bipinnata* was generally less than 1 % in quadrats. Some individuals were in poor condition but had recently produced seed.

*\*Malvastrum americanum* and *\*Setaria verticillata* were recorded from four and nine locations respectively, and all observations were less than 1 % cover. The remaining species, *\*Aerva javanica*, *\*Cenchrus setiger*, *\*Flaveria trinervia*, *\*Portulaca pilosa*, *\*Solanum nigrum*, *\*Sonchus oleraceus*, and *\*Rumex vesicarius* were only observed in three or fewer locations, with very low (<1 %) cover. However, these species may occur more frequently in the Study Area following suitable rainfall.



Legend		
	Study Area	
Taxon		
	<i>*Cenchrus setiger</i>	
	<i>*Aerva javanica</i>	
	<i>*Bidens bipinnata</i>	
	<i>*Cenchrus ciliaris</i>	
	<i>*Rumex vesicarius</i>	

**biologic**  
Environmental Survey

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0 0.4 0.8 1.6 2.4 3.2 km

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**Figure 4.5: Introduced flora taxa in the Study Area**

Coordinate System: GDA 1994 MGA Zone 50  
Projection: Transverse Mercator  
Datum: GDA 1994

Size A3. Created 11/05/2020

## 4.7 Vegetation Units

### 4.7.1 Broad floristic formations

Ten broad floristic formations were described from the Study Area, based on the dominant growth form and land cover genus for the dominant stratum. The broad floristic formations were:

- *Acacia* low open woodland;
- *Acacia* low woodland;
- *Acacia* tall shrubland;
- *Corymbia* low open woodland;
- *Eucalyptus* mid open woodland;
- *Senna* mid sparse shrubland;
- *Triodia* low hummock grassland;
- *Triodia* mid open hummock grassland;
- *Triodia* mid hummock grassland; and
- *Themeda* mid tussock grassland.

The dominant broad floristic formation (based on extent across the Study Area) is *Triodia* low hummock grassland. *Triodia* low hummock grassland supported three large vegetation associations, while the other hummock grassland formations supported a greater total number of smaller-sized vegetation associations (*Triodia* mid hummock grassland and *Triodia* mid open hummock grassland contained two and four vegetation associations respectively). The *Acacia*-dominated floristic formations supported a total of four vegetation associations, while *Corymbia* low open woodland, *Eucalyptus* mid open woodland, *Senna* mid sparse shrubland, and *Themeda* mid tussock grassland supported one vegetation association each (Table 4.5).




### 4.7.2 Vegetation associations




A total of 21 vegetation associations were described and delineated from the Study Area (Figure 4.6). Seventeen of these were defined and delineated during the present survey, based on the floristic data collected (Table 4.5), while the remaining four vegetation associations were from a previous survey (Biologic, 2020a, 2020b) carried out adjacent to the Study Area. The vegetation associations were located across seven landforms; drainage area/ floodplain, hillcrest/ upper hillslope, hillslope, stony plain, medium drainage line, minor drainage line, and gorges/gullies.

Part of the north-western portion of Study Area has been subjected to a fire within the last two years (discussed further in Section 4.9). The fire has impacted on the structure and cover of the vegetation units, in particular the hummock grassland cover. The vegetation association descriptions may alter over time, while the identification of some of the *Triodia* species may change once more suitable material (inflorescences, including glumes and lemmas) is available. In addition, the survey occurred following a period of high temperatures and low rainfall, resulting in a low number of taxa flowering and/ or fruiting.

Where relevant and appropriate, the vegetation association mapping in the Study Area was completed to ensure consistency between the Study Area and the vegetation mapping occurring to the south of the Study Area (Biologic, 2020a, 2020b).




**Table 4.5: Vegetation association descriptions**

Code	Description	Sample Sites	Extent (ha / %)	Significant features	Condition	Photo
<i>Acacia</i> low open woodland						
SP AaAayAi ArAadsAte SeahSegl ErffEre TpTw Pacl	Low open woodland of <i>Acacia aptaneura</i> , <i>Acacia ayersiana</i> (hybrid) and <i>Acacia incurvaneura</i> over tall open shrubland of <i>Acacia rhodophloia</i> , <i>Acacia adsurgens</i> and <i>Acacia tetragonophylla</i> over mid isolated shrubs of <i>Senna artemisioides</i> subsp. <i>helmsii</i> and <i>Senna glutinosa</i> subsp. x <i>luerksenii</i> over low isolated shrubs of <i>Eremophila forrestii</i> subsp. <i>forrestii</i> and <i>Eremophila exilifolia</i> over mid scattered hummock grasses of <i>Triodia pungens</i> and <i>Triodia wiseana</i> with low scattered tussock grasses of <i>Paspalidium clementii</i> on red clay loam on stony plains.	WRQ-04, WRQ-06, WRQ-11, WRQ-20, WRQ-21, WRQ-26, WRQ-35, WRQ-38, WRQ-58, WRQ-68	551 / 12	<ul style="list-style-type: none"> <li>Contains <i>Goodenia nuda</i> (P4)</li> </ul>	Very good, Excellent	
SP Aa Asy ErpdCcTt	Low open woodland of <i>Acacia aptaneura</i> over tall open shrubland <i>Acacia synchronica</i> over low sparse grassland of <i>Eriachne pulchella</i> subsp. <i>dominii</i> , <i>Cenchrus ciliaris</i> and <i>Themeda triandra</i> on red clay loam on stony plains and floodplains.	WRQ-61	35 / 1	<ul style="list-style-type: none"> <li>Nil</li> </ul>	Good	
<i>Acacia</i> low woodland						
MI AaApr Cc Pacl Ch ClvBbDiaa	Low woodland of <i>Acacia aptaneura</i> and <i>Acacia pruinocarpa</i> over mid open tussock grassland of <i>Cenchrus ciliaris</i> over a low sparse grassland of <i>Paspalidium clementii</i> with low open herbland of <i>Cleome viscosa</i> , <i>Bidens bipinnata</i> and <i>Dipteracanthus australasicus</i> subsp. <i>australasicus</i> with low scattered trees of <i>Corymbia hamersleyana</i> mid to low scattered trees on red silty clay loam on minor drainage lines and drainage areas.	WRQ-74, WRQ-75	58 / 1	<ul style="list-style-type: none"> <li>Nil</li> </ul>	Good	




Code	Description	Sample Sites	Extent (ha / %)	Significant features	Condition	Photo
<i>Acacia</i> tall shrubland						
FP ApypAancAb Tp Cc Anl Ch	Tall open shrubland of <i>Acacia pyrifolia</i> var. <i>pyrifolia</i> , <i>Acacia ancistrocarpa</i> and <i>Acacia bivenosa</i> over mid open hummock grassland of <i>Triodia pungens</i> with mid sparse tussock grasses of <i>Cenchrus ciliaris</i> with mid isolated shrubs of <i>Androcalva luteiflora</i> with low isolated trees of <i>Corymbia hamersleyana</i> on brown sandy clay loam on floodplains, drainage areas and minor drainage lines.	WRQ-28, WRQ-43	26 / 1	<ul style="list-style-type: none"> <li>• Nil</li> </ul>	Very good	
<i>Corymbia</i> low open woodland						
GO CfCocd AhPI DopErhr ErmuPacIcya Tp CyyCyh	Low open <i>Corymbia ferritcola</i> woodland, with occasional low trees of <i>Corymbia candida</i> subsp. <i>dipsodes</i> , over low tall sparse shrubland of <i>Acacia hamersleyensis</i> and <i>Petalostylis labicheoides</i> over mid sparse shrubland of <i>Dodonaea pachyneura</i> and <i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) over mid sparse tussock grassland of <i>Eriachne mucronata</i> , <i>Paspalidium clementii</i> and <i>Cymbopogon ambiguus</i> with mid scattered hummock grasses of <i>Triodia pungens</i> with occasional mid scattered sedges of <i>Cyperus vaginatus</i> and <i>Cyperus hesperius</i> on black/brown clay loam in gorges.	WRQ-08, WRQ-44, WRQ-50, WRQ-54, WRQ-59, WRQ-66, WRQ-70	67 / 1	<ul style="list-style-type: none"> <li>• Contains <i>Indigofera gilesii</i> (P3), <i>Gymnanthera cunninghamii</i> (P3) and <i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3)</li> <li>• Afghan Spring</li> </ul>	Very good, Excellent	
<i>Eucalyptus</i> mid open woodland						
ME EvAcp CcTtEua ApypAciMg Cyv Clv	Low open woodland of <i>Eucalyptus victrix</i> and <i>Acacia coriacea</i> subsp. <i>pendens</i> over mid open tussock grassland of <i>Cenchrus ciliaris</i> , <i>Themeda triandra</i> and <i>Eulalia aurea</i> open tussock grassland with <i>Acacia pyrifolia</i> var. <i>pyrifolia</i> , <i>Acacia citrinoviridis</i> and <i>Melaleuca glomerata</i> over tall sparse sedgeland of <i>Cyperus vaginatus</i> over sparse herbland of <i>Cleome viscosa</i> on red/ brown loamy sand on medium drainage lines.	WRQ-15, WRQ-22, WRQ-24, WRQ-31, WRQ-37, WRQ-47, WRQ-91, WRQ-92	84 / 2	<ul style="list-style-type: none"> <li>• Drainage lines</li> </ul>	Good	




Code	Description	Sample Sites	Extent (ha / %)	Significant features	Condition	Photo
<i>Senna</i> mid sparse shrubland						
SP Segl AsyAteAp Ercu	Mid sparse shrubland of <i>Senna glutinosa</i> subsp. <i>x luerssenii</i> with tall isolated shrubs of <i>Acacia synchronicia</i> , <i>Acacia tetragonophylla</i> and <i>Acacia paraneura</i> over low isolated shrubs of <i>Eremophila cuneifolia</i> over low scattered chenopods and grasses on stony plain.	WRQ-52	38 / 1	• Nil	Good	
<i>Triodia</i> low hummock grassland						
HS TvTp HcAiHll AmaAbSegg Asp EIIApr	Low hummock grassland of <i>Triodia vanleeuwenii</i> and <i>Triodia pungens</i> with tall isolated shrubs of <i>Hakea chordophylla</i> , <i>Acacia inaequilatera</i> and <i>Hakea lorea</i> subsp. <i>lorea</i> over mid isolated shrubs of <i>Acacia maitlandii</i> , <i>Acacia bivenosa</i> and <i>Senna glutinosa</i> subsp. <i>glutinosa</i> over low isolated shrubs of <i>Acacia spondylophylla</i> with low isolated trees of <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> and <i>Acacia pruinocarpa</i> on red silty clay loam on hillcrests/ upper hillslopes and undulating low hills.	WRQ-03, WRQ-05, WRQ-10, WRQ-16, WRQ-19, WRQ-46, WRQ-67, WRQ-69, WRQ-72, WRQ-73, WRQ-76	1,387 / 29	• Nil	Excellent	
HS TvTp EIIcdd SeelAspCaca HcAmaAh SeggMiv ErmuErla	Low hummock grassland of <i>Triodia vanleeuwenii</i> and <i>Triodia pungens</i> with low sparse woodland of <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> and <i>Corymbia deserticola</i> subsp. <i>deserticola</i> over with low sparse shrubland of <i>Seringia elliptica</i> , <i>Acacia spondylophylla</i> and <i>Calytrix carinata</i> with tall isolated shrubs of <i>Hakea chordophylla</i> , <i>Acacia maitlandii</i> and <i>Acacia hamersleyensis</i> over mid isolated <i>Senna glutinosa</i> subsp. <i>glutinosa</i> and <i>Mirbelia viminalis</i> low isolated tussock grasses of <i>Eriachne mucronata</i> and <i>Eriachne lanata</i> on red clay loam on hill crests, hill slopes and ridgelines/ tops.	WRQ-17, WRQ-25, WRQ-29, WRQ-30, WRQ-34, WRQ-36, WRQ-39, WRQ-42, WRQ-51, WRQ-55, WRQ-60, WRQ-62, WRQ-63	957 / 20	• Contains <i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3)	Excellent	

Code	Description	Sample Sites	Extent (ha / %)	Significant features	Condition	Photo
HC TvTp EgEk AhAmaHc Seel	Low hummock grassland of <i>Triodia vanleeuwenii</i> and <i>Triodia pungens</i> with low sparse woodland of <i>Eucalyptus gamophylla</i> and <i>Eucalyptus kingsmillii</i> over tall sparse shrubland of <i>Acacia hamersleyensis</i> , <i>Acacia maitlandii</i> and <i>Hakea chordophylla</i> over low isolated shrubs of <i>Seringia elliptica</i> on red clay loam on hillcrests and summits.	WRQ-53	20 / <1	<ul style="list-style-type: none"> <li>Contains <i>Isotropis parviflora</i> (P2) and <i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3)</li> </ul>	Excellent	
<i>Triodia</i> mid open hummock grassland						
GO Tp DopAmAnl AhPl Cf Ermu	Mid open hummock grassland of <i>Triodia pungens</i> with mid sparse shrubland of <i>Dodonaea pachyneura</i> , <i>Acacia monticola</i> and <i>Androcalva luteiflora</i> with tall sparse shrubland of <i>Acacia hamersleyensis</i> and <i>Petalostylis labicheoides</i> with low sparse woodland of <i>Corymbia ferriticola</i> over low sparse tussock grassland of <i>Eriachne mucronata</i> on red sandy clay loam cliffs, upper slopes, gorges and gullies.	WRQ-01, WRQ-02, WRQ-07, WRQ-32, WRQ-40, WRQ-48, WRQ-56, WRQ-78	164 / 3	<ul style="list-style-type: none"> <li><i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3)</li> </ul>	Excellent	
HS TwTbr AbAiErf Asp	Mid open hummock grassland of <i>Triodia wiseana</i> and <i>Triodia brizoides</i> with mid to tall open shrubland of <i>Acacia bivenosa</i> , <i>Acacia inaequilatera</i> and <i>Eremophila fraseri</i> subsp. <i>fraseri</i> over low scattered shrubs of <i>Acacia spondylophylla</i> on red silty loam on hillslopes, hillcrest/ upper hillslopes and undulating low hills.	WRQ-77	256 / 5	<ul style="list-style-type: none"> <li>Nil</li> </ul>	Excellent	

Code	Description	Sample Sites	Extent (ha / %)	Significant features	Condition	Photo
FP Tp Eg AbAte AsiAancAa Cc	Mid open hummock grassland of <i>Triodia pungens</i> with low open <i>Eucalyptus gamophylla</i> woodland over mid open shrubland of <i>Acacia bivenosa</i> and <i>Acacia tetragonophylla</i> with tall isolated shrubs of <i>Acacia sibirica</i> , <i>Acacia ancistrocarpa</i> and <i>Acacia aptaneura</i> over mid sparse tussock grassland of <i>Cenchrus ciliaris</i> on red sandy clay loam on floodplains.	WRQ-71, WRQ-80	56 / 1	• Nil	Good, Excellent	
SP TwTp AiAadsAanc AsiApr Segg	Mid open hummock grassland of <i>Triodia wiseana</i> and <i>Triodia pungens</i> with tall sparse shrubs of <i>Acacia inaequilatera</i> , <i>Acacia adsurgens</i> and <i>Acacia ancistrocarpa</i> with isolated low trees of <i>Acacia sibirica</i> and <i>Acacia pruinocarpa</i> over mid isolated shrubs of <i>Senna glutinosa</i> subsp. <i>glutinosa</i> on red clay loam on stony plains, floodplains and minor drainage lines.	WRQ-45, WRQ-57, WRQ-64	134 / 3	• <i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3)	Very good	
SP TwTpTrag SeahSeglErcu AvAiAads	Mid open hummock grassland of <i>Triodia wiseana</i> , <i>Triodia pungens</i> and occasional <i>Triodia angusta</i> with mid open shrubland of <i>Senna artemisioides</i> subsp. <i>helmsii</i> , <i>Senna glutinosa</i> subsp. <i>xluerssenii</i> and <i>Eremophila cuneifolia</i> with tall scattered shrubs of <i>Acacia victoriae</i> , <i>Acacia ? incurvaneura</i> and <i>Acacia ? adsurgens</i> on red silty loam on stony plains and undulating low hills	Sampled by Biologic (2020b)	7 / <1	• Nil	Very Good	



Code	Description	Sample Sites	Extent (ha / %)	Significant features	Condition	Photo
<i>Triodia</i> mid hummock grassland						
SP TwTpTlo AaxrApAa AbAsiSegl EgApr	Mid hummock grassland of <i>Triodia wiseana</i> , <i>Triodia pungens</i> and <i>Triodia ? longiceps</i> with tall open shrubland of <i>Acacia adsurgens</i> x <i>rhodophloia</i> , <i>Acacia paraneura</i> and <i>Acacia aptaneura</i> with mid sparse shrubland of <i>Acacia bivenosa</i> , <i>Acacia sibirica</i> and <i>Senna glutinosa</i> subsp. x <i>luersennii</i> with low isolated trees of <i>Eucalyptus gamophylla</i> and <i>Acacia pruinocarpa</i> on red clay loam on stony plains and drainage areas/ floodplains.	WRQ-79	61 / 1	• Nil	Excellent	
HS Tw Ai ErfrSeglSegg Ptro	Mid hummock grassland of <i>Triodia wiseana</i> with tall isolated shrubs of <i>Acacia inaequilatera</i> over mid isolated shrubs of <i>Eremophila fraseri</i> , <i>Senna glutinosa</i> subsp. x <i>luerssenii</i> and <i>Senna glutinosa</i> subsp. <i>glutinosa</i> over low isolated shrubs of <i>Ptilotus rotundifolius</i> mid to tall scattered shrubs on red clay loam on low hills, slopes and undulating hills.	WRQ-09, WRQ-12, WRQ-13, WRQ-18, WRQ-23, WRQ-33, WRQ-41, WRQ-49	762 / 16	• Nil	Excellent	
HS TbrTs AadsAvAd	Mid hummock grassland of <i>Triodia brizoides</i> and <i>Triodia ? vanleeuwenii</i> with tall shrubland of <i>Acacia ? adsurgens</i> , <i>Acacia victoriae</i> and <i>Acacia dictyophleba</i> on red silty loam on hillslopes and undulating low hills	Sampled by Biologic (2020a)	10 / <1	• Nil	Excellent	

Code	Description	Sample Sites	Extent (ha / %)	Significant features	Condition	Photo
HC TwTbrTp AiAbAaxr	Mid hummock grassland of <i>Triodia wiseana</i> , <i>Triodia brizoides</i> and <i>Triodia pungens</i> with mid open shrubland of <i>Acacia inaequilatera</i> , <i>Acacia bivenosa</i> and <i>Acacia ? adsurgens</i> x <i>rhodophloia</i> on red silty loam on hillcrests/ upper hillslopes and undulating low hill	Sampled by Biologic (2020b)	1 / <1	• Nil	Excellent	
<i>Themeda</i> mid tussock grassland						
ME TtCcEua PIApyAd AnlAml ExCh	Mid tussock grassland of <i>Themeda triandra</i> , <i>Cenchrus ciliaris</i> and <i>Eulalia aurea</i> with tall open shrubland of <i>Petalostylis labicheoides</i> , <i>Acacia pyrifolia</i> and <i>Acacia dictyophleba</i> over mid sparse shrubs of <i>Androcalva luteiflora</i> and <i>Acacia monticola</i> with low scattered trees of <i>Eucalyptus xerothermica</i> and <i>Corymbia hamersleyana</i> on red silty clay loam on medium drainage lines.	WRQ-14, WRQ-27	55 / 1	• Drainage lines	Good	
FP TtCc AdAbAi EgChEx	Mid tussock grassland of <i>Themeda triandra</i> and <i>Cenchrus ciliaris</i> with tall open shrubland of <i>Acacia dictyophleba</i> , <i>Acacia bivenosa</i> and <i>Acacia inaequilatera</i> with low scattered trees of <i>Eucalyptus gamophylla</i> , <i>Corymbia hamersleyana</i> and <i>Eucalyptus xerothermica</i> on red sandy clay loam on drainage areas/ floodplains	Sampled by Biologic (2020a)	4 / <1	• Nil	Very Good	

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- Vegetation Code**
- FP AypAancAb Tp Cc Anl Ch
  - FP Tp Eg AbAte AsiAancAa Cc
  - FP TtCc AdAbAi EgChEx
  - GO CfCocd AhPI DopErhr ErmuPaclCya Tp CyvCyh
  - GO Tp DopAmAnl AhPI Cf Ermu
  - HC TvTp EgEk AhAmaHc Seel
  - HC TwTbrTp AiAbAaxr
  - HS TbrTs AadsAvAd
  - HS TvTp EilCdd SeelAspCaca HcAmaAh SeggMiv ErmuErla
  - HS TvTp HcAiHll AmaAbSegg Asp EllApr
  - HS Tw Ai ErfrSeglSegg Ptro
  - HS TwTbr AbAiErfS Asp
  - ME EvAcp CcTtEua AypAcimG Cyv Clv
  - ME TtCcEua PIapyAd AnlAml ExCh
  - MI AaApr Cc Pacl Ch ClvBbDiaa
  - SP Aa Asy ErpdCcTt
  - SP AaAayAi ArAadsAte SeahSegl ErffEre TpTw Pacl
  - SP Segl AsyAteAp Ercu
  - SP TwTp AiAadsAanc AsiApr Segg
  - SP TwTpTlo AaxrApAa AbAsiSegl EgApr
  - SP TwTpTrag SeahSeglErcu AvAiAads
  - Cleared

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**Legend**

Study Area

1:35,000

0 0.275 0.55 1.1 1.65 2.2 km

**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation**  
**Assessment**  
**Figure 4.6: Vegetation units in the Study Area**

Coordinate System: GDA 1994 MGA Zone 50  
 Projection: Transverse Mercator  
 Datum: GDA 1994  
 Size A3. Created 8/06/2020

### 4.7.3 Groundwater and sheet-flow dependent vegetation

#### Groundwater Dependent Ecosystems

Minor drainage lines occur throughout the Study Area, with slightly larger systems in the northwest and in the south. These drainage lines have the potential to support phreatophyte flora, or groundwater dependent vegetation (for example *Eucalyptus camaldulensis*). A review of the floristic assemblage recorded from the sample sites established within the drainage lines identified the presence of *Eucalyptus victrix*. *Eucalyptus victrix* is a vadophyte<sup>3</sup>, or in certain situations a facultative phreatophyte (when occurring in association in shallow groundwater).

*Eucalyptus victrix* was recorded as the dominant overstorey species within the vegetation association ME EvAcp CcTtEua AypAcMg Cyv Clv, which occurred in the north-west of the Study Area (Figure 4.7). The drainage line *Eucalyptus victrix* was recorded from is a minor, ephemeral drainage line that likely flows following substantial rainfall events. In addition to *Eucalyptus victrix*, several mesophytic flora were recorded from the drainage line including; *Acacia citrinoviridis*, *Marsilea hirsuta*, *Melaleuca glomerata*, *Acacia coriacea* subsp. *pendens* and *Cyperus vaginatus* (Loomes, 2010; WAH, 1998-). Comparatively less information is known on the groundwater use strategies of these understorey species, however, they are known to occur in association with drainage lines with groundwater likely in proximity to the surface.

In addition to the drainage line supporting *Eucalyptus victrix*, a possible permanent seep colloquially termed Afghan Spring, is located in the north of the Study Area (located in a gorge on the north face of 'Western Ridge') (Figure 4.7). The vegetation of Afghan Spring was sampled with no phreatophytic tree species observed (i.e. *Melaleuca argentea*, *Eucalyptus camaldulensis* and *Eucalyptus victrix*). The tree species recorded from the spring was *Corymbia ferriticola*, which is a xerophyte<sup>4</sup> commonly occurring with skeletal soils (WAH, 1998-). The gorge where Afghan Spring was located was rocky with large boulders strewn throughout the gorge. The shallow/ skeletal soils most likely hinders the growth of phreatophytic tree species, however the shallow soils, permanent or semi-permanent pools supports numerous mesophytic and hydrophytic shrubs and macrophytes including:

- *Plumbago zeylanica* (isolated occurrences);
- *Gymnanthera cunninghamii* (P3) (isolated occurrences of 11 individuals);
- *Typha domingensis* (occurred in patches associated with semi-permanent/ permanent water);
- *Cyperus vaginatus* (large occurrence and main spring); and
- *Acacia coriacea* subsp. *pendens* (scattered across the gorge).

<sup>3</sup> Vadophytes are plants commonly associated with drainage lines which rely on moisture in the soil surface profiles and are independent of groundwater.

<sup>4</sup> Xerophytes are plants which are adapted to dry environments. Xerophytic adaptations including waxy covering over the stomata, very few stomata, or stomata that only open at night, the development of a dense, hairy leaf covering, the ability to drop leaves during dry periods, the ability to reposition or fold leaves to reduce sunlight absorption all prevent water loss, while fleshy stems or leaves store water

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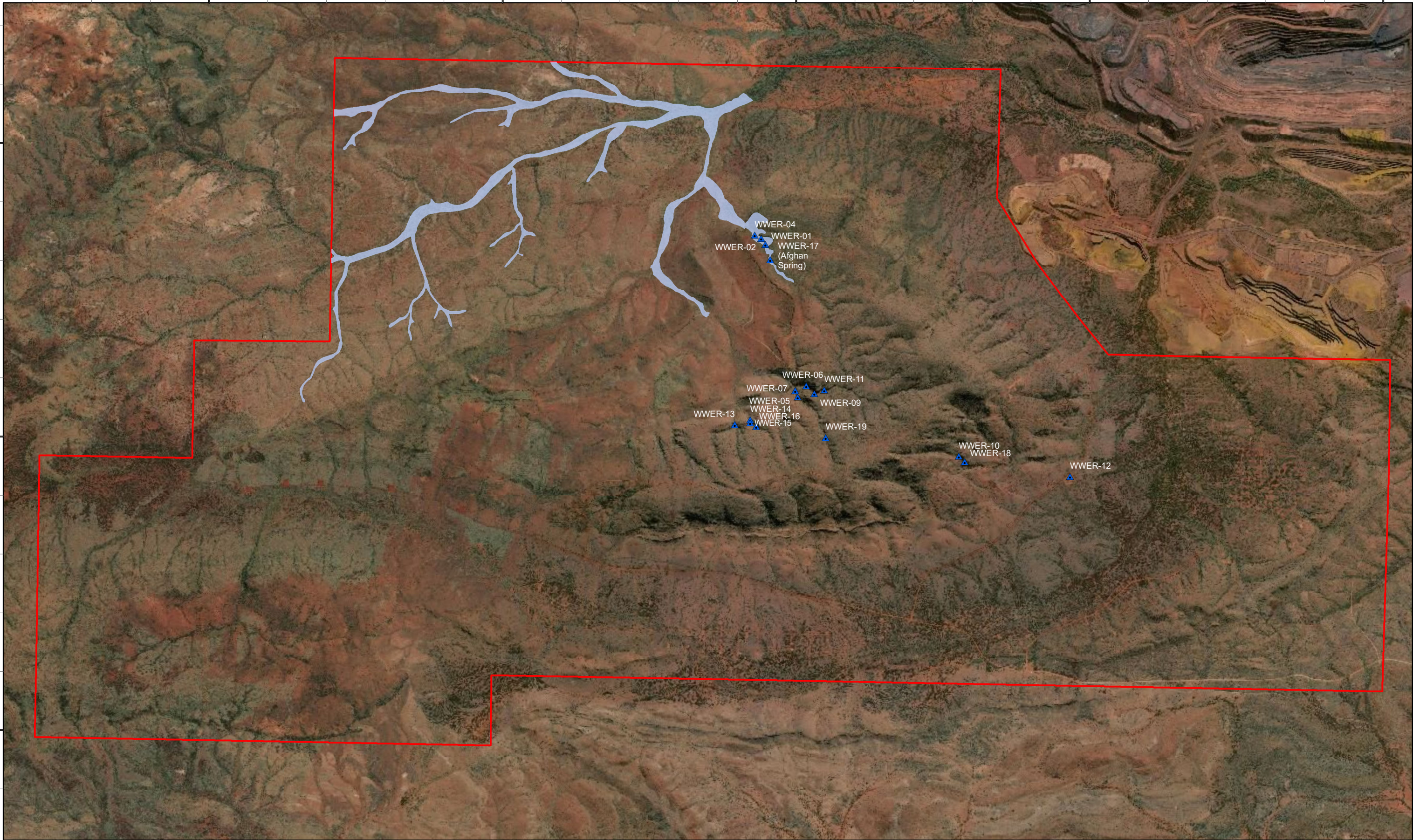
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**Legend**

- ▲ Water Features
- Study Area
- Potential groundwater/inflow dependent systems

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1:30,000  
0 0.225 0.45 0.9 1.35 1.8 km

**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation**  
**Assessment**  
**Figure 4.7: Potential GDEs and water features in**  
**the Study Area**

Coordinate System: GDA 1994 MGA Zone 50  
 Projection: Transverse Mercator  
 Datum: GDA 1994

Size A3. Created 8/06/2020

### Sheet-flow Dependent Ecosystems

Based on aerial imagery, field observations and floristic assemblages recorded from the Study Area, it is unlikely that sheet-flow dependent mulga communities occur in the Study Area. Two isolated occurrences of mulga woodlands in the west (sampled with sites WRQ-04 and WRQ-20) display very minor banding or grooving/ intergrooving and occur downslope from relatively large and steep hills. These occurrences may rely on sheet-flow; however, the lack of distinctive banding suggests this reliance is very low. Furthermore, the mulga woodlands occurred in association with the Egerton and Rocklea land systems which are not known to support sheet flow.

The vegetation occurring in association with the Elimunna land system (which is known to support sheet flow) in the north-east did not have any distinctive banding or grooving/ intergrooving of mulga so is unlikely to be sheet-flow dependent. The vegetation in this area was mostly dominated by scattered mulga trees/ tall shrubs over *Senna* spp. and *Acacia* spp. with stony surface.

Further mulga woodlands/ shrubland were recorded across the Study Area, however these communities either did not display any banding or occurred in association with drainage lines with incised channels. As such, sheet-flow dependent ecosystems are unlikely to occur in the Study Area.

### Water Features

Water features are a limiting factor for many ecosystems (James *et al.*, 1995), particularly within arid-zone ecosystems such as the Pilbara and often represent areas of comparatively high ecological productivity (Murray *et al.*, 2003) by providing specific ecosystem functions supporting unique and important biological diversity at both local and regional scales (depending on the size and function of the water feature) (Boulton & Hancock, 2006; Humphreys, 2006; Murray *et al.*, 2006; Thurgate *et al.*, 2001).

During the current survey, six water features were located consisting of a seep, two seep fed rock pools and three rock pools fed by surface water flows. During the Biologic (2020c) survey, 14 water features were recorded; two were seeps, two were rock pools fed by a seep and the remaining were surface water rock pools (Appendix L; Figure 4.7). With the exception of one artificial water feature (Turkeys Nest) (water feature WWER-12), all water features occurred within gorges and gullies (Appendix L; Figure 4.7). Of the 14 water features identified by Biologic (2020c), this current survey re-recorded three (WWER-02, WWER-07 and WWER-10) of them, along with three water features (WWER-17, WWER-18, and WWER-19) that had not previously been recorded, bringing the total to 17 water features (Figure 4.7).

Two of the new water features (WWER-17 and WWER-18) recorded during this current survey occurred in close proximity to existing features and may just be extensions of those features. The third feature (WWER-19) is a new feature that follows a gully that has two previously confirmed water features (Figure 4.7).

With consideration of overall survey effort for water features and Study Area coverage (from this current survey and Biologic (2020c)), it is possible that additional water features occur within the Study Area, particularly within gorges, gullies and drainage lines. It is likely that after substantial rainfall events,

additional temporary rock pool water features may be present within the gorges and gullies and potentially ephemeral pools along the drainage lines.

Of the water features identified, those occurring within Afghan Spring are the most important (WWER-01, WWER-02, WWER-04 and WWER-17) (Plate 4.6). The spring supports potentially permanent pools which flow down the gorge supporting flora species not commonly occurring in stony/ boulder strewn gorges (i.e. *Gymnanthera cunninghamii*). Water was observed seeping through the rock face at Afghan Spring, while mesophytic vegetation (i.e. *Typha domingensis*) was observed higher up the rock face, indicating a potential pool feeding Afghan Spring. The survey team visited this location and found a fairly large pool above Afghan Spring (Plate 4.7) that may be providing water to the spring. The pool was inaccessible, so no further assessment was undertaken on the pool, while the depth and size have been estimated.



**Plate 4.6: Afghan Spring (WWER-01) with extensive *Cyperus* understorey and water seeping from the rock face. Photo taken in March 2020 by Biologic**



**Plate 4.7: Large pool above Afghan Spring (WWER-02 & WWER-17) which may be providing water to the spring (through rock seepage). Photo taken April 2020 by Biologic**

## 4.8 Vegetation of Conservation Significance

### 4.8.1 Federal and State listing

The desktop assessment (Section 4.2.2) did not identify any known TECs or PECs as potentially occurring within the Study Area. The vegetation associations described and delineated from the Study Area are not considered to be analogous with any TECs and PECs known to occur in the Pilbara region.

### 4.8.2 Vegetation of other significance

The EPA (2004) advises that vegetation may be of significance for reasons other than a listing as a TEC or a PEC. This may include, although is not limited to, scarcity, novel combination of species, role as a refuge, restricted distribution and vegetation extent being below a threshold level.

Although the vegetation associations described from the Study Area are not analogous with any known TECs or PECs, some do support priority flora taxa, while the vegetation association occurring within Afghan Spring has a level of importance from a cultural perspective (due to early European use providing water for local cameleers), as well as the potentially permanent and semi-permanent pools. The vegetation associations mapped within the drainage lines are not locally or regionally significant as the drainage lines are not regionally important (Kendrick, 2001), while the *Eucalyptus victrix* woodlands mapped along the drainage lines occur throughout the Pilbara bioregion.

Six vegetation associations supported priority flora taxon (Table 4.6), while vegetation associations G CfCocd AhPI DopErhr ErmuPaclCya Tp CyvCyh and HC TvTp EgEk AhAmaHc would be have a slightly raised importance due to the presence of three priority 3 taxa, Afghan Spring and presence of priority 2 taxon (Table 4.6). *Eremophila* sp. Hamersley Range (K. Walker KW 136) was extensive across the Study Area and occurred within five vegetation associations, which covered almost 30% of the Study Area.

Afghan Spring was located within vegetation association G CfCocd AhPI DopErhr ErmuPaclCya Tp CyvCyh. Afghan Spring is a unique feature in the arid landscape due to the presence of potentially permanent and semi-permanent water. Afghan Spring has been discussed further in Section 4.7.3.

**Table 4.6: Locally important vegetation associations recorded from the Study Area**

Code	Extent (ha / %)	Comment
SP AaAayAi ArAadsAte SeahSegl ErffEre TpTw Pacl	551 / 12	Supports a population of <i>Goodenia nuda</i> (P4).
GO CfCocd AhPI DopErhr ErmuPaclCya Tp CyvCyh	67 / 1	Supports populations of <i>Indigofera gilesii</i> (P3), <i>Gymnanthera cunninghamii</i> (P3) and <i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3). Afghan Spring was also located within this vegetation association.
HS TvTp EIlCdd SeelAspCaca HcAmaAh SeggMiv ErmuErla	957 / 20	Supports extensive populations of <i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3).
HC TvTp EgEk AhAmaHc Seel	20 / <1	Supports populations of <i>Isotropis parviflora</i> (P2) and <i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3).
GO Tp DopAmAnl AhPI Cf Ermu	164 / 3	Supports populations of <i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3).
SP TwTp AiAadsAanc AsiApr Segg	134 / 3	Supports populations of <i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136) (P3).



#### 4.9 Vegetation condition

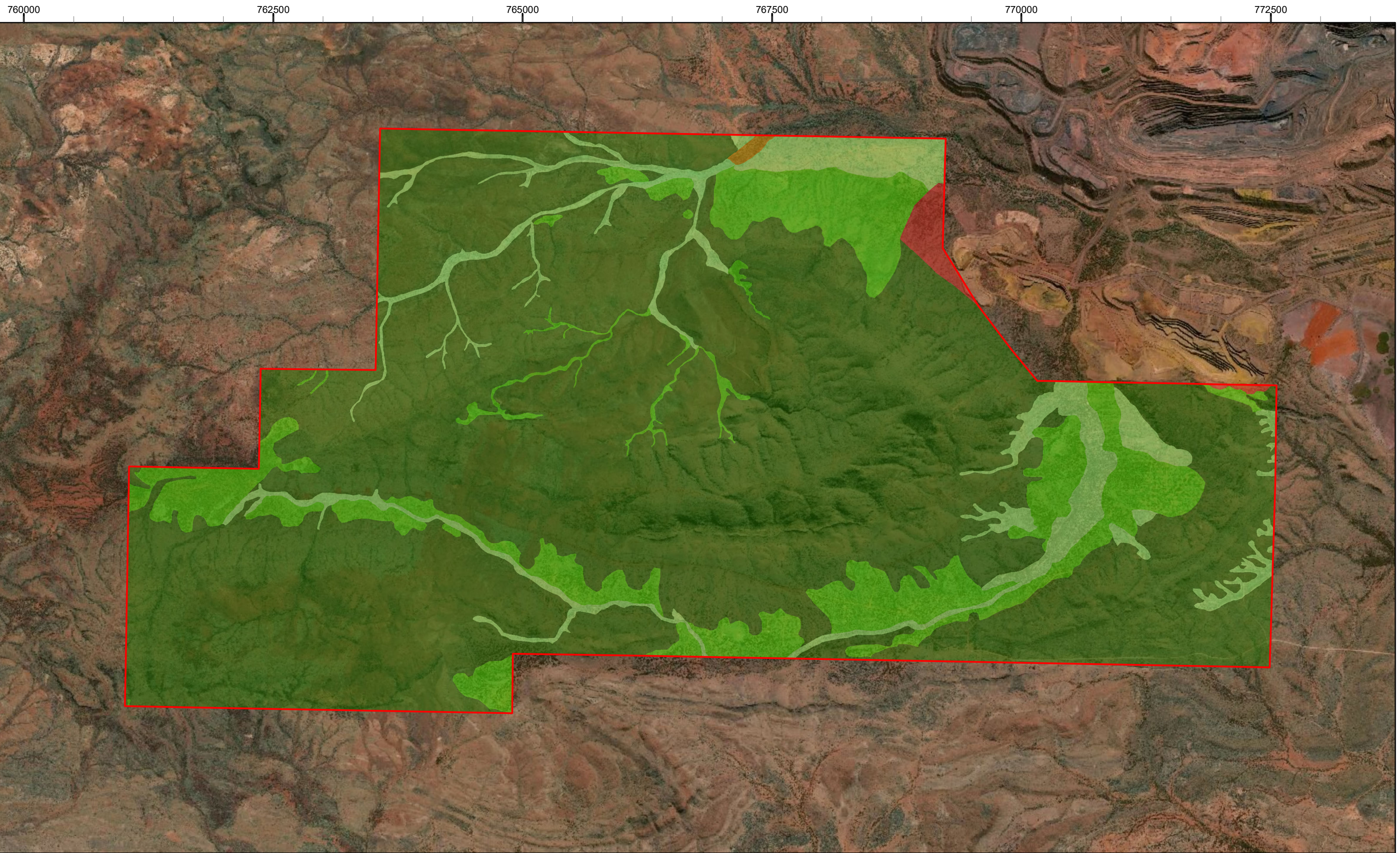
The condition of the vegetation within the Study Area ranged from poor to excellent (Table 4.7 and Figure 4.8). The main disturbances observed in the Study Area were associated with pastoralism and wildfires. There were signs of cattle grazing and trampling across of the Study Area, excluding the hillcrests and ridges. It is likely that the main introduced taxa, *\*Cenchrus ciliaris* would have been transported across the Study Area via pastoralism and cattle grazing. The areas of the Study Area lower in the landscape were more heavily impacted by cattle, including the floodplains and drainage lines.

A portion (approximately 25%) of the Study Area has been subjected to a fire within the last 24 to 48 months, with the northwest corner being impacted the most. The vegetation was showing good signs of recovery following the substantial rainfall in January 2020 (Figure 3.1).

Fire in the Pilbara is a common phenomenon and its presence does not necessarily warrant a lowering in vegetation condition. Successive, high intensity fires across the landscape can have a detrimental impact on vegetation and vegetation recovery. However, this is not the case for the Study Area and the vegetation is recovering from the previous fire. As a result, the majority of the vegetation was considered to be in excellent condition.

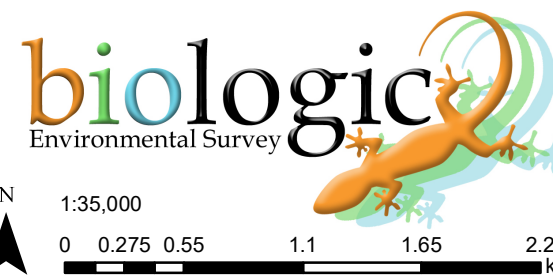
**Table 4.7: Vegetation condition extent in the Study Area**

Condition	Extent (ha / %)	Comment
Excellent	3,739 / 78	Occurred across the majority of the Study Area and showed negligible signs of disturbance.
Very Good	647 / 14	Occurred across a large portion of the Study Area and showed only minimal signs of disturbances associated with cattle grazing and trampling.
Good	340 / 7	Generally occurred in association with drainage lines and floodplains, minor areas subjected to recent, intense wildfires and vegetation associations with a weed presence. The area of Good vegetation that had been burnt recently occurred along drainage lines that were also supporting weed species, while the fire was more intense in other areas resulting in complete scorching and death of perennial shrubs and trees. Cattle grazing and trampling was more evident in some locations (i.e. drainage lines).
Poor	6 / <1	Associated with the floodplain and drainage areas in the northern portion of the Study Area. The dominant understorey consisted of <i>*Cenchrus ciliaris</i> , while cattle grazing and trampling was evident via a lack of native understorey taxa and trampling lines creating small erosional issues.
Completely Degraded	33 / 1	Coincided with existing cleared areas associated with Mt Whaleback mine.



**Legend**

- |            |                             |                     |
|------------|-----------------------------|---------------------|
| Study Area | <b>Vegetation Condition</b> | Good                |
|            | Excellent                   | Poor                |
|            | Very Good                   | Completely Degraded |



**BHP WAIO**  
**Western Ridge Detailed Flora and Vegetation**  
**Assessment**  
**Figure 4.8: Vegetation condition in the Study Area**

Coordinate System: GDA 1994 MGA Zone 50  
 Projection: Transverse Mercator  
 Datum: GDA 1994  
 Size A3. Created 8/06/2020

## 5 DISCUSSION

The following section discusses the results of the Survey and places the results in a regional and local context, consistent with the requirements of EPA (2016b). In 2019 Biologic (2020a, 2020b) completed single season Detailed flora and vegetation surveys of Coombanbunna Well and Western Ridge Southern Tenements, which occur immediately adjacent (to the south) to the Study Area. The results of these surveys have been reviewed to provide local context, while flora and vegetation information for the Hamersley subregion has been reviewed to provide broad regional context.

### 5.1 Flora

A total of 379 vascular flora taxa from 49 families were recorded in the Study Area during the survey, comprising 368 native taxa and 11 introduced taxa (Appendix K). This total includes five conservation significant flora taxa, *Isotropis parviflora* (P2), *Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3), *Gymnanthera cunninghamii* (P3), *Indigofera gilesii* (P3), and *Goodenia nuda* (P4).

The Western Ridge Southern Tenements and Coombanbunna Well surveys recorded 218 vascular flora including 209 native flora species. The current survey recorded a higher number of vascular flora, however this is reflective of the greater complexity and diversity of landforms and vegetation units within the Study Area. The floristic diversity recorded from the Study Area is high but reflective of the large hills, summits, and ironstone ranges of the Hamersley subregion. As such, the floristic diversity of the Study Area is as expected for the subregion.

*Isotropis parviflora* (P2) is a small inconspicuous small shrub that at times grows within hummock (alive and dead) grasses so may at times be missed. *Isotropis parviflora* was recorded from one population from the northern extent of the ridge along the western slopes, moving downslope. The WAH holds 30 specimens, with locations known from the northern Hamersley Ranges (north of Karijini National Park), south east towards Newman, while a further two records are known from near the WA and NT border (DBCA, 2020a). Information on the size of known populations is limited, with frequency quoted as few plants through to 50+ individuals (WAH, 1998-). The population within the Study Area fills a small gap of known locations between Jimblebar and the Giles Point/ Rhodes Ridge area (DBCA, 2020a; WAH, 1998-).

The current survey recorded over 8,000 individuals (from one large population and one small isolated population to the south east) of *Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3), with the priority species not previously known to occur within the Study Area. The closest relative is *Eremophila tietkensis*, which was recorded extensively across the Study Area by GHD (2011b). At the time of GHD's survey (i.e. during 2010) (GHD, 2011b), *Eremophila* sp. Hamersley Range (K. Walker KW 136) had not yet been separated from *Eremophila tietkensis*, so the large population recorded by GHD within the Study Area was not detailed further. This timing is confirmed further with both Chinnock (2007) and Brown and Buirchell (2011) only describing *Eremophila tietkensis* and not *Eremophila* sp. Hamersley Range (K. Walker KW 136). It is likely that no specimens from Western Ridge were submitted to the WAH by GHD, so when *Eremophila* sp. Hamersley Range (K. Walker 136) was separated from *Eremophila tietkensis* the records from the Study Area were not updated.

*Eremophila* sp. Hamersley Range (K. Walker 136) has a wide range, occurring from the Paraburdoo area in the west, through to Newman in the east, with most records occurring along the southern boundary of the Pilbara bioregion (ALA, 2020; DBCA, 2020a; WAH, 1998-). Currently no known populations occur within conservation tenure (i.e. National Parks). This may potentially be incorrect if additional locations of *Eremophila tietkensis* are *Eremophila* sp. Hamersley Range (K. Walker 136). Information on the size of known populations is limited, however, the size of the central population within the Study Area is large and may be the most extensive population to date. *Eremophila* sp. Hamersley Range (K. Walker 136) has previously been recorded from the Newman area with a record from north of Eastern Ridge (DBCA, 2020a; WAH, 1998-).

*Gymnanthera cunninghamii* (P3) is known to occur throughout the Pilbara, mainly restricted to mesophytic environments (DBCA, 2020a; WAH, 1998-). Biologic have recorded numerous individuals from major rivers and creek in the northern and central Pilbara, while 39 specimens have been vouchered with the WAH (1998-). *Gymnanthera cunninghamii* was recorded from Afghan Spring and is unlikely to occur anywhere else in the Study Area, except potentially the medium drainage line in the north-west. *Gymnanthera cunninghamii* generally occurs in situations with groundwater located close to the surface, or with ephemeral/ semi-permanent/ permanent surface water expression. Numerous locations of *Gymnanthera cunninghamii* have been recorded from the conservation estate (e.g. Walyarta Conservation Park and the Dampier Archipelago) (DBCA, 2020a; WAH, 1998-). A previous record has been located within Ethel Gorge, 25 km northeast of the Study Area, so the individuals within Afghan Spring are within the current known distribution (DBCA, 2020a).

*Indigofera gilesii* (P3) occurs extensively in the southern Pilbara with records from the West Angelas area through to Newman (DBCA, 2020a; WAH, 1998-), while further records are known from the Gascoyne, Murchison, Central Ranges and Tanami bioregions. *Indigofera gilesii* is mostly restricted to boulders and outcrops on steep hillslopes high in the landscape. The gorges and deep gullies of the Study Area provide suitable habitat for the species, with the known population expanded upon during the current survey. A further two populations were recorded from deep gullies and gorges in the east and central portion of the Study Area. The records within the Study Area potentially represent the most south-easterly records for the Pilbara bioregion (DBCA, 2020a; WAH, 1998-).

*Goodenia nuda* (P4) occurs extensively across the Pilbara in a variety of habitats, with substantial records from the Hamersley and Fortescue subregions (DBCA, 2020a; WAH, 1998-). Numerous locations of *Goodenia nuda* have been recorded from BHP tenure in the Newman locality (Biologic, 2009, 2019; ENV, 2009b, 2012; GHD, 2011a; Onshore, 2016, 2018). *Goodenia nuda* does not seem to be restricted locally or regionally (a few records occur in the Little Sandy Desert and Gascoyne bioregions) (DBCA, 2020a; WAH, 1998-).

The Survey did not identify any Federal or State threatened (declared rare) flora taxa listed under the EPBC Act or the BC Act. No other flora taxa recorded during the Survey are considered to be significant due to their uniqueness, range extensions, or being recorded at the extremities of their known geographical range.

## 5.2 Vegetation

The Survey did not identify any vegetation units that are consistent with ecological communities listed as Threatened under the EPBC Act or the BC Act. No PECs as listed by DBCA were identified from the Study Area.

Most of the vegetation associations recorded from the Study Area were not considered to be regionally significant, as they are well represented from a regional context across the Pilbara bioregion. To assess local and regional representation for the vegetation associations recorded from the Study Area, the floristic sample sites were statistically analysed with the floristic dataset collated from Coombanbunna Well (Biologic, 2020a) and Western Ridge Southern Tenements (Biologic, 2020b). The resulting hierarchical clustering from the analysis is presented in Appendix M as a dendrogram. The hierarchical clustering indicated several of the sites sampled from the Study Area are also present within Coombanbunna Well and Western Ridge Southern Tenements. The clustering also indicated a separation between the current survey and the previous two surveys. The key reason for this separation is the seasonal conditions and fire. Coombanbunna Well and Western Ridge Southern Tenements were sampled following several years of drought (BoM, 2020a), while the vegetation had been burnt with slow recovery of the vegetation observed (Biologic, 2020a, 2020b). Furthermore, Coombanbunna Well and Western Ridge Southern Tenements mostly consisted of basalt hills, while the current Study Area mostly consisted of ironstone summits and ranges. As such, the dominant flora species differed due to soils, landforms and geology.

The vegetation system associations (18 and 82), as mapped by Beard (1975), are considered to have a moderate and a low priority reservation status, respectively, for the Hamersley subregion (Kendrick, 2001). In particular, Mulga communities (*Acacia aneura* and close relatives) along the lower slopes could be representative of an ecosystem at risk (Kendrick, 2001). The major vegetation sub-group of the lower-slope mulga ecosystem is arid *Acacia* low open woodlands and shrublands with hummock grass (Kendrick, 2001), which was present/ partially resembled by the vegetation associations mapped here (e.g., SP AaAayAi ArAadsAte SeahSegl ErffEre TpTw Pacl). As such, vegetation association SP AaAavAi ArAadsAte SeahSegl ErffEre TpTw Pacl may represent a regional ecosystem at risk.

Some evidence of phreatophytic vegetation, such as *Eucalyptus victrix* was observed in the medium drainage line in the northwest and may indicate weak inflow or groundwater dependence. Similarly, where small waterbodies were recorded in the gorge/gully landforms of the Study Area, the vegetation may be water-dependent to some extent. In particular, the vegetation at Afghan Spring, relies on the presence of spring to persist. Several mesophytic/ hydrophytic flora species were observed (see Section 4.7.3).

The medium drainage line in the north west supported the vadophyte/ weak facultative phreatophyte *Eucalyptus victrix*. Mature *Eucalyptus victrix* trees commonly support a large dimorphic root system, consisting of a prominent tap root and a network of laterally expansive roots near the soil surface and in the top 1 m to 2 m of the soil profile, which can extend to at least 10–20 m away from the main stem (and further). From the lateral roots, vertical sinker roots can also develop and potentially extend tens of metres to water table depth (Florentine, 1999). *Eucalyptus victrix* typically draws the majority of its water requirement from soil pore moisture (the vadose zone). During extended dry periods *Eucalyptus victrix*

can also use groundwater opportunistically (when it is at a depth accessible by the tree roots) as required and are a facultative phreatophyte during these situations.

Previous studies have shown that when provided with access to groundwater, *Eucalyptus victrix* can maintain high leaf water potentials and high rates of tree water use during times of drought (O'Grady *et al.*, 2009; Pfautsch *et al.*, 2014). *Eucalyptus victrix* however, also demonstrates a strong ability to regulate water losses when water supplies are limited via regulation of stomatal conductance (Pfautsch *et al.*, 2014) and structural modifications including leaf die-off, crown defoliation and adjustment of leaf area to sapwood area ratio. Such changes enable trees to maintain constant water use despite increasing evaporative demand if sufficient water is available (O'Grady *et al.*, 2009). As a result, the water use strategy of *Eucalyptus victrix* appears to be highly plastic and opportunistic, enabling survival in a wide range of ecohydrological settings (Pfautsch *et al.*, 2014).

Of the land systems that occur in the Study Area (Section 2.6), Elimunna may be subject to sheet-flow (van Vreeswyk *et al.*, 2004b). The Elimunna land system includes stony and gilgai plains with moderately sized groves on hardpan plains (van Vreeswyk *et al.*, 2004b). Mulga dominated communities (represented by *Acacia aptaneura*, *Acacia paraneura* and *Acacia incurvaneura*) or communities with mulga species present, were mapped within the Elimunna land system, however no distinct banding or groving/ intergroving of mulga was observed. Two isolated occurrences of mulga woodlands in the west (sampled with sites WRQ-04 and WRQ-20) display very minor banding or groving/ intergroving and occur downslope from relatively large and steep hills. These occurrences may rely on sheet-flow; however, the lack of distinctive banding suggests this reliance is very low. Extensive areas of mulga banding is located south of the Study Area (approx. 7 km south).

The vegetation condition ranged from poor to excellent, with majority of the Study Area classified as excellent. The main disturbances recorded were associated with pastoralism (weed invasion, access tracks), fire and mining/ exploration related activities (i.e. drill pads, tracks). The condition of the vegetation in the Study Area is reflective of the landscape with the vegetation on the hills and summits in very good to excellent condition while the drainage lines, floodplains and 'flatter' areas generally in a lower condition. Cattle are regular visitors to the flats, drainage lines and floodplains and can have an increased influence on the condition of the vegetation. Cattle rarely frequent stony hills, summits and gorges so the vegetation is less influenced from pastoralism. Mining and anthropogenic related disturbances are more prevalent on the hills and summits.

## 6 CONCLUSION

A single season Detailed Flora and Vegetation Survey was completed over seven days across the Study Area, with all the major vegetation units visited and sampled. A total of 80 quadrats and one relevé were sampled within the Study Area. The floristic data collected from these 81 sample sites was used to record and mapped the vegetation associations and their condition, as well as collecting an inventory of flora taxa present. The single season Detailed Flora and Vegetation Survey recorded:

- 379 vascular flora taxa from 49 families and 147 genera, comprising 368 native and 11 introduced taxa.
- Five priority listed taxa were recorded from the Study Area;
  - *Isotropis parviflora* (P2);
  - *Eremophila* sp. Hamersley Range (K. Walker KW 136) (P3);
  - *Gymnanthera cunninghamii* (P3);
  - *Indigofera gilesii* (P3);
  - *Goodenia nuda* (P4);
- No WoNS or DPP were recorded from the Study Area;
- 21 vegetation units were described and delineated from the Study Area;
- No TECs or PECs were recorded from the Study Area;
- 17 water features occur across the Study Area, with substantial features located at Afghan Spring; and
- The vegetation condition ranged from poor to excellent, with the majority considered to be excellent.

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**8 APPENDICES**

**Appendix A: State and Federal Conservation Codes**

**International Union for Conservation of Nature**

Category	Definition
<b>Extinct (EX)</b>	A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.
<b>Extinct in the Wild (EW)</b>	A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.
<b>Critically Endangered (CR)</b>	A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered (see Section V), and it is therefore considered to be facing an extremely high risk of extinction in the wild.
<b>Endangered (EN)</b>	A taxon is Endangered when the best available evidence indicates that it meets any of the criteria A to E for Endangered (see Section V), and it is therefore considered to be facing a very high risk of extinction in the wild.
<b>Vulnerable (VU)</b>	A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria A to E for Vulnerable (see Section V), and it is therefore considered to be facing a high risk of extinction in the wild.
<b>Near Threatened (NT)</b>	A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.
<b>Least Concern (LTC)</b>	A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category.
<b>Data Deficient (DD)</b>	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect, assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking. Data Deficient is therefore not a category of threat. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future research will show that threatened classification is appropriate. It is important to make positive use of whatever data are available. In many cases great care should be exercised in choosing between DD and a threatened status. If the range of a taxon is suspected to be relatively circumscribed, and a considerable period of time has elapsed since the last record of the taxon, threatened status may well be justified.
<b>Not Evaluated (NE)</b>	A taxon is Not Evaluated when it has not yet been evaluated against the criteria.



**Environment Protection and Biodiversity Conservation Act 1999**

Category	Definition
<b>Threatened Flora Species</b>	
<b>Extinct (EX)</b>	A native species is eligible to be included in the Extinct category at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.
<b>Extinct in the Wild (EW)</b>	A native species is eligible to be included in the Extinct in the Wild category at a particular time if, at that time:  (a) it is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or  (b) it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
<b>Critically Endangered (CR)</b>	A native species is eligible to be included in the critically endangered category at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
<b>Endangered (EN)</b>	A native species is eligible to be included in the endangered category at a particular time if, at that time:  (a) it is not critically endangered; and  (b) it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
<b>Vulnerable (VU)</b>	A native species is eligible to be included in the vulnerable category at a particular time if, at that time:  (a) it is not critically endangered or endangered; and  (b) it is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
<b>Conservation Dependent (CD)</b>	A native species is eligible to be included in the Conservation Dependent category at a particular time if, at that time:  (a) the species is the focus of a specific conservation program the cessation of which would result in the species becoming Vulnerable, Endangered or Critically Endangered; or  (b) the following subparagraphs are satisfied:  (i) the species is a species of fish;  (ii) the species is the focus of a plan of management that provides for management actions necessary to stop the decline of, and support the recovery of, the species so that its chances of long term survival in nature are maximised;  (iii) the plan of management is in force under a law of the Commonwealth or a State or Territory;  (iv) cessation of the plan of management would adversely affect the conservation status of the species.



Category	Definition
<b>Threatened Ecological Communities</b>	
<b>Critically Endangered</b>	An ecological community is eligible to be included in the critically endangered category at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
<b>Endangered</b>	An ecological community is eligible to be included in the endangered category at a particular time if, at that time: (a) it is not critically endangered; and (b) it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
<b>Vulnerable</b>	An ecological community is eligible to be included in the vulnerable category at a particular time if, at that time: (a) it is not critically endangered nor endangered; and (b) it is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

**Biodiversity Conservation Act 2016**

Category	Definition
<b>Threatened Flora Species</b>	
<b>Critically Endangered (CR)</b>	Threatened species considered to be “facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines”. Published under schedule 1 of the <i>Wildlife Conservation (Rare Flora) Notice 2018</i> for critically endangered flora.
<b>Endangered (EN)</b>	Threatened species considered to be “facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines”. Published under schedule 2 of the <i>Wildlife Conservation (Rare Flora) Notice 2018</i> for endangered flora.
<b>Vulnerable (VU)</b>	Threatened species considered to be “facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines”. Published under schedule 3 of the <i>Wildlife Conservation (Rare Flora) Notice 2018</i> for vulnerable flora.
<b>Extinct (EX)</b>	Species where “there is no reasonable doubt that the last member of the species has died”, and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act). Published as presumed extinct under schedule 4 of the <i>Wildlife Conservation (Rare Flora) Notice 2018</i> for extinct flora.
<b>Extinct in the Wild (EW)</b>	Species that “is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form”, and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act). Currently there are no threatened flora species listed as extinct in the wild.



Category	Definition
<b>Threatened Ecological Communities</b>	
<b>Critically Endangered (CR)</b>	<p>An ecological community is eligible for listing in the category of critically endangered ecological community at a particular time if, at that time —</p> <p>(a) it is facing an extremely high risk of becoming eligible for listing as a collapsed ecological community in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines; and</p> <p>(b) listing in that category is otherwise in accordance with the ministerial guidelines.</p>
<b>Endangered (EN)</b>	<p>An ecological community is eligible for listing in the category of endangered ecological community at a particular time if, at that time —</p> <p>(a) it is not a critically endangered ecological community; and</p> <p>(b) it is facing a very high risk of becoming eligible for listing as a collapsed ecological community in the near future, as determined in accordance with criteria set out in the ministerial guidelines; and</p> <p>(c) listing in that category is otherwise in accordance with the ministerial guidelines.</p>
<b>Vulnerable (VU)</b>	<p>An ecological community is eligible for listing in the category of vulnerable ecological community at a particular time if, at that time —</p> <p>(a) it is not a critically endangered ecological community or an endangered ecological community; and</p> <p>(b) it is facing a high risk of becoming eligible for listing as a collapsed ecological community in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines; and</p> <p>(c) listing in that category is otherwise in accordance with the ministerial guidelines.</p>
<b>Collapsed</b>	<p>An ecological community is eligible for listing as a collapsed ecological community at a particular time if, at that time —</p> <p>(a) there is no reasonable doubt that the last occurrence of the ecological community has collapsed; or</p> <p>(b) the ecological community has been so extensively modified throughout its range that no occurrence of it is likely to recover —</p> <ul style="list-style-type: none"> <li>(i) its species composition or structure; or</li> <li>(ii) its species composition and structure.</li> </ul>



**Department of Biodiversity, Conservation and Attractions Priority Definitions**

Category	Definition
<b>Priority Flora Species</b>	
<b>Priority 1 (P1)</b>	<p><b>Poorly-known Species</b></p> <p>Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.</p>
<b>Priority 2 (P2)</b>	<p><b>Poorly-known Species</b></p> <p>Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.</p>
<b>Priority 3 (P3)</b>	<p><b>Poorly-known Species</b></p> <p>Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.</p>
<b>Priority 4 (P4)</b>	<p><b>Rare, Near Threatened and other species in need of monitoring</b></p> <p>(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.</p> <p>(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.</p> <p>(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.</p>



Category	Definition
<b>Priority Ecological Communities</b>	
<b>Priority 1 (P1)</b>	<p><b>Poorly-known ecological communities</b></p> <p>Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤ 100ha). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.</p>
<b>Priority 2 (P2)</b>	<p><b>Poorly-known Ecological Communities</b></p> <p>Communities that are known from few occurrences with a restricted distribution (generally ≤10 occurrences or a total area of ≤200ha). At least some occurrences are not believed to be under immediate threat (within approximately 10 years) of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.</p>
<b>Priority 3 (P3)</b>	<p><b>Poorly-known Ecological Communities</b></p> <p>(i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:</p> <p>(ii) communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years), or;</p> <p>(iii) communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change etc.</p> <p>Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.</p>



Category	Definition
<p><b>Priority 4 (P4)</b></p>	<p><b>Ecological communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.</b></p> <p>(i) Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands.</p> <p>(ii) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for a higher threat category.</p> <p>(iii) Ecological communities that have been removed from the list of threatened communities during the past five years.</p>
<p><b>Priority 5 (P5)</b></p>	<p><b>Conservation Dependent ecological communities.</b></p> <p>Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.</p>



## Appendix B: Sample Site Data

**Western Ridge Site WRQ-01**

**Date** 18/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 761349 mE; 7408494 mN  
 119.557464 E -23.412524 S  
**Veg Condition** Excellent  
**Soil** Silty Loam  
**Rock Type** Conglomerate  
**Fire Age** Old (6+ yr)  
**Habitat** Gully



**Vegetation** *Triodia pungens* low open hummock grassland with *Dodonaea pachyneura*, *Acacia monticola* and *Androcalva luteiflora* mid to tall sparse shrubland with *Acacia citrinoviridis*, *Acacia aptaneura* and *Eucalyptus leucophloia* subsp. *leucophloia* low sparse woodland.

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Abutilon</i> sp. Indet	0.1		0.3		Insufficient material for confident identification
<i>Acacia aptaneura</i>	1		5	WRQ 20.11	
<i>Acacia citrinoviridis</i>	2		5	WRQ 08.05	
<i>Acacia maitlandii</i>	0.1		0.9		
<i>Acacia marramamba</i>	0.1		0.7		
<i>Acacia monticola</i>	2		2		
<i>Acacia pruinocarpa</i>	0.1		3		
<i>Acacia pyrifolia</i> var. <i>pyrifolia</i>	0.1		0.8		
<i>Androcalva luteiflora</i>	1		2.5		
<i>Bidens bipinnata</i>	0.1		0.1		
<i>Capparis lasiantha</i>	0.1				
<i>Corymbia ferriticola</i>	0.1		5.5	WRQ 08.03	
<i>Cucumis variabilis</i>	0.1			WRQ 07.03	
<i>Dodonaea pachyneura</i>	2		3	WRQ 08.01	
<i>Duperreya commixta</i>	0.1				
<i>Enneapogon polyphyllus</i>	0.1		0.2	WRQ 21.12	
<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	0.1		1.5		
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1		1.2		
<i>Eriachne mucronata</i>	2		0.4		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	1		5		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.2		
<i>Gossypium robinsonii</i>	0.1		0.1		
<i>Heliotropium inexplicitum</i>	0.1		0.2	WRQ 21.09	
<i>Hybanthus aurantiacus</i>	0.1		0.3		
<i>Jasminum didymum</i> subsp. <i>lineare</i>	0.1				
<i>Mirbelia viminalis</i>	0.1		0.5		
<i>Paspalidium clementii</i>	0.1			WRQ 20.01	
<i>Petalostylis labicheoides</i>	1		2.4		
<i>Psyrax latifolia</i>	0.1		0.5		
<i>Ptilotus auriculifolius</i>	0.1		0.3	WRQ 20.20	
<i>Ptilotus obovatus</i>	0.1		0.2		
<i>Santalum lanceolatum</i>	0.1		2.2		
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		1.1		
<i>Senna glaucifolia</i>	0.1		1.5	WRQ 10.05	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		1.8		
<i>Solanum cleistogamum</i>	0.1		0.2		
<i>Sporobolus australasicus</i>	0.1		0.1	WRQ 20.02	
<i>Stemodia</i> sp. Indet	0.1		0.1		Insufficient material for confident identification
<i>Themeda triandra</i>	0.1		0.4		
<i>Trachymene oleracea</i>	0.1		0.2		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.2		
<i>Triodia pungens</i>	18		0.4		

**Western Ridge****SiteWRQ-02**

**Date** 18/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 761198 mE; 7407835 mN  
 119.556095 E -23.418493 S  
**Veg Condition** Excellent  
**Soil** Silty Loam  
**Rock Type** Conglomerate  
**Fire Age** Old (6+ yr)  
**Habitat** Gully



**Vegetation** *Triodia pungens* low open hummock grassland with *Acacia citrinoviridis*, *Eucalyptus leucophloia* subsp. *leucophloia* and *Eucalyptus kingsmillii* low open woodland over *Dodonaea pachyneura* and *Acacia pruinocarpa* mid to tall scattered shrubs.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia citrinoviridis</i>	5		6	WRQ 08.05	
<i>Acacia marramamba</i>	0.1		1.5		
<i>Acacia pruinocarpa</i>	0.1		3		
<i>Acacia</i> sp. Indet	0.1		2		Insufficient material for confident identification
<i>Acacia tetragonophylla</i>	0.1		1.5		
<i>Amaranthus undulatus</i>	0.1		0.2	WRQ 02.03	
<i>Bulbostylis barbata</i>	0.1		0.1	WRQ 07.04	
<i>Cheilanthes</i> sp. Indet	0.1		0.2		Insufficient material for confident identification
<i>Cleome viscosa</i>	0.1		0.3		
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	0.1		5.5	WRQ 08.06	
<i>Corymbia ferritcola</i>	0.1		3	WRQ 08.03	
<i>Dodonaea pachyneura</i>	0.1		2.5	WRQ 08.01	
<i>Enneapogon polyphyllus</i>	0.1		0.2	WRQ 21.12	
<i>Eriachne mucronata</i>	1		0.4		
<i>Eucalyptus kingsmillii</i>	0.1		3	WRQ 02.01	
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	2		4		
<i>Gomphrena kanisii</i>	0.1		0.2	WRQ 27.07	
<i>Paspalidium clementii</i>	0.1		0.1	WRQ 20.01	
<i>Ptilotus auriculifolius</i>	0.1		0.4	WRQ 20.20	
<i>Ptilotus calostachyus</i>	0.1		0.1		
<i>Ptilotus helipteroides</i>	0.1		0.3	WRQ 02.02	
<i>Ptilotus obovatus</i>	0.1		0.3		
<i>Ptilotus polystachyus</i>	0.1		0.4	WRQ 27.13	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.6		
<i>Seringia elliptica</i>	0.1		0.4		
<i>Solanum cleistogamum</i>	0.1		0.1		
<i>Stemodia</i> sp. Indet	0.1		0.1		Insufficient material for confident identification
<i>Trachymene oleracea</i>	0.1		0.1		
<i>Tribulus suberosus</i>	0.1		0.1		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.3		
<i>Triodia pungens</i>	25		0.4		

**Western Ridge****SiteWRQ-03**

**Date** 18/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 761377 mE; 7409103 mN  
 119.557628 E -23.407021 S

**Veg Condition** Very Good**Soil** Silty Loam**Rock Type** BIF**Fire Age** Old (6+ yr)**Habitat** Undulating Low Hills

**Vegetation** *Triodia vanleeuwenii* low hummock grassland with *Hakea chordophylla*, *Acacia pachyacra* and *Senna glutinosa* subsp. *glutinosa* mid to tall scattered shrubs.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen Notes</b>
<i>Acacia pachyacra</i>	0.1		1.5	
<i>Bulbostylis barbata</i>	0.1		0.1	
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	0.1		0.1	
<i>Hakea chordophylla</i>	0.1		3	
<i>Hakea lorea</i> subsp. <i>lorea</i>	0.1		3	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.2	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.2	
<i>Senna glaucifolia</i>	0.1		0.6	WRQ 10.05
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		1.4	
<i>Senna glutinosa</i> subsp. x <i>luerssenii</i>	0.1		2	
<i>Senna notabilis</i>	0.1		0.2	
<i>Stackhousia</i> sp. swollen gynophore (W.R. Barker 2041)	0.1		0.1	WRQ 19.03
<i>Triodia vanleeuwenii</i>	40		0.4	



**Western Ridge****SiteWRQ-04**

**Date** 19/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 761897 mE; 7409553 mN  
 119.562634 E -23.402877 S  
**Veg Condition** Good  
**Soil** Silty Clay Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Stony Plain  
**Vegetation**



*Acacia incurvaneura*, *Acacia ? catenulata* subsp. *occidentalis* and *Grevillea berryana*  
 low sparse woodland over *Eremophila forrestii* subsp. *forrestii*, *Tribulus suberosus* mid  
 to low scattered shrubs over *Paspalidium clementii* low scattered tussock grasses.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen Notes</b>
<i>Aristida contorta</i>	0.1		0.1	
<i>Aristida inaequiglumis</i>	0.1		0.3	WRQ 04.01
<i>Bidens bipinnata</i>	0.1		0.1	
<i>Cheilanthes</i> sp. Indet	0.1		0.1	
<i>Cucumis variabilis</i>	0.1		0.1	WRQ 07.03
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	0.1		1.3	
<i>Eriachne aristidea</i>	0.1		0.2	
<i>Eriachne mucronata</i>	0.1		0.3	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1	
<i>Goodenia microptera</i>	0.1		0.1	
<i>Perotis rara</i>	0.1		0.1	
<i>Psydrax suaveolens</i>	0.1		0.3	
<i>Ptilotus calostachyus</i>	0.1		0.3	
<i>Ptilotus obovatus</i>	0.1		0.3	
<i>Ptilotus polystachyus</i>	0.1		0.2	WRQ 27.13
<i>Schizachyrium fragile</i>	0.1		0.1	WRQ 19.04
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.2	
<i>Senna glaucifolia</i>	0.1		0.8	WRQ 10.05
<i>Solanum cleistogamum</i>	0.1		0.1	
<i>Solanum lasiophyllum</i>	0.1		0.1	
<i>Streptoglossa</i> sp. Indet.	0.1		0.1	
<i>Tribulus suberosus</i>	0.1		1	
<i>Acacia incurvaneura</i>	2		5	WRQ 04.03
<i>Acacia ? catenulata</i> subsp. <i>occidentalis</i>	2		4.5	WRQ 04.04
<i>Acacia citrinoviridis</i>	1		4	WRQ 04.05
<i>Spermacoce brachystema</i>	0.1		0.1	WRQ 04.02
<i>Eragrostis</i> sp. Indet	0.1		0.1	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1	WRQ 20.04
<i>Grevillea berryana</i>	1		4	WRQ 11.01
<i>Hibiscus burtonii</i>	0.1		0.1	WRQ 20.10
<i>Nicotiana occidentalis</i> subsp. <i>obliqua</i>	0.1		0.3	WRQ 20.09
<i>Paspalidium clementii</i>	0.1		0.1	WRQ 20.01
<i>Polygala glaucifolia</i>	0.1		0.1	WRQ 21.10
<i>Ptilotus auriculifolius</i>	0.1		0.2	WRQ 20.20
<i>Enneapogon polyphyllus</i>	0.1		0.2	WRQ 20.14
<i>Enneapogon lindleyanus</i>	0.1		0.1	WRQ 21.11
<i>Tribulus hirsutus</i>	0.1		0.1	WRQ 20.15

**Western Ridge****SiteWRQ-05**

**Date** 18/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 762365 mE; 7407734 mN  
 119.567529 E -23.419221 S  
**Veg Condition** Excellent  
**Soil** Silty Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Hillslope



**Vegetation** *Triodia pungens* and *Triodia vanleeuwenii* mid hummock grassland with *Acacia marramamba*, *Acacia ancistrocarpa* hybrid and *Acacia pruinoarpa* mid to tall open shrubland.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen Notes</b>
<i>Acacia ancistrocarpa</i>	0.1			
<i>Acacia ancistrocarpa</i> x ?	2		1.8	WRQ 05.01
<i>Acacia aptaneura</i>	0.1		1.5	WRQ 20.11
<i>Acacia bivenosa</i>	0.1			
<i>Acacia marramamba</i>	2		2	
<i>Acacia pruinoarpa</i>	1		3.5	
<i>Acacia rhodophloia</i>	0.1		1.2	
<i>Acacia sibirica</i>	1		3	WRQ 05.03
<i>Acacia</i> sp. Indet	1		2	WRQ 05.02
<i>Acacia spondylophylla</i>	1		3	
<i>Androcalva luteiflora</i>	0.1		0.6	
<i>Codonocarpus cotinifolius</i>	0.1		1.5	
<i>Eremophila exilifolia</i>	0.1		0.6	WRQ 11.02
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	0.1		1.2	
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1		1.5	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1	WRQ 20.04
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	0.1		4	
<i>Oldenlandia crouchiana</i>	0.1		0.1	WRQ 21.08
<i>Paspalidium clementii</i>	0.1		0.1	WRQ 20.01
<i>Portulaca oleracea</i>	0.1		0.1	
<i>Ptilotus obovatus</i>	0.1		0.4	
<i>Ptilotus rotundifolius</i>	0.1		0.2	
<i>Ptilotus schwartzii</i>	0.1		0.2	WRQ 11.03
<i>Santalum lanceolatum</i>	0.1		1.6	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		1.7	
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1		1.2	WRQ 21.02
<i>Senna notabilis</i>	0.1		0.1	
<i>Seringia elliptica</i>	0.1		0.5	
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.3	
<i>Triodia pungens</i>	60		0.6	
<i>Triodia vanleeuwenii</i>	0.1		0.4	
<i>Vincetoxicum lineare</i>	0.1			

**Western Ridge****SiteWRQ-06**

**Date** 19/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 762430 mE; 7410039 mN  
 119.567763 E -23.398406 S  
**Veg Condition** Good  
**Soil** Silty Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Stony Plain



**Vegetation** *Acacia aptaneura* and *Acacia ayersiana* hybrid low open woodland over *Triodia wiseana* and *Triodia pungens* low scattered hummock grasses with *Senna glutinosa* subsp. *luerssenii* mid scattered shrubs.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Abutilon lepidum</i>	0.1		0.3	WRQ 06.02	
<i>Acacia aptaneura</i>	15		5	WRQ 20.11	
<i>Acacia ayersiana</i> x	5		4	WRQ 20.11	Tentatively identified as <i>Acacia</i> ? <i>ayersiana</i> hybrid? due to insufficient material
<i>Acacia pruinocarpa</i>	0.1		5		
<i>Acacia</i> sp. Indet	0.1		4	WRQ 20.12	Insufficient material for confident identification
<i>Acacia synchronicia</i>	0.1		2.5		Tentatively identified as <i>Acacia</i> ? <i>synchronicia</i> due to insufficient material
<i>Acacia tetragonophylla</i>	0.1		3		
<i>Aristida contorta</i>	0.1		0.1		
<i>Bidens bipinnata</i>	0.1		0.1		
<i>Boerhavia coccinea</i>	0.1		0.1		
<i>Cleome viscosa</i>	0.1		0.2		
<i>Corchorus</i> sp. Indet	0.1		0.1		Insufficient material for confident identification
<i>Cucumis variabilis</i>	0.1			WRQ 07.03	
<i>Enchylaena tomentosa</i>	0.1		0.4		
<i>Enneapogon lindleyanus</i>	0.1		0.3	WRQ 21.11	
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1		1.5		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1	WRQ 20.04	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Gomphrena kanisii</i>	0.1		0.1	WRQ 27.07	
<i>Goodenia muelleriana</i>	0.2		0.1	WRQ 06.01	
<i>Grevillea berrryana</i>	0.1		3	WRQ 11.01	
<i>Heliotropium inexplicitum</i>	0.1		0.1	WRQ 21.09	
<i>Hibiscus burtonii</i>	0.1		0.2	WRQ 20.10	
<i>Maireana georgei</i>	0.1		0.3		
<i>Paspalidium clementii</i>	0.1		0.1	WRQ 20.01	
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Ptilotus auriculifolius</i>	0.1		0.3	WRQ 20.20	
<i>Ptilotus calostachyus</i>	0.1		0.3		
<i>Ptilotus helipteroides</i>	0.1		0.2	WRQ 02.02	
<i>Rhagodia eremaea</i>	0.1		1.5	WRQ 27.09	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		1.5		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.3		
<i>Senna glutinosa</i> subsp. x <i>luerssenii</i>	0.1		1.5		
<i>Senna notabilis</i>	0.1		0.1		
<i>Setaria verticillata</i>	0.1		0.3		
<i>Sporobolus australasicus</i>	0.1		0.1	WRQ 20.02	
<i>Tribulus suberosus</i>	0.1		1		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.2		
<i>Triodia pungens</i>	0.1		0.4		
<i>Triodia wiseana</i>	0.1		0.3		

**Western Ridge****SiteWRQ-07**

**Date** 18/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 762483 mE; 7408361 mN  
 119.568574 E -23.413545 S  
**Veg Condition** Excellent  
**Soil** Clay Loam  
**Rock Type** Dolerite  
**Fire Age** Old (6+ yr)  
**Habitat** Gorge



**Vegetation** *Acacia citrinoviridis*, *Acacia ? ancistrocarpa x citrinoviridis* and *Eucalyptus leucophloia* subsp. *leucophloia* low open woodland over *Acacia monticola*, *Petalostylis labicheoides* and *Dodonaea pachyneura* mid to tall sparse shrubland over *Eriachne mucronata* low sparse tussock grassland over *Triodia pungens* low sparse hummock grassland.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia citrinoviridis</i>	10		5	WRQ 08.05	
<i>Acacia monticola</i>	3.5		1		
<i>Acacia rhodophloia</i>	1		4		
<i>Androcalva luteiflora</i>	0.1		1.6		
<i>Bulbostylis barbata</i>	0.1		0.1	WRQ 07.04	
<i>Capparis lasiantha</i>	0.1				
<i>Cleome viscosa</i>	0.1		0.3		
<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>	0.1		3	WRQ 07.02	
<i>Cucumis variabilis</i>	0.1			WRQ 07.03	
<i>Cymbopogon ambiguus</i>	0.1		0.4	WRQ 08.02	
<i>Dodonaea pachyneura</i>	1		3	WRQ 08.01	
<i>Duperreya commixta</i>	0.1				
<i>Eremophila exilifolia</i>	0.1		0.5	WRQ 11.02	
<i>Eriachne mucronata</i>	4		0.4		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.2	WRQ 20.04	
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	1		6		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.2		
<i>Gossypium robinsonii</i>	0.1		3		
<i>Paspalidium clementii</i>	0.1		0.2	WRQ 27.12	
<i>Petalostylis labicheoides</i>	2		4		
<i>Santalum lanceolatum</i>	0.1		1.6		
<i>Schizachyrium fragile</i>	0.1		0.2	WRQ 19.04	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.2		
<i>Seringia elliptica</i>	0.1		0.6		
<i>Sida</i> sp. Indet	0.1		0.2		Insufficient material for confident identification
<i>Sporobolus australasicus</i>	0.1		0.1	WRQ 20.02	
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.3		
<i>Acacia ancistrocarpa x citrinoviridis</i>	2		5	WRQ 07.01	Tentatively identified as <i>Acacia ? ancistrocarpa x citrinoviridis</i> due to insufficient material

**Western Ridge****SiteWRQ-08**

**Date** 17/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 762803 mE; 7408740 mN  
 119.571631 E -23.410070 S  
**Veg Condition** Excellent  
**Soil** Silty Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Medium Drainage Line



**Vegetation** *Corymbia ferritcola*, *Corymbia candida* subsp. *dipsodes* and *Acacia citrinoviridis* low open woodland over *Acacia monticola*, *Petalostylis labicheoides* and *Dodonaea pachyneura* mid to tall sparse shrubland over *Eriachne mucronata*, *Cymbopogon obtectus* and *Themeda triandra* low scattered tussock grasses

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia citrinoviridis</i>	1		6	WRQ 08.05	
<i>Acacia monticola</i>	2		3		
<i>Acacia pruinocarpa</i>	0.1		3.5		
<i>Acacia</i> sp. Indet	1		6	WRQ 08.10	Insufficient material for confident identification
<i>Amyema fitzgeraldii</i>	0.1			WRQ 08.08	
<i>Androcalva luteiflora</i>	0.1		2		
<i>Aristida holathera</i> var. <i>holathera</i>	0.1		0.3	WRQ 20.21	
<i>Bidens bipinnata</i>	0.1		0.1		
<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>	0.1		1.6	WRQ 08.09	
<i>Clerodendrum tomentosum</i> var. <i>lanceolatum</i>	0.1		1.4	WRQ 08.07	
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	5		5	WRQ 08.06	
<i>Corymbia ferritcola</i>	5		6.5	WRQ 08.03	
<i>Cucumis variabilis</i>	0.1				
<i>Cymbopogon ambiguus</i>	0.1		0.4	WRQ 08.02	
<i>Dodonaea pachyneura</i>	1		2.5	WRQ 08.01	
<i>Duperreya commixta</i>	0.1				
<i>Eriachne mucronata</i>	1		0.6		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	0.1		5		
<i>Ficus platypoda</i>	0.1		3	WRQ 08.04	
<i>Gossypium robinsonii</i>	0.1		3		
<i>Hybanthus aurantiacus</i>	0.1		0.3		
<i>Jasminum didymum</i> subsp. <i>lineare</i>	0.1				
<i>Paspalidium clementii</i>	0.1		0.2	WRQ 20.01	
<i>Petalostylis labicheoides</i>	0.1		2.4		
<i>Santalum lanceolatum</i>	0.1		2		
<i>Sida</i> sp. Indet	0.1		0.2		Insufficient material for confident identification
<i>Solanum lasiophyllum</i>	0.1		0.3		
<i>Themeda triandra</i>	0.1		0.8		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.3		
<i>Triodia pungens</i>	0.1		0.4		
<i>Vincetoxicum lineare</i>	0.1				

**Western Ridge****SiteWRQ-09**

**Date** 19/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 762922 mE; 7410350 mN  
 119.572518 E -23.395523 S  
**Veg Condition** Very Good  
**Soil** Silty Clay Loam  
**Rock Type** Dolerite  
**Fire Age** Old (6+ yr)  
**Habitat** Undulating Low Hills  
**Vegetation** *Triodia wiseana* mid hummock grassland with *Acacia inaequilatera*, *Acacia ? sibirica* and *Senna glutinosa* subsp. *luerssenii* mid to tall scattered shrubs over scattered herb layer.

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia bivenosa</i>	0.1		1.8		
<i>Acacia inaequilatera</i>	0.1		3.5		
<i>Acacia sibirica</i>	0.1		1	WRQ 09.02	Tentatively identified as <i>Acacia ? sibirica</i> due to insufficient material
<i>Acacia tetragonophylla</i>	0.1		1.8		
<i>Aristida contorta</i>	0.1		0.2		
<i>Boerhavia coccinea</i>	0.1		0.1		
<i>Cleome viscosa</i>	0.1		0.3		
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	0.1		0.3	WRQ 09.03	Tentatively identified as <i>Corchorus lasiocarpus</i> subsp. ? <i>lasiocarpus</i> due to insufficient material
<i>Cucumis variabilis</i>	0.1			WRQ 07.03	
<i>Enneapogon lindleyanus</i>	0.1		0.2	WRQ 21.11	
<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	0.1		1.3		
<i>Eriachne mucronata</i>	0.1		0.4		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1	WRQ 20.04	
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	0.1		0.1		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.3		
<i>Gomphrena kanisii</i>	0.1		0.2	WRQ 27.07	
<i>Goodenia muelleriana</i>	0.1		0.1	WRQ 06.01	
<i>Haloragis gossei</i> var. <i>gossei</i>	0.1		0.1	WRQ 09.05	
<i>Heliotropium cunninghamii</i>	0.1		0.1	WRQ 20.13	
<i>Heliotropium inexplicitum</i>	0.1		0.1	WRQ 21.09	
<i>Heliotropium pachyphyllum</i>	0.1		0.2	WRQ 09.04	
<i>Indigofera monophylla</i>	0.1		0.4		
<i>Maireana</i> sp. Indet	0.1		0.2		Insufficient material for confident identification
<i>Oldenlandia crouchiana</i>	0.1		0.1	WRQ 21.08	
<i>Paspalidium clementii</i>	0.1		0.3	WRQ 20.01	
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Pterocaulon</i> sp. Indet	0.1		0.2		Insufficient material for confident identification
<i>Ptilotus auriculifolius</i>	0.1		0.3	WRQ 20.20	
<i>Ptilotus exaltatus</i>	0.1		0.3		
<i>Ptilotus helipteroides</i>	0.1		0.2	WRQ 20.05	
<i>Ptilotus obovatus</i>	0.1		0.4		
<i>Rhagodia eremaea</i>	0.1		0.5		
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.6		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.5		
<i>Senna glutinosa</i> subsp. x <i>luerssenii</i>	0.1		1.5	WRQ 21.02	
<i>Sporobolus australasicus</i>	0.1		0.1	WRQ 20.02	
<i>Streptoglossa</i> sp. Indet.	0.1		0.2		Insufficient material for confident identification
<i>Trachymene oleracea</i>	0.1		0.2		
<i>Tribulus hirsutus</i>	0.1		0.1	WRQ 09.01	
<i>Tribulus suberosus</i>	0.1		0.3		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.2		
<i>Triodia wiseana</i>	35		0.5		

**Western Ridge****SiteWRQ-10**

**Date** 17/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 763526 mE; 7408762 mN  
 119.578704E -23.409758 S  
**Veg Condition** Excellent  
**Soil** Silty Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope



**Vegetation** *Triodia vanleeuwenii*, *Triodia pungens* and *Triodia wiseana* low hummock grassland with *Eucalyptus leucophloia* subsp. *leucophloia*, *Corymbia deserticola* subsp. *deserticola* and *Corymbia ferritcola* low sparse woodlandover *Hakea chordophylla*, *Acacia maitlandii* and *Senna glutinosa* subsp. *glutinosa* mid to tall scattered shrubs.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen Notes</b>
<i>Acacia hamersleyensis</i>	0.1		2.8	WRQ 10.03
<i>Acacia maitlandii</i>	0.1		2.5	
<i>Acacia marramamba</i>	0.1		1.6	
<i>Acacia pruinocarpa</i>	0.1		2.5	
<i>Acacia tenuissima</i>	0.1		1.2	
<i>Calytrix carinata</i>	0.1		0.8	
<i>Corymbia deserticola</i> subsp. <i>deserticola</i>	0.1		3.5	WRQ 19.01
<i>Corymbia ferritcola</i>	0.1		2.5	
<i>Eriachne lanata</i>	0.1		0.2	WRQ 10.01
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	3		4.5	
<i>Goodenia triodiophila</i>	0.1		0.2	
<i>Hakea chordophylla</i>	1		3	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.6	
<i>Senna glaucifolia</i>	0.1		1.3	WRQ 10.05
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		2	
<i>Seringia elliptica</i>	0.1		0.3	
<i>Stackhousia</i> sp. swollen gynophore (W.R. Barker 2041)	0.1		0.1	WRQ 19.03
<i>Trachymene oleracea</i>	0.1		0.1	
<i>Trianthema glossostigmum</i>	0.1		0.1	WRQ 19.05
<i>Tribulus suberosus</i>	0.1		0.4	
<i>Triodia pungens</i>	0.1		0.4	
<i>Triodia vanleeuwenii</i>	50		40	
<i>Triodia wiseana</i>	0.1		0.4	
<i>Acacia</i> sp. Indet	0.1		2.8	WRQ 10.04
<i>Scaevola browniana</i> subsp. <i>browniana</i>	0.1		0.2	WRQ 10.02

**Western Ridge****SiteWRQ-11**

**Date** 18/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 763497 mE; 7407908 mN  
 119.578562 E -23.417471 S  
**Veg Condition** Very Good  
**Soil** Silty Loam  
**Rock Type** Conglomerate  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope



**Vegetation** *Acacia ? incurvaneura*, *Acacia ? ayersiana* hybrid and *Grevillea berryana* tall open shrubland, over *Eremophila exilifolia* and *Eremophila forrestii* subsp. *forrestii* mid scattered shrubs over *Triodia vanleeuwenii* low scattered hummock grasses.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia ayersiana</i> x	1		3	WRQ 11.05	Tentatively identified as <i>Acacia ? ayersiana</i> hybrid? due to insufficient material
<i>Acacia incurvaneura</i>	2		5	WRQ 11.04	Tentatively identified as <i>Acacia ? incurvaneura</i> due to insufficient material
<i>Acacia pruinocarpa</i>	0.1		4		
<i>Acacia rhodophloia</i>	0.1		3		
<i>Brunonia australis</i>	0.1		0.2	WRQ 21.05	
<i>Cheilanthes</i> sp. Indet	0.1		0.1		Insufficient material for confident identification
<i>Cucumis variabilis</i>	0.1		0.2		
<i>Cynanchum viminale</i> subsp. <i>australe</i>	0.1		2		
<i>Eremophila exilifolia</i>	1		1.5	WRQ 11.02	
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	0.1		1.6		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1	WRQ 20.04	
<i>Goodenia microptera</i>	0.1		0.1	WRQ 21.06	
<i>Grevillea berryana</i>	2		5.5	WRQ 11.01	
<i>Paspalidium clementii</i>	0.1		0.1	WRQ 20.01	
<i>Ptilotus schwartzii</i>	0.1		0.3	WRQ 11.03	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.1		
<i>Senna glaucifolia</i>	0.1		1.5	WRQ 10.05	
<i>Solanum</i> sp. Indet	0.1		0.1		Insufficient material for confident identification
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.1		
<i>Triodia pungens</i>	0.1		0.3		
<i>Triodia vanleeuwenii</i>	0.1		0.3		



**Western Ridge****SiteWRQ-12**

**Date** 20/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 763791 mE; 7411831 mN  
 119.580757 E -23.382015 S  
**Veg Condition** Excellent  
**Soil** Silty Clay Loam  
**Rock Type** Dolerite  
**Fire Age** Old (6+ yr)  
**Habitat** Undulating Low Hills



**Vegetation** *Triodia wiseana* and *Triodia pungens* mid hummock grassland with *Eremophila fraseri*, *Acacia ? sibirica* and *Ptilotus rotundifolius* mid to low sparse shrubland with *Acacia inaequilatera* tall scattered shrubs.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia inaequilatera</i>	0.1		2.5		
<i>Acacia pruinocarpa</i>	0.1		1.7		
<i>Acacia sibirica</i>	1		1.4	WRQ 09.02	Tentatively identified as <i>Acacia ? sibirica</i> due to insufficient material
<i>Acacia tetragonophylla</i>	0.1		1.5		
<i>Aristida contorta</i>	0.1		0.2		
<i>Cenchrus ciliaris</i>	0.1		0.3		
<i>Cleome viscosa</i>	0.1		0.2		
<i>Cymbopogon</i> sp. Indet	0.1		0.2		Insufficient material for confident identification
<i>Enneapogon lindleyanus</i>	0.1		0.1	WRQ 21.11	
<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	1		1.2		
<i>Eremophila longifolia</i>	0.1		0.6		
<i>Eriachne mucronata</i>	0.1		0.4		
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	0.1		0.2		
<i>Gomphrena kanisii</i>	0.1		0.1	WRQ 27.07	
<i>Goodenia muelleriana</i>	0.1		0.2	WRQ 06.01	
<i>Heliotropium inexplicitum</i>	0.1		0.1	WRQ 21.09	
<i>Indigofera monophylla</i>	0.1		0.1		
<i>Maireana georgei</i>	0.1		0.3		
<i>Paspalidium clementii</i>	0.1		0.2	WRQ 20.01	
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Ptilotus auriculifolius</i>	0.1		0.3	WRQ 20.20	
<i>Ptilotus helipteroides</i>	0.1		0.1	WRQ 20.05	
<i>Ptilotus obovatus</i>	0.1		0.4		
<i>Ptilotus rotundifolius</i>	0.1		1.2		
<i>Salsola australis</i>	0.1		0.1		
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.7		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.6		
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		0.5		
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1		1.2	WRQ 21.02	
<i>Sporobolus australasicus</i>	0.1		0.2	WRQ 20.02	
<i>Trachymene oleracea</i>	0.1		0.1		
<i>Tribulus hirsutus</i>	0.1		0.2	WRQ 09.01	
<i>Tribulus platypterus</i>	0.1		0.4	WRQ 12.01	
<i>Tribulus suberosus</i>	0.1		0.6		
<i>Triodia pungens</i>	0.1		0.5		
<i>Triodia wiseana</i>	35		0.6		

**Western Ridge****SiteWRQ-13**

**Date** 19/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 763745 mE; 7410713 mN  
 119.580501 E -23.392113 S  
**Veg Condition** Excellent  
**Soil** Silty Clay Loam  
**Rock Type** Dolerite  
**Fire Age** Old (6+ yr)  
**Habitat** Undulating Low Hills



**Vegetation** *Triodia wiseana* mid hummock grassland with *Acacia inaequilatera*, *Senna glutinosa* subsp. *luerssenii* and *Eremophila fraseri* mid to tall scattered shrubs over scattered herbs.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen Notes</b>
<i>Abutilon lepidum</i>	0.1		0.3	WRQ 21.03
<i>Acacia inaequilatera</i>	0.1		3	
<i>Acacia maitlandii</i>	0.1		2	
<i>Aristida contorta</i>	0.1		0.2	
<i>Boerhavia coccinea</i>	0.1		0.1	
<i>Cleome viscosa</i>	0.1		0.4	
<i>Cucumis variabilis</i>	0.1			WRQ 07.03
<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	0.1		1.5	
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	0.1		0.1	
<i>Heliotropium tenuifolium</i>	0.1		0.1	WRQ 13.01
<i>Indigofera monophylla</i>	0.1		0.3	
<i>Ptilotus exaltatus</i>	0.1		0.2	
<i>Rhagodia eremaea</i>	0.1		0.6	WRQ 27.09
<i>Salsola australis</i>	0.1		0.2	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		1	
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1		1.6	WRQ 21.02
<i>Sporobolus australasicus</i>	0.1		0.1	WRQ 20.02
<i>Streptoglossa</i> sp. Indet.	0.1		0.1	
<i>Tribulus hirsutus</i>	0.1		0.1	WRQ 09.01
<i>Tribulus suberosus</i>	0.1		0.3	
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.6	
<i>Triodia wiseana</i>	40		0.5	
<i>Corchorus lasiocarpus</i> subsp. ? <i>lasiocarpus</i>	0.1		0.4	WRQ 09.03
<i>Goodenia muelleriana</i>	0.1		0.3	WRQ 13.02
<i>Haloragis gossei</i> var. <i>gossei</i>	0.1		0.2	WRQ 09.05
<i>Heliotropium pachyphyllum</i>	0.1		0.3	WRQ 09.04
<i>Heliotropium cunninghamii</i>	0.1		0.2	WRQ 20.13
<i>Paspalidium clementii</i>	0.1		0.3	WRQ 20.01
<i>Pterocaulon</i> sp. Indet.	0.1		0.2	
<i>Ptilotus auriculifolius</i>	0.1		0.4	WRQ 20.20
<i>Ptilotus helipteroides</i>	0.1		0.2	WRQ 20.05
<i>Sida fibulifera</i>	0.1		0.1	WRQ 13.03
<i>Enneapogon lindleyanus</i>	0.1		0.3	WRQ 21.11

**Western Ridge****SiteWRQ-14**

**Date** 19/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 763776 mE; 7409429 mN  
 119.581031 E -23.403698 S  
**Veg Condition** Very Good  
**Soil** Clay Loam  
**Rock Type** Conglomerate  
**Fire Age** Old (6+ yr)  
**Habitat** Medium Drainage Line



**Vegetation** *Eriachne* sp. Indet and *Themeda triandra* low open tussock grassland with *Androcalva luteiflora*, *Petalostylis labicheoides* and *Acacia monticola* mid to tall sparse shrubland with *Eucalyptus xerothermica* and *Corymbia hamersleyana* low scattered trees

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen Notes</b>
<i>Acacia aptaneura</i>	0.1		4	WRQ 20.11
<i>Acacia maitlandii</i>	0.1		1.8	
<i>Acacia monticola</i>	1		3.2	
<i>Acacia pyrifolia</i> var. <i>pyrifolia</i>	0.1		1.3	
<i>Androcalva luteiflora</i>	1		2	
<i>Aristida contorta</i>	0.1		0.2	
<i>Bidens bipinnata</i>	0.1		0.2	
<i>Bulbostylis barbata</i>	0.1		0.1	
<i>Cenchrus ciliaris</i>	0.1		0.4	
<i>Chrysopogon fallax</i>	0.1		0.3	
<i>Cleome viscosa</i>	0.1		0.3	
<i>Corymbia hamersleyana</i>	0.1		5	
<i>Cucumis variabilis</i>	0.1			WRQ 07.03
<i>Duperreya commixta</i>	0.1			
<i>Eriachne mucronata</i>	1		0.4	
<i>Eriachne</i> sp. Indet	12		0.4	WRQ 14.02
<i>Eucalyptus xerothermica</i>	0.1		5	
<i>Eulalia aurea</i>	0.1		0.3	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1	
<i>Grevillea wickhamii</i>	0.1		0.3	
<i>Hybanthus aurantiacus</i>	0.1		0.2	
<i>Isotropis</i> sp. Arid zone (G. Byrne 2775)	0.1		0.1	
<i>Petalostylis labicheoides</i>	1		3	
<i>Ptilotus obovatus</i>	0.1		0.1	
<i>Santalum lanceolatum</i>	0.1		2	
<i>Themeda triandra</i>	0.1		0.5	
<i>Trachymene oleracea</i>	0.1		0.1	
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.3	
<i>Triodia pungens</i>	0.1		0.4	
<i>Enneapogon polyphyllus</i>	0.1		0.1	WRQ 21.12
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1	WRQ 20.04
<i>Euphorbia biconvexa</i>	0.1		0.2	WRQ 14.01
<i>Glycine</i> sp. Indet	0.1			
<i>Dipteracanthus australasicus</i> subsp. <i>australasicus</i>	0.1		0.3	WRQ 27.08
<i>Paspalidium clementii</i>	0.1		0.1	WRQ 20.01
<i>Ptilotus helipteroides</i>	0.1		0.3	WRQ 02.02

**Western Ridge****SiteWRQ-15**

**Date** 20/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 763655 mE; 7411520 mN  
 119.579474 E -23.384849 S  
**Veg Condition** Good  
**Soil** Clay Loam  
**Rock Type** Dolerite  
**Fire Age** Recent (0 to 2 yr)  
**Habitat** Medium Drainage Line



**Vegetation** *Eucalyptus victrix* mid to low sparse woodland over *Acacia citrinoviridis* tall scattered shrubs over *Themeda triandra*, *Eulalia aurea* and *Cenchrus ciliaris* low scattered tussock grasses.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen Notes</b>
<i>Acacia citrinoviridis</i>	0.1		1.2	
<i>Acacia pyrifolia</i> var. <i>pyrifolia</i>	0.1		0.1	
<i>Acacia tetragonophylla</i>	0.1		0.4	
<i>Alternanthera nana</i>	0.1		0.1	
<i>Alternanthera nodiflora</i>	0.1		0.4	
<i>Amaranthus undulatus</i>	0.1		0.8	
<i>Aristida contorta</i>	0.1		0.2	
<i>Bidens bipinnata</i>	0.1		0.3	
<i>Boerhavia coccinea</i>	0.1			
<i>Cenchrus ciliaris</i>	0.1		0.3	
<i>Centipeda minima</i> subsp. <i>macrocephala</i>	0.1		0.1	
<i>Chrysopogon fallax</i>	0.1		1	
<i>Cleome viscosa</i>	0.1		0.5	
<i>Corchorus tridens</i>	0.1		0.1	
<i>Crotalaria medicaginea</i> var. <i>neglecta</i>	0.1		0.1	
<i>Cucumis variabilis</i>	0.1			WRQ 07.03
<i>Eucalyptus victrix</i>	3		12	
<i>Eulalia aurea</i>	0.1		0.4	
<i>Euphorbia biconvexa</i>	0.1		0.2	WRQ 14.01
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	0.1		0.2	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1	
<i>Heliotropium tenuifolium</i>	0.1		0.1	WRQ 13.01
<i>Hibiscus coatesii</i>	0.1		0.5	WRQ 15.19
<i>Indigofera linnaei</i>	0.1		0.1	
<i>Isotropis</i> sp. Arid zone (G. Byrne 2775)	0.1		0.3	
<i>Malvastrum americanum</i>	0.1		0.3	
<i>Marsilea hirsuta</i>	0.1		0.1	WRQ 15.05
<i>Operculina aequisejala</i>	0.1		0.1	WRQ 15.16
<i>Perotis rara</i>	0.1		0.1	
<i>Pluchea dentex</i>	0.1		0.1	
<i>Polycarpaea longiflora</i>	0.1		0.2	
<i>Portulaca oleracea</i>	0.1		0.1	
<i>Ptilotus exaltatus</i>	0.1		0.2	
<i>Rhynchosia minima</i>	0.1			
<i>Salsola australis</i>	0.1		0.1	
<i>Santalum lanceolatum</i>	0.1		0.5	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.3	
<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	0.1		0.1	WRQ 27.01
<i>Senna notabilis</i>	0.1		0.3	
<i>Setaria verticillata</i>	0.1		0.1	
<i>Solanum cleistogamum</i>	0.1		0.1	
<i>Solanum lasiophyllum</i>	0.1		0.2	
<i>Sporobolus australasicus</i>	0.1		0.1	WRQ 20.02
<i>Swainsona decurrens</i>	0.1		0.1	WRQ 15.12
<i>Tephrosia rosea</i> var. Fortescue creeks (M.I.H. Brooker 2186)	0.1		0.3	
<i>Themeda triandra</i>	0.1		0.5	
<i>Trachymene oleracea</i>	0.1		0.1	
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.5	
<i>Panicum laevinode</i>	0.1		0.5	WRQ 15.10

<i>Abutilon leucopetalum</i>	0.1	0.1	WRQ 15.03
<i>Abutilon macrum</i>	0.1	0.4	WRQ 15.17
<i>Ipomoea plebeia</i>	0.1		WRQ 15.08
<i>Corchorus lasiocarpus</i> subsp.? <i>lasiocarpus</i>	0.1	0.4	WRQ 09.03
<i>Cyperus iria</i>	0.1	0.6	WRQ 15.18
<i>Eragrostis cumingii</i>	0.1	0.3	WRQ 15.11
<i>Eragrostis leptocarpa</i>	0.1	0.5	WRQ 15.04
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1	0.2	WRQ 20.04
<i>Vigna</i> sp. Hamersley Clay (A.A. Mitchell PRP 113)	0.1		WRQ 15.14
<i>Glycine</i> sp. Indet	0.1		
<i>Goodenia muelleriana</i>	0.1	0.1	WRQ 13.02
<i>Heliotropium pachyphyllum</i>	0.1	0.2	WRQ 09.04
<i>Notoleptopus decaisnei</i> var. <i>orbicularis</i>	0.1	0.1	WRQ 15.02
<i>Indigofera monophylla</i>	0.1	0.2	WRQ 15.13
<i>Acrachne racemosa</i>	0.1	0.3	Yandi
<i>Nicotiana occidentalis</i> subsp. <i>obliqua</i>	0.1	0.3	WRQ 20.09
<i>Paspalidium clementii</i>	0.1	0.2	WRQ 20.01
<i>Ptilotus auriculifolius</i>	0.1	0.3	WRQ 20.20
<i>Ptilotus aervoides</i>	0.1	0.1	WRQ 20.06
<i>Scaevola amblyanthera</i> var. <i>centralis</i>	0.1	0.1	WRQ 15.15
<i>Eragrostis tenellula</i>	0.1	0.4	WRQ 15.06
<i>Enneapogon lindleyanus</i>	0.1	0.1	WRQ 21.11
<i>Streptoglossa</i> sp. Indet.	0.1	0.1	
<i>Cullen pogonocarpum</i>	0.1	0.2	WRQ 15.09
<i>Tribulus occidentalis</i>	0.1	0.1	WRQ 15.01

**Western Ridge****Site WRQ-16**

**Date** 17/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 763994 mE; 7408180 mN  
 119.583381 E -23.414932 S  
**Veg Condition** Excellent  
**Soil** Silty Loam  
**Rock Type** Dolerite  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Hillslope  
**Vegetation** *Triodia vanleeuwenii* low sparse hummock grassland with *Acacia spondylophylla*, and *Senna glutinosa* subsp. *glutinosa* mid scattered shrubs

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia</i> ? <i>tenuissima</i>	0.1		0.4		
<i>Acacia ancistrocarpa</i>	0.1		1.7		
<i>Acacia maitlandii</i>	0.1		0.8		
<i>Acacia spondylophylla</i>	0.1		0.5		
<i>Aristida contorta</i>	0.1		0.2		
<i>Cleome viscosa</i>	0.1		0.3		
<i>Eremophila longifolia</i>	0.1		0.8		
<i>Fimbristylis simulans</i>	0.1		0.2	WRQ 19.02	
<i>Ptilotus astrolasius</i>	0.1		0.3		
<i>Ptilotus obovatus</i>	0.1		0.4		
<i>Schizachyrium fragile</i>	0.1		0.2	WRQ 19.04	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.2		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.3		
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		1.2		
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	0.1		0.3		
<i>Tribulus suberosus</i>	0.1		0.3		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.2		
<i>Triodia vanleeuwenii</i>	10		0.3		
? <i>Streptoglossa</i> sp. Indet	0.1		0.2		
<i>Eremophila</i> sp. Indet.	0.1		0.3		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1	WRQ 20.04	
<i>Bulbostylis barbata</i>	0.1		0.1	WRQ 16.02	
<i>Goodenia muelleriana</i>	0.1		0.1	WRQ 16.01	
<i>Iseilema dolichotrichum</i>	0.1		0.1	WRQ 20.17	
<i>Acacia marramamba</i>	0.1		0.4		
<i>Paspalidium clementii</i>	0.1		0.1	WRQ 20.01	
<i>Ptilotus auriculifolius</i>	0.1		0.2	WRQ 20.20	
<i>Ptilotus helipteroides</i>	0.1		0.1	WRQ 20.05	
<i>Oldenlandia crouchiana</i>	0.1		0.1	WRQ 21.08	

**Western Ridge****Site WRQ-17**

**Date** 19/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 764389 mE; 7410197 mN  
 119.586886 E -23.396671 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** BIF  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Hillslope  
**Vegetation** Mid Acacia pruinocarpa and Acacia (Mulga) shrubland over mid hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia dictyophleba	0.1				
Acacia incurvaneura	0.1		1		
Acacia pruinocarpa	6		3.5		
Acacia pyrifolia var. pyrifolia	0.1				
Aristida contorta	0.1				
Codonocarpus cotinifolius	0.1				
Corchorus lasiocarpus subsp. parvus	0.1				
Cucumis variabilis	0.1				
Enneapogon caerulescens	0.1				
Eremophila forrestii subsp. forrestii	0.1				
Eriachne pulchella subsp. dominii	0.1				
Eucalyptus leucophloia subsp. leucophloia	0.1		1		
Evolvulus alsinoides var. villosicalyx	0.1				
Fimbristylis simulans	0.1				
Gompholobium oreophilum	0.1				
Goodenia stobbsiana	0.1				
Goodenia triodiophila	0.1				
Grevillea berryana	0.1				
Haloragis gossei var. gossei	0.1				
Paspalidium clementii	0.1				
Psydrax latifolia	0.1				
Ptilotus calostachyus	0.1				
Ptilotus exaltatus	0.1				
Ptilotus obovatus	0.1				
Santalum lanceolatum	0.1				
Scaevola browniana subsp. browniana	0.1				
Senna artemisioides subsp. helmsii	0.1				
Senna artemisioides subsp. oligophylla	0.1				
Senna glutinosa subsp. glutinosa	0.1				
Senna glutinosa subsp. pruinosa	0.1				
Senna glutinosa subsp. x luerssenii	0.1				
Senna notabilis	0.1				
Sporobolus australasicus	0.1		0.1		
Tribulus suberosus	0.1				
Trichodesma zeylanicum var. zeylanicum	0.1				
Triodia pungens	40				
Triodia vanleeuwenii	15				
Acacia ? ayersiana (hybrid)	0.1		0.5	WRQ 17-01	
Acacia monticola	0.1			WRQ 17opp1	
Heliotropium inexplicitum	0.1			WRQ 17-03	
Trianthema glossostigmum	0.1			WRQ 34.07	
Acacia adsurgens	1		1.5		
Acacia rhodophloia	0.1				
Ptilotus helipteroides	0.1			WRQ 40-02	
Senna glaucifolia				WRQ 17-02	

**Western Ridge****Site WRQ-18**

**Date** 20/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 764581 mE; 7412451 mN  
 119.588372 E -23.376294 S  
**Veg Condition** Excellent  
**Soil** Silty Loam  
**Rock Type** Dolerite  
**Fire Age** Old (6+ yr)  
**Habitat** Undulating Low Hills  
**Vegetation** *Triodia wiseana* low open hummock grassland with *Ptilotus rotundifolia*,  
*Acacia inaequilatera* and *Eremophila fraseri* low to mid scattered shrubs

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia bivenosa</i>	0.1		1.3		
<i>Acacia inaequilatera</i>	0.1		1.8		
<i>Aristida contorta</i>	0.1		0.2		
<i>Cleome viscosa</i>	0.1		0.2		
<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	0.1		0.8		
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	0.1		0.1		
<i>Goodenia muelleriana</i>	0.1		0.1	WRQ 06.01	
<i>Goodenia vilmorinae</i>	0.1		0.1		
<i>Heliotropium inexplicitum</i>	0.1		0.1	WRQ 21.09	
<i>Heliotropium tenuifolium</i>	0.1		0.2	WRQ 13.01	
<i>Indigofera monophylla</i>	0.1		0.1		
<i>Oldenlandia crouchiana</i>	0.1		0.1	WRQ 18.01	
<i>Paspalidium clementii</i>	0.1		0.2		
<i>Ptilotus rotundifolius</i>	0.1		1.2		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.4		
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	0.1		0.4		
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1		1.4	WRQ 21.02	
<i>Senna notabilis</i>	0.1		0.1		
<i>Sporobolus australasicus</i>	0.1		0.1	WRQ 20.02	
<i>Trachymene oleracea</i>	0.1		0.1		
<i>Tribulus hirsutus</i>	0.1		0.1	WRQ 09.01	
<i>Triodia wiseana</i>	20		0.4		
<i>Fimbristylis ? dichotoma</i>	0.1		0.1	WRQ 18.02	
<i>Haloragis gossei</i> var. <i>gossei</i>	0.1		0.1	WRQ 09.05	
<i>Ptilotus auriculifolius</i>	0.1		0.1	WRQ 20.20	
<i>Enneapogon lindleyanus</i>	0.1		0.1	WRQ 21.11	



**Western Ridge****Site WRQ-19**

**Date** 17/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 764493 mE; 7408644 mN  
 119.588178 E -23.410668 S  
**Veg Condition** Excellent  
**Soil** Silty Loam  
**Rock Type** BIF  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Hillslope  
**Vegetation** *Triodia vanleeuwenii* and *Triodia pungens* low open hummock grassland with *Acacia spondylophylla* low scattered shrubs with *Hakea chordophylla* mid to tall scattered shrubs

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia ?tenuissima</i>	0.1		0.5		
<i>Acacia maitlandii</i>	0.1		0.6		
<i>Acacia spondylophylla</i>	1		0.5		
<i>Aristida contorta</i>	0.1		0.1		
<i>Corymbia deserticola</i> subsp. <i>deserticola</i>	0.1		3	WRQ 19.01	
<i>Duperreya commixta</i>	0.1				
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1		0.6		
<i>Eremophila longifolia</i>	0.1		1.5		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	0.1		0.8		
<i>Fimbristylis simulans</i>	0.1		0.1	WRQ 19.02	
<i>Gompholobium oreophilum</i>	0.1		0.3		
<i>Goodenia ? stobbsiana</i>	0.1		0.1		
<i>Goodenia triodiophila</i>	0.1		0.2		
<i>Ptilotus astrolasius</i>	0.1		0.4		
<i>Ptilotus calostachyus</i>	0.1		0.2		
<i>Schizachyrium fragile</i>	0.1		0.2	WRQ 19.04	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.2		
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		1.3		
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	0.1		0.6		
<i>Stackhousia</i> sp. <i>swollen gynophore</i> (W.R. Barker 2041)	0.1		0.1	WRQ 19.03	
<i>Trianthema glossostigmum</i>	0.1		0.1	WRQ 19.05	
<i>Tribulus suberosus</i>	0.1		0.3		
<i>Triodia pungens</i>	0.1		0.5		
<i>Triodia vanleeuwenii</i>	12		0.3		
<i>Corchorus</i> sp. <i>Indet</i>	0.1		0.2		

**Western Ridge****Site WRQ-20**

**Date** 16/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 764505 mE; 7407647 mN  
 119.588469 E -23.419655 S  
**Veg Condition** Very Good  
**Soil** Silty Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Stony Plain  
**Vegetation** Acacia aptaneura, Acacia rhodophloia and Acacia sp. indet tall open shrubland over Triodia pungens mid open hummock grassland with juvenile mulga shrubs

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia aptaneura	10		6	WRQ 20.11	
Acacia rhodophloia	1		3.5		
Acacia sp. Indet	5		5	WRQ 20.12	
Acacia tetragonophylla	0.1		2.5		
Aristida contorta	0.1		0.2		
Aristida holathera var. holathera	0.1		0.3	WRQ 20.21	
Bidens bipinnata	0.1		0.2		
Cenchrus ciliaris	0.1		0.6		
Cleome viscosa	0.1		0.2		
Cucumis variabilis	0.1				
Cynanchum viminale subsp. australe	0.1		3		
Duperreya commixta	0.1		0.1		
Enchylaena tomentosa	0.1		1.2		
Eremophila latrobei subsp. filiformis	0.1		2.5		
Eriachne mucronata	0.1		0.3		
Evolvulus alsinoides var. decumbens	0.1		0.2		
Phyllanthus erwinii	0.1		0.1	WRQ 20.16	
Psydrax suaveolens	0.1		3		
Ptilotus calostachyus	0.1		0.2		
Ptilotus obovatus	0.1		0.4		
Rhynchosia minima	0.1				
Senna artemisioides subsp. helmsii	0.1		1.3		
Senna artemisioides subsp. oligophylla	0.1		0.7		
Senna glutinosa subsp. x luerssenii	0.1		2		
Solanum cleistogamum	0.1		0.1		
Sporobolus australasicus	0.1		0.1	WRQ 20.02	
Tribulus suberosus	0.1		0.4		
Trichodesma zeylanicum var. zeylanicum	0.1		0.3		
Triodia pungens	20		0.6		
Vincetoxicum lineare	0.1				
Acacia adsurgens	0.1		2	WRQ 20.07	
Corchorus sp. Indet	0.1		0.3		
Enneapogon robustissimus	0.1		0.3	WRQ 20.03	
Eriachne pulchella subsp. dominii	0.1		0.1	WRQ 20.04	
Goodenia muelleriana	0.1		0.1	WRQ 20.08	
Heliotropium heteranthum	0.1		0.1	WRQ 20.22	
Heliotropium cunninghamii	0.1		0.2	WRQ 20.13	
Hibiscus burtonii	0.1		0.2	WRQ 20.10	
Abutilon otocarpum	0.1		0.3	WRQ 20.19	
Iseilema dolichotrichum	0.1		0.2	WRQ 20.18	
Nicotiana occidentalis subsp. obliqua	0.1		0.3	WRQ 20.09	
Paspalidium clementii	0.1		0.3	WRQ 20.01	
Ptilotus auriculifolius	0.1		0.3	WRQ 20.20	
Ptilotus helipteroides	0.1		0.1	WRQ 20.05	
Ptilotus aervoides	0.1		0.1	WRQ 20.06	
Santalum spicatum	0.1		3		

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Enneapogon polyphyllus	0.1	0.3	WRQ 20.14
Goodenia microptera	0.1	0.2	WRQ 20.23
Tribulus hirsutus	0.1	0.1	WRQ 20.15

**Western Ridge****Site WRQ-21**

**Date** 17/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 764569 mE; 7408006 mN  
 119.589030 E -23.416407 S  
**Veg Condition** Excellent  
**Soil** Silty Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Stony Plain



**Vegetation** Acacia aptaneura, Acacia adsurgens and Acacia rhodophloia tall open shrubland over Senna artemisioides subsp. x artemisioides, Senna glutinosa subsp. x luerssenii and Acacia tetragonophylla mid sparse shrubland over Triodia pungens mid sparse hummock grassland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Abutilon lepidum	0.1		0.2	WRQ 21.03	
Acacia aptaneura	12		4	WRQ 20.11	
Acacia rhodophloia	1		3.5		
Acacia sp. Indet	2		4	WRQ 20.12	
Acacia tetragonophylla	0.1		3.2		
Anthobolus leptomerioides	0.1		0.8	WRQ 21.07	
Aristida contorta	0.1		0.2		
Bidens bipinnata	0.1		0.1		
Brunonia australis	0.1		0.2	WRQ 21.05	
Corchorus lasiocarpus subsp. ? parvus	0.1		0.3	WRQ 21.04	
Cucumis variabilis	0.1				
Cynanchum viminalis subsp. australe	0.1		3		
Duperreya commixta	0.1				
Eremophila latrobei subsp. latrobei	0.1		2.2		
Eriachne mucronata	0.1		0.3		
Evolvulus alsinoides var. decumbens	0.1		0.2		
Evolvulus alsinoides var. decumbens	0.1		0.3		
Heliotropium inexplicitum	0.1		0.2	WRQ 21.09	
Phyllanthus erwinii	0.1		0.2	WRQ 20.16	
Ptilotus calostachyus	0.1		0.2		
Ptilotus exaltatus	0.1		0.1		
Santalum lanceolatum	0.1		0.2		
Senna artemisioides subsp. helmsii	0.1		1.3		
Senna glutinosa subsp. x luerssenii	0.1		2	WRQ 21.02	
Senna notabilis	0.1		0.1		
Senna stricta	3		1.6	WRQ 21.01	
Solanum cleistogamum	0.1		0.2		
Sporobolus australasicus	0.1		0.1	WRQ 20.02	
Trachymene oleracea	0.1		0.1		
Tribulus suberosus	0.1		0.2		
Trichodesma zeylanicum var. zeylanicum	0.1		0.3		
Triodia basedowii	0.1		0.3		
Triodia pungens	5		0.4		
Triodia wiseana	0.1		0.4		
Acacia adsurgens	2		3	WRQ 20.07	
Enneapogon polyphyllus	0.1		0.2	WRQ 21.12	
Eriachne pulchella subsp. dominii	0.1		0.1	WRQ 20.04	
Goodenia microptera	0.1		0.3	WRQ 21.06	
Heliotropium cunninghamii	0.1		0.2	WRQ 20.13	
Hibiscus burtonii	0.1		0.5	WRQ 20.10	
Iseilema dolichotrichum	0.1		0.1	WRQ 20.17	
Maireana sp. Indet	0.1		0.3		
Paspalidium clementii	0.1		0.2	WRQ 20.01	
Polygala glaucifolia	0.1		0.1	WRQ 21.10	

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<i>Ptilotus auriculifolius</i>	0.1	0.2	WRQ 20.20
<i>Ptilotus helipteroides</i>	0.1	0.2	WRQ 20.05
<i>Oldenlandia crouchiana</i>	0.1	0.2	WRQ 21.08
<i>Enneapogon lindleyanus</i>	0.1	0.2	WRQ 21.11

**Western Ridge****Site WRQ-22**

**Date** 20/04/2020  
**Described by** CvdB & KG  
**Type** R  
**Location** MGA Zone 50  
 764722 mE; 7412939 mN  
 119.589658 E -23.371867 S  
**Veg Condition** Good  
**Soil** Clayey Sand  
**Rock Type** Detritals  
**Fire Age** Recent (0 to 2 yr)  
**Habitat** Medium Drainage Line  
**Vegetation** Acacia ? citrinoviridis tall sparse shrubland over Acacia pyrifolia, Santalum lanceolatum and Acacia dictyophleba mid sparse shrubland over Themeda triandra, Eulalia aurea and Cenchrus ciliaris low sparse tussock grassland. Also scattered Corymbia hamersleyana

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Corymbia hamersleyana					
Goodenia microptera					
Goodenia vilmoriniae					
Jasminum didymum subsp. lineare					

**Western Ridge****Site WRQ-23**

**Date** 20/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 764711 mE; 7411224 mN  
 119.589854 E -23.387345 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** Quartz  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Triodia wiseana mid to low hummock grassland with Acacia inaequilatera  
 mid scattered shrubs

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia inaequilatera	1		2.5		
Acacia pyrifolia var. pyrifolia	0.1		0.6		
Acacia spondylophylla	0.1		0.9		
Acacia tetragonophylla	0.1		0.5		
Boerhavia coccinea	0.1		0.3		
Cleome viscosa	0.1		0.3		
Cucumis variabilis	0.1		0.1		
Enneapogon lindleyanus	0.1		0.2		
Euphorbia tannensis subsp. eremophila	0.1		0.3		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Indigofera monophylla	0.1		0.1		
Themeda triandra	0.1		0.7		
Trichodesma zeylanicum var. zeylanicum	0.2		0.3		
Acacia dictyophleba	0.1		1.2		
Acacia sibirica	0.1		1.2	WRQ 23-04	
Acacia rhodophloia x ?	0.1		1.2	WRQ 23-01	
Ptilotus obovatus	0.1		0.5	WRQ 68-04	
Aristida contorta	0.1		0.2	WRQ 23-03	
Portulaca oleracea	0.1		0.1		
Corchorus lasiocarpus subsp. ? parvus	0.1		0.1	WRQ 77-06	
Abutilon otocarpum	0.1		0.2	WRQ 71-02	
Eremophila fraseri subsp. fraseri	0.1		0.6		
Euphorbia australis var. subtomentosa	0.1		0.1		
Phyllanthus erwinii	0.1		0.1		
Euphorbia ? biconvexa	0.1		0.3		
Paspalidium clementii	0.1		0.2	WRQ 79-18	
Goodenia microptera	0.1		0.2	WRQ 80-17	
Goodenia muelleriana	0.1		0.2	WRQ 80-18	
Haloragis gossei var. gossei	0.1		0.2	WRQ 80-06	
Oldenlandia crouchiana	0.1		0.2	WRQ 78-08	
Ptilotus helipteroides	0.1		0.1	WRQ 80-05	
Gomphrena cunninghamii	0.1		0.2		
Ptilotus auriculifolius	0.1		0.3	WRQ 79-07	
Eriachne mucronata	0.1		0.3	WRQ 72-03	
Scaevola ? acacioides	0.1		0.6		
Senna artemisioides subsp. oligophylla	0.1		0.4		
Senna artemisioides subsp. helmsii	0.1		0.7	WRQ 23-02	
Senna glutinosa subsp. pruinosa	0.1		1.2	WRQ 79-09	
Ptilotus rotundifolius	0.1		0.4	WRQ 79-15	
Sporobolus australasicus	0.1		0.2	WRQ 68-01	
Trachymene sp. Indet	0.1		0.2	WRQ 80-07	
Tribulus sp. Indet	0.1		0.1		
Triodia wiseana	10		0.5		

**Western Ridge****Site WRQ-24**

**Date** 20/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 764723 mE; 7411972 mN  
 119.589837 E -23.380600 S  
**Veg Condition** Good  
**Soil** Sandy Clay Loam  
**Rock Type** Dolerite  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Medium Drainage Line  
**Vegetation** Melaleuca glomerata and Acacia coriacea subsp. pendens tall open shrubland over Eriachne mucronata, Cenchrus ciliaris and Themeda triandra low open tussock grassland with Eucalyptus victrix low scattered trees.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia citrinoviridis	0.1		2.5		
Acacia coriacea subsp. pendens	0.1		3		
Acacia inaequilatera	0.1		0.4		
Acacia pyrifolia var. pyrifolia	0.1		0.5		
Acacia tetragonophylla	0.1		0.6		
Androcalva luteiflora	0.1		0.4		
Aristida contorta	0.1		0.2		
Cenchrus ciliaris	2		0.4		
Cleome viscosa	0.1		0.3		
Corchorus tridens	0.1		0.2		
Cyperus vaginatus	0.1		0.4	WRQ 24.01	
Dactyloctenium radulans	0.1		0.1		
Enneapogon lindleyanus	0.1		0.3		
Eriachne mucronata	9		0.4		
Eucalyptus victrix	1		7		
Indigofera linnaei	0.1		0.1		
Melaleuca glomerata	15		4		
Phyllanthus maderaspatensis	0.1		0.2		
Pluchea dentex	0.1		0.2		
Portulaca oleracea	0.1		0.1		
Sporobolus australasicus	0.1		0.1	WRQ 20.02	
Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)	0.1		0.4		
Themeda triandra	2		0.4		
Triodia pungens	0.1		0.4		
Ipomoea plebeia	0.1			WRQ 15.08	
Paspalidium clementii	0.1		0.1	WRQ 20.01	
Ptilotus auriculifolius	0.1		0.2	WRQ 20.20	



**Western Ridge****Site WRQ-25**

**Date** 19/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 764946 mE; 7409626 mN  
 119.592432 E -23.401732 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** BIF  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Scattered mid Eucalyptus leucophloia subsp. leucophloia and Corymbia ferriticola over scattered Acacia maitlandii over low, dense hummock grassland.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia hamersleyensis	0.1				
Acacia maitlandii	0.5				
Acacia spondylophylla	0.1				
Acacia tenuissima	0.1			WRQ 42-01	
Aristida contorta	0.1				
Aristida holathera var. holathera	0.1				
Calytrix carinata	1				
Corymbia ferriticola	2				
Corymbia hamersleyana	1				
Cymbopogon ambiguus	0.1				
Dampiera candidans	0.1				
Dodonaea pachyneura	0.1				
Duperreya commixta	0.1				
Enneapogon caerulescens	0.1				
Eremophila exilifolia	2		1		
Eremophila latrobei subsp. latrobei	0.1				
Eriachne mucronata	2				
Eriachne pulchella subsp. dominii	0.1				
Eucalyptus leucophloia subsp. leucophloia	4				
Gompholobium oreophilum	0.1				
Goodenia stobbsiana	0.1				
Goodenia triodiophila	0.1				
Grevillea berryana	0.1				
Hakea chordophylla	0.5		3		
Oldenlandia crouchiana	0.1				
Paraneurachne muelleri	0.1				
Paspalidium clementii	0.1				
Psyrax latifolia	0.1				
Ptilotus auriculifolius	0.1				
Ptilotus calostachyus	0.1				
Ptilotus exaltatus	0.1				
Scaevola browniana subsp. browniana	0.1				
Schizachyrium fragile	0.1				
Senna artemisioides subsp. oligophylla	0.1				
Senna artemisioides subsp. x artemisioides	0.1				
Senna glutinosa subsp. glutinosa	0.1				
Senna glutinosa subsp. x luerssenii	0.1				
Seringia elliptica	0.5				
Sida sp. Shovelanna Hill (S. van Leeuwen 3842)	0.1			SCJEOPP03	
Stackhousia sp. swollen gynophore (W.R. Barker 2041)	0.1				
Trachymene oleracea	0.1				
Tribulus suberosus	0.1				
Triodia pungens	10				
Triodia vanleeuwenii	50				

## Western Ridge

## Site WRQ-26

**Date** 20/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 765109 mE; 7410391 mN  
 119.593896 E -23.394801 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** CID  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** *Triodia wiseana* low hummock grassland with *Eucalyptus leucophloia* subsp. *leucophloia* low scattered trees over *Acacia ancistrocarpa* and *Senna glutinosa* subsp. *glutinosa* mid scattered shrubs

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Abutilon otocarpum</i>	0.1			WRQ 71-02	
<i>Acacia ancistrocarpa</i>	5		2.5		
<i>Acacia aptaneura</i>	0.1		0.9	WRQ 58-09	Tentatively identified as <i>Acacia</i> ? <i>aptaneura</i> due to insufficient material
<i>Acacia pruinocarpa</i>	0.1		1.2		
<i>Acacia pyrifolia</i> var. <i>pyrifolia</i>	0.1		0.7		
<i>Aristida holathera</i> var. <i>holathera</i>	0.1		0.3	WRQ 80-13	
Asteraceae sp. Indet	0.1		0.1	WRQ 46-02	Insufficient material for confident identification
<i>Boerhavia coccinea</i>	0.1		0.2		
<i>Cleome viscosa</i>	0.1		0.2		
<i>Cucumis variabilis</i>	0.1		0.1		
<i>Duperreya commixta</i>	0.1		0.1		
<i>Enchylaena tomentosa</i>	0.1		0.2	WRQ 78-05	Tentatively identified as ? <i>Enchylaena tomentosa</i> due to insufficient material
<i>Enneapogon lindleyanus</i>	0.1		0.3		
<i>Eremophila cuneifolia</i>	0.1			WRQ 26-01	
<i>Eriachne mucronata</i>	0.1		0.4	WRQ 72-03	
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.2		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	2		4		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Fimbristylis simulans</i>	0.1		0.1		
<i>Goodenia microptera</i>	0.1		0.15	WRQ 80-17	
<i>Goodenia muelleriana</i>	0.1		0.2	WRQ 80-18	
<i>Haloragis gossei</i> var. <i>gossei</i>	0.1		0.2	WRQ 80-06	
<i>Hibiscus coatesii</i>	0.1			WRQ 73-10	
<i>Oldenlandia crouchiana</i>	0.1		0.3	WRQ 78-08	
<i>Paspalidium clementii</i>	0.1			WRQ 79-18	
<i>Phyllanthus erwinii</i>	0.1			WRQ 71-01	
<i>Portulaca oleracea</i>	0.1		0.1	WRQ 80-12	
<i>Ptilotus aevroides</i>	0.1		0.1	WRQ 80-04	
<i>Ptilotus auriculifolius</i>	0.1		0.5	WRQ 79-07	
<i>Ptilotus helipteroides</i>	0.1		0.2	WRQ 80-05	
<i>Ptilotus obovatus</i>	0.1		0.7	WRQ 68-04	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.6	WRQ 73-05	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.5		2	WRQ 58-02	
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	0.1		1.1		
<i>Senna notabilis</i>	0.1		0.2		
<i>Solanum lasiophyllum</i>	0.1		0.2	WRQ 74-04	
<i>Sporobolus australasicus</i>	0.1		0.3	WRQ 68-01	
<i>Stemodia grossa</i>	0.1		0.2	WRQ 78-03	
<i>Tribulus platypterus</i>	0.1		0.5	WRQ 77-09	
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.3		

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Triodia pungens	0.1	0.4		
Triodia wiseana	30	0.4	WRQ 26-03	
Eremophila platycalyx subsp. ?	0.1	0.6	WRQ 73-12	Tentatively identified as Eremophila platycalyx subsp. ? due to insufficient material

**Western Ridge****Site WRQ-27**

**Date** 17/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 765081 mE; 7408746 mN  
 119.593910 E -23.409651 S  
**Veg Condition** Good  
**Soil** Clay Loam  
**Rock Type** BIF  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Drainage Area/ Floodplain  
**Vegetation** *Petalostylis labicheoides*, *Acacia pyrifolia* and *Acacia dictyophleba* mid to tall open shrubland over *Triodia pungens* low sparse hummock grassland with *Eucalyptus xerothermica* low scattered trees.

**Notes****SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia ancistrocarpa</i>	0.1		0.7		
<i>Acacia dictyophleba</i>	1		1.6		
<i>Acacia maitlandii</i>	0.1		0.8		
<i>Acacia pachyacra</i>	0.1		0.4		
<i>Acacia pyrifolia</i> var. <i>pyrifolia</i>	1		2		
<i>Alternanthera nana</i>	0.1		0.2		
<i>Androcalva luteiflora</i>	0.1		1.5		
<i>Boerhavia coccinea</i>	0.1		0.2		
<i>Cenchrus ciliaris</i>	0.1		0.4		
<i>Chrysopogon fallax</i>	0.1		0.4		
<i>Cleome viscosa</i>	0.1		0.3		
<i>Corymbia hamersleyana</i>	0.1		8		
<i>Dicrastylis cordifolia</i>	0.1		0.3		
<i>Digitaria brownii</i>	0.1		0.3	WRQ 27.04	
<i>Dodonaea lanceolata</i> var. <i>lanceolata</i>	0.1		1.2	WRQ 27.05	
<i>Duperreya commixta</i>	0.1				
<i>Enneapogon lindleyanus</i>	0.1		0.3		
<i>Eragrostis cumingii</i>	0.1		0.1		
<i>Eragrostis eriopoda</i>	0.1		0.3	WRQ 27.06	
<i>Eremophila longifolia</i>	0.1		0.5		
<i>Eriachne mucronata</i>	0.1		0.4		
<i>Eucalyptus xerothermica</i>	1		9		
<i>Eulalia aurea</i>	0.1		0.5		
<i>Euphorbia coghlanii</i>	0.1		0.3		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Goodenia nuda</i>	0.1		0.2	WRQ 27.02	
<i>Goodenia stobbsiana</i>	0.1		0.5		
<i>Hybanthus aurantiacus</i>	0.1		0.2		
<i>Indigofera georgei</i>	0.1		0.6	WRQ 27.03	
<i>Jasminum didymum</i> subsp. <i>lineare</i>	0.1		0.1		
<i>Paspalidium clementii</i>	0.1		0.2	WRQ 27.12	
<i>Perotis rara</i>	0.1		0.1		
<i>Petalostylis labicheoides</i>	12		2.8		
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Ptilotus exaltatus</i>	0.1		0.1		
<i>Ptilotus obovatus</i>	0.1		0.3		
<i>Ptilotus polystachyus</i>	0.1		0.3	WRQ 27.13	
<i>Rhagodia eremaea</i>	0.1		0.4	WRQ 27.09	
<i>Salsola australis</i>	0.1		0.1		
<i>Santalum lanceolatum</i>	0.1		1		
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	0.1		0.3		
<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	0.1		1	WRQ 27.01	
<i>Setaria verticillata</i>	0.1		0.4		
<i>Solanum lasiophyllum</i>	0.1		0.3		
<i>Sporobolus australasicus</i>	0.1		0.1	WRQ 20.02	

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<i>Themeda triandra</i>	0.1	0.4	
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1	0.2	
<i>Triodia pungens</i>	4	0.4	
<i>Acacia</i> sp. (Mulga Group)	0.1	0.1	
<i>Goodenia stellata</i>	0.1	0.1	WRQ 27.10
<i>Dipteracanthus australasicus</i> subsp. <i>australasicus</i>	0.1	0.1	WRQ 27.08
<i>Acrachne racemosa</i>	0.1	0.3	Yandi
<i>Gomphrena kanisii</i>	0.1	0.2	WRQ 27.07
<i>Chrysocephalum apiculatum</i> subsp. <i>pilbarensense</i>	0.1	0.2	WRQ 27.11

**Western Ridge****Site WRQ-28**

**Date** 20/04/2020  
**Described by** EEB & MvW  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 765542 mE; 7410921 mN  
 119.598032 E -23.389946 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Minor Drainage Line  
**Vegetation** Acacia ancistrocarpa, Acacia pyrifolia, Scaevola ? acacioides mid to low shrubland over Triodia pungens hummock grasses

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia bivenosa	2		1.3		
Acacia pyrifolia var. pyrifolia	2		1.1		
Acacia tetragonophylla	0.1		1.2		
Alternanthera nana	0.1		0.15		
Androcalva luteiflora	0.2		1.3		
Bidens bipinnata	0.1				
Boerhavia coccinea	0.1		0.2		
Cenchrus ciliaris	0.1		1		
Cleome viscosa	0.1		0.5		
Corymbia hamersleyana	0.1		4		
Crotalaria medicaginea var. neglecta	0.1				
Cucumis variabilis	0.1		0.1		
Duperreya commixta	0.1				
Euphorbia tannensis subsp. eremophila	0.1		0.4		
Evolvulus alsinoides var. decumbens	0.1		0.2		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Gossypium robinsonii	0.1		1.7		
Grevillea wickhamii	0.1		1.6		
Hybanthus aurantiacus	0.1				
Indigofera monophylla	0.1		1		
Jasminum didymum subsp. lineare	0.1				
Petalostylis labicheoides	1		1.4		
Ptilotus exaltatus	0.1		0.1		
Themeda triandra	0.1		1		
Trichodesma zeylanicum var. zeylanicum	0.1		0.3		
Acacia sp. Indet	0.1		1	WRQ 28-02	
Acacia ancistrocarpa	5		1		
Portulaca oleracea	0.1		0.2		
Chrysocephalum apiculatum subsp. pilbarensis	0.1			WRQ 28-05	
Corchorus lasiocarpus subsp. ? parvus	0.1		0.1	WRQ 77-06	
Eremophila latrobei subsp. latrobei	0.1		0.7		
Euphorbia australis var. subtomentosa	0.1				
Euphorbia biconvexa	0.1				
Paspalidium clementii	0.1		0.2	WRQ 79-18	
Goodenia microptera	0.1		0.3	WRQ 80-17	
Goodenia muelleriana	0.1		0.2	WRQ 80-18	
Schizachyrium fragile	0.1		0.3		
Heliotropium inexplicitum	0.1			WRQ 28-04	
Haloragis gossei var. gossei	0.1		0.2	WRQ 80-06	
Aristida holathera var. holathera	0.1		0.4	WRQ 80-13	
Convolvulus sp. Indet	0.1		0.1		
Dipteracanthus australasicus subsp. australasicus	0.1		0.3		
Psydrax latifolia	0.1		0.5	WRQ 75-06	
Gomphrena cunninghamii	0.1		0.4		
Ptilotus obovatus	0.1		0.4	WRQ 28-03	
Ptilotus polystachyus	0.1		0.4	WRQ 75-03	

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<i>Ptilotus auriculifolius</i>	0.1	0.4	WRQ 79-07
<i>Rhynchosia minima</i>	0.1	0.1	
<i>Eriachne</i> sp. Indet	0.1		WRQ 28-07
<i>Scaevola</i> ? <i>acacioides</i>	0.1		WRQ 28-01
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1	1	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1	0.5	WRQ 73-04
<i>Sporobolus australasicus</i>	0.1	0.2	WRQ 68-01
<i>Goodenia stobbsiana</i>	0.1		
? <i>Santalum</i> sp. Indet	0.2	1.5	WRQ 71-09
<i>Triodia pungens</i>	5	0.5	

**Western Ridge****Site WRQ-29**

**Date** 19/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 765602 mE; 7410146 mN  
 119.598753 E -23.396934 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** BIF  
**Fire Age** Recent (0 to 2 yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Scattered *Hakea chordophylla* over open low hummock grassland.

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia bivenosa</i>	0.1				
<i>Acacia pruinocarpa</i>	0.1		1		
<i>Aristida contorta</i>	0.1				
<i>Corchorus lasiocarpus</i> subsp. <i>parvus</i>	0.1				
<i>Corymbia deserticola</i> subsp. <i>deserticola</i>	0.1		0.5		
<i>Duperreya commixta</i>	0.1				
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1				
<i>Eriachne mucronata</i>	0.1				
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1				
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	2		3		
<i>Gompholobium oreophilum</i>	0.1				
<i>Goodenia stobbsiana</i>	0.1				
<i>Goodenia triodiophila</i>	0.1				
<i>Grevillea berryana</i>	0.1				
<i>Hakea chordophylla</i>	0.5		2		
<i>Oldenlandia crouchiana</i>	0.1				
<i>Paspalidium clementii</i>	0.1				
<i>Scaevola browniana</i> subsp. <i>browniana</i>	0.1				
<i>Schizachyrium fragile</i>	0.1				
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.3		
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1				
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	0.1				
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1				
<i>Seringia elliptica</i>	0.5				
<i>Stackhousia</i> sp. <i>swollen gynophore</i> (W.R. Barker 2041)	0.1				
<i>Triodia pungens</i>	5				
<i>Triodia vanleeuwenii</i>	30				
<i>Acacia</i> ? <i>ayersiana</i> (hybrid)	0.1				
<i>Acacia tenuissima</i>	0.1				
<i>Trianthema glossostigmum</i>	0.1				WRQ 34.07



**Western Ridge****Site WRQ-30**

**Date** 20/04/2020  
**Described by** EEB & MvW  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 765633 mE; 7410559 mN  
 119.598983 E -23.393203 S  
**Veg Condition** Excellent  
**Soil** Silty Clay Loam  
**Rock Type** CID  
**Fire Age** Old (6+ yr)  
**Habitat** Hillslope  
**Vegetation** Triodia pungens and Triodia wiseana low hummock grassland with scattered Eucalyptus leucophloia subsp. leucophloia over isolated shrubs

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia tetragonophylla	0.1		0.5		
Eucalyptus leucophloia subsp. leucophloia	4		13		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Senna artemisioides subsp. filifolia	0.1		0.35		
Triodia pungens	15		0.3	WRQ 30.01	
Triodia wiseana	12		0.25	WRQ 30.02	
Ptilotus obovatus	0.2		0.5	WRQ 68-04	
Eremophila latrobei subsp. latrobei	0.1		0.6		
Eremophila cuneifolia	0.1		0.2	WRQ 26-01	
Paspalidium clementii	0.1		0.2	WRQ 79-18	
Eriachne mucronata	0.4		0.25		
? Enchylaena tomentosa	0.2		0.1		
Gomphrena cunninghamii	0.1		0.1		
Sclerolaena cornishiana	0.1		0.1	WRQ 30.03	
Senna glutinosa subsp. glutinosa	0.1		0.6	WRQ 58-02	
Senna artemisioides subsp. oligophylla	0.1		0.6		
Senna glutinosa subsp. x luerssenii	0.1		0.7	WRQ 79-05	
Senna glutinosa subsp. pruinosa	0.1		0.7	WRQ 79-09	
Ptilotus rotundifolius	0.1		0.2	WRQ 79-15	
Tribulus suberosus	0.1		0.4	WRQ 79-04	

**Western Ridge****Site WRQ-31**

**Date** 20/04/2020  
**Described by** SC & JE  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 765762 mE; 7412595 mN  
 119.599892 E -23.374807 S  
**Veg Condition** Good  
**Soil** Sandy Clay Loam  
**Rock Type** Conglomerate  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Minor Drainage Line



**Vegetation** Low isolated Eucalyptus victrix trees over tall isolated Acacia citrinoviridis shrubs over mid open Acacia pyrifolia var. pyrifolia, Androcalva luteiflora and Melaleuca glomerata shrubland over mid open Cenchrus ciliaris grassland over mid sparse Cyperus vaginatus sedgeland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia bivenosa	0.1		1.2		
Acacia citrinoviridis	5		3		
Acacia pyrifolia var. pyrifolia	10		2.5		
Acacia tetragonophylla	0.1		0.1		
Acrachne racemosa	0.1		0.3	WRQ 31-09	
Alternanthera nana	0.1		0.1		
Alternanthera nodiflora	0.1		0.1		
Amaranthus undulatus	0.1		0.1		
Androcalva luteiflora	2		2		
Boerhavia coccinea	0.1		0.1		
Cenchrus ciliaris	25		0.6		
Cleome viscosa	1		0.3		
Crotalaria medicaginea var. neglecta	0.1		0.2		
Cymbopogon ambiguus	0.1		0.3		
Cyperus vaginatus	8		0.8	WRQ 31-02	
Dichanthium sericeum	0.1		0.7		
Dipteracanthus australasicus subsp. australasicus	0.1		0.1	WRQ 31-06	
Duperreya commixta	0.1		0.1		
Enneapogon lindleyanus	0.1		0.5	WRQ 31-05	
Enteropogon ramosus	0.1		0.3		
Eragrostis cumingii	0.1		0.1		
Eragrostis tenellula	0.1		0.3		
Eriachne mucronata	0.1		0.5		
Eucalyptus victrix	5		9		
Eulalia aurea	0.1		0.5		
Evolvulus alsinoides var. decumbens	0.1		0.1		
Gossypium australe	0.1		1		
Gossypium robinsonii	0.1		1.2		
Indigofera linifolia	0.1		0.2		
Isotropis sp. Arid zone (G. Byrne 2775)	0.1		0.3		
Malvastrum americanum	0.1		0.3		
Marsilea hirsuta	0.1		0.1		
Melaleuca glomerata	4		2.2		
Notoleptopus decaisnei var. orbicularis	0.1		0.3		
Operculina aequisejala	0.1		0.2		
Panicum decompositum	0.1		0.6		
Paspalidium clementii	0.1		0.1		
Phyllanthus maderaspatensis	0.1		0.3		
Pluchea rubelliflora	0.1		0.3	WRQ 31-03	
Portulaca oleracea	0.1		0.1		
Ptilotus auriculifolius	0.1		0.3		
Ptilotus obovatus	0.1		0.5		
Rhynchosia minima	0.1		0.1		

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Salsola australis	0.1	0.2	
Senna artemisioides subsp. helmsii	0.1	0.5	
Setaria verticillata	0.5	0.6	
Sporobolus australasicus	0.1	0.1	
Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)	0.1	0.3	
Themeda triandra	6	0.6	
Tribulus hirsutus	0.1	0.2	
Trichodesma zeylanicum var. zeylanicum	0.1	0.4	
Abutilon leucopetalum	0.1	0.5	WRQ 31-07
Corchorus lasiocarpus subsp. parvus	0.1	0.4	WRQ 31-04
Euphorbia biconvexa	0.1	0.1	
Convolvulus ? remotus	0.1	0	WRQ 31-08

## Western Ridge

## Site WRQ-32

**Date** 16/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 765788 mE; 7409463 mN  
 119.600695 E -23.403067 S  
**Veg Condition** Excellent  
**Soil** Clay Loam  
**Rock Type** CID  
**Fire Age** Old (6+ yr)  
**Habitat** Hillslope  
**Vegetation** Mid *Triodia pungens* hummock grassland with isolated *Eucalyptus leucophloia* and *Corymbia ferritcola* trees over tall sparse *Acacia hamersleyensis* and *Acacia maitlandii* shrubland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia hamersleyensis</i>	10		2.5		
<i>Acacia incurvaneura</i>	0.1		1.5		
<i>Acacia maitlandii</i>	1.5		2.2		
<i>Acacia pruinocarpa</i>	0.1		2		
<i>Bonamia pilbarensis</i>	0.1		0.1		
<i>Corymbia ferritcola</i>	1.5		3		
<i>Cucumis variabilis</i>	0.1		0.1		
<i>Cymbopogon ambiguus</i>	0.1		0.3		
<i>Dodonaea pachyneura</i>	0.1		1		
<i>Duperreya commixta</i>	0.1		0.1		
<i>Enneapogon caerulescens</i>	0.1		0.1	WRQ 32-04	
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	0.1		0.3		
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	1		2		
<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136)	0.1		0.5	WRQ 32-05	
<i>Eriachne ciliata</i>	1		0.3		
<i>Eriachne mucronata</i>	5		0.4		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	2		4		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Gompholobium oreophilum</i>	0.1		0.3	WRQ 34.04	
<i>Goodenia stobbsiana</i>	0.1		0.1		
<i>Grevillea berryana</i>	0.1		1.5	WRQ 32-01	
<i>Hakea chordophylla</i>	0.5		3		
<i>Hybanthus aurantiacus</i>	0.1		0.1		
<i>Indigofera linifolia</i>					
<i>Lamarchea sulcata</i>					
<i>Mirbelia viminalis</i>	0.1		0.8		
<i>Paspalidium</i> ? <i>clementii</i>	0.1		0.1	WRQ 34.06	
<i>Psydrax latifolia</i>	0.1		1		
<i>Scaevola browniana</i> subsp. <i>browniana</i>	0.1		0.3		
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		0.6		
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	0.1		0.3		
<i>Seringia elliptica</i>	0.1		0.3		
<i>Seringia nephrosperma</i>	0.1		0.3		
<i>Stemodia grossa</i>	0.1		0.1		
<i>Trachymene oleracea</i>	0.1		0.2		
<i>Tribulus suberosus</i>	0.1		0.5		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.3		
<i>Triodia pungens</i>	40		0.5		
<i>Triodia vanleeuwenii</i>	15		0.4		
<i>Sida</i> sp. <i>Excedentifolia</i> (J.L. Egan 1925)	0.1		0.5	WRQ 32-03	
<i>Acacia</i> ? <i>catenulata</i> subsp. <i>occidentalis</i>	1		3	WRQ 32-02	
<i>Cryptandra monticola</i>	0.1		0.5	WRQ 32-06	
<i>Solanum</i> sp. <i>Indet</i>	0.1		0.1		

**Western Ridge****Site WRQ-33**

**Date** 20/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 765929 mE; 7411584 mN  
 119.601696 E -23.383898 S  
**Veg Condition** Excellent  
**Soil** Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Tall isolated *Acacia inaequilatera* shrubs over mid sparse *Acacia adsurgens*,  
*Eremophila fraseri* subsp. *fraseri* and *Ptilotus rotundifolius* shrubland over  
 mid *Triodia wiseana* hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Abutilon macrum</i>	0.1		0.3		
<i>Acacia adsurgens</i>	2		1.9		
<i>Acacia ancistrocarpa</i>	0.1		1.2		
<i>Acacia inaequilatera</i>	1		3		
<i>Acacia tetragonophylla</i>	0.1		0.5		
<i>Aristida contorta</i>	0.1		0.1		
<i>Boerhavia coccinea</i>	0.1		0.1		
<i>Bonamia pilbarensis</i>	0.1		0.1		
<i>Cleome viscosa</i>	0.1		0.1		
<i>Cymbopogon ambiguus</i>	0.1		0.3		
<i>Enneapogon caeruleus</i>	0.1		0.1		
<i>Enneapogon polyphyllus</i>	0.1		0.1		
<i>Eremophila cuneifolia</i>	0.1		0.3		
<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	2		1.5		
<i>Eremophila longifolia</i>	0.1		1		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Gomphrena cunninghamii</i>	0.1		0.2		
<i>Gomphrena</i> sp. Indet	0.1		0.1		
<i>Goodenia microptera</i>	0.1		0.1		
<i>Heliotropium cunninghamii</i>	0.1		0.1		
<i>Indigofera monophylla</i>	0.1		0.2		
<i>Oldenlandia crouchiana</i>	0.1		0.1		
<i>Paspalidium clementii</i>	0.1		0.1		
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Ptilotus auriculifolius</i>	0.1		0.3		
<i>Ptilotus rotundifolius</i>	1		1.1		
<i>Rhynchosia minima</i>	0.1		0.1		
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.5		
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		1.5		
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	0.1		1		
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1		1.3		
<i>Solanum lasiophyllum</i>	0.1		0.2		
<i>Sporobolus australasicus</i>	0.1		0.1		
<i>Trachymene oleracea</i>	0.1		0.1		
<i>Tribulus suberosus</i>	0.1		0.5		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.4		
<i>Triodia wiseana</i>	45		0.5		
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	0.1		0.1		
<i>Heliotropium tenuifolium</i>	0.1		0.1		

**Western Ridge****Site WRQ-34**

**Date** 16/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 766336 mE; 7409495 mN  
 119.606041 E -23.402686 S  
**Veg Condition** Excellent  
**Soil** Clay Loam  
**Rock Type** Conglomerate  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Low *Triodia vanleeuwenii* hummock grassland with low sparse *Acacia spondylophylla* and *Seringia elliptica* shrubland with scattered *Eucalyptus leucophloia* and *Corymbia ferritcola*.

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia maitlandii</i>	0.1		0.4		
<i>Acacia pachyacra</i>	0.1		0.3		
<i>Acacia spondylophylla</i>	3		0.5		
<i>Calytrix carinata</i>	0.1		0.3	WRQ 34-05	
<i>Corymbia ferritcola</i>	1		3		
<i>Dampiera candidans</i>	0.1		0.2		
<i>Duperreya commixta</i>	0.1		0.1		
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	0.1		0.3		
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1		0.3		
<i>Eriachne aristidea</i>	0.1		0.1		
<i>Eriachne ciliata</i>	0.1		0.2		
<i>Eriachne mucronata</i>	0.5		0.3		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	1		3		
<i>Gompholobium oreophilum</i>	0.1		0.4	WRQ 34-04	
<i>Goodenia stobbsiana</i>	0.1		0.1		
<i>Goodenia triodiophila</i>	0.1		0.2		
<i>Hakea chordophylla</i>	0.1		1		
<i>Mirbelia viminalis</i>	0.1		0.5		
<i>Paspalidium</i> ? <i>clementii</i>	0.1		0.1	WRQ 34-06	
<i>Petalostylis labicheoides</i>	0.1		2		
<i>Ptilotus calostachyus</i>	0.1		0.1		
<i>Scaevola browniana</i> subsp. <i>browniana</i>					
<i>Schizachyrium fragile</i>	0.1		0.1	WRQ 34-03	
<i>Senna</i> ? <i>artemisioides</i> subsp. <i>oligophylla</i>	0.1		1	WRQ 34-02	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.1		
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		1		
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	0.1		0.3		
<i>Seringia elliptica</i>	1		0.5		
<i>Stackhousia</i> sp. <i>swollen</i> gynophore (W.R. Barker 2041)	0.1		0.1	WRQ 34-01	
<i>Trachymene oleracea</i>	0.1		0.3		
<i>Triodia pungens</i>	0.1		0.3		
<i>Triodia vanleeuwenii</i>	30		0.3		
<i>Trianthema glossostigmum</i>	0.1		0.1	WRQ 34-07	

**Western Ridge****Site WRQ-35**

**Date** 19/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 765899 mE; 7408736 mN  
 119.601910 E -23.409601 S  
**Veg Condition** Very Good  
**Soil** Silty Clay Loam  
**Rock Type** BIF  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Stony Plain  
**Vegetation** Acacia ancistrocarpa hybrid, Acacia aptaneura, Acacia pruinocarpa and Eucalyptus leucophloia subsp. leucophloia low open woodland over Triodia pungens low sparse hummock grassland with Senna glutinosa subsp. luerssenii mid to tall scattered shrubs

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia aptaneura	5		5	WRQ 20.11	
Acacia bivenosa	0.1		1.8		
Acacia pachyacra	0.1		1.2		
Acacia pruinocarpa	1		4.5		
Acacia rhodophloia	0.1		3		
Acacia tetragonophylla	0.1		2		
Androcalva luteiflora	0.1		2.2		
Aristida contorta	0.1		0.1	WRQ 35.02	
Bidens bipinnata	0.1		0.1		
Boerhavia coccinea	0.1		0.2		
Capparis lasiantha	0.1				
Cleome viscosa	0.1		0.2		
Cucumis variabilis	0.1			WRQ 07.03	
Digitaria brownii	0.1		0.2	WRQ 27.04	
Dysphania rhadinostachya subsp. rhadinostachya	0.1		0.2	WRQ 35.04	
Enchylaena tomentosa	0.1		0.3		
Eremophila forrestii subsp. forrestii	0.1		1.3		
Eremophila latrobei subsp. latrobei	0.1		0.4		
Eucalyptus leucophloia subsp. leucophloia	0.1		6		
Evolvulus alsinoides var. decumbens	0.1		0.1		
Hakea lorea subsp. lorea	0.1		0.4		
Indigofera monophylla	0.1		0.2		
Maireana villosa	0.1		0.3	WRQ 35.03	
Panicum effusum	0.1		0.2	WRQ 35.01	
Perotis rara	0.1		0.1		
Petalostylis labicheoides	0.1		2		
Portulaca oleracea	0.1		0.1		
Psydrax latifolia	0.1		0.4		
Ptilotus calostachyus	0.1		0.1		
Ptilotus gaudichaudii	0.1		0.1		
Ptilotus obovatus	0.1		0.3		
Ptilotus polystachyus	0.1		0.2	WRQ 27.13	
Senna artemisioides subsp. helmsii	0.1		0.8		
Senna glutinosa subsp. x luerssenii	1		1.5	WRQ 21.02	
Senna notabilis	0.1		0.1		
Seringia nephrosperma	0.1		1.4		
Sida fibulifera	0.1		0.1		
Sporobolus australasicus	0.1		0.1	WRQ 20.02	
Tribulus suberosus	0.1		0.3		
Trichodesma zeylanicum var. zeylanicum	0.1		0.3		
Triodia pungens	8		0.4		
Acacia ancistrocarpa x ?	15		4	WRQ05.01/2	
Enneapogon polyphyllus	0.1		0.1	WRQ 21.12	

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<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1	0.1	WRQ 20.04
<i>Acrachne racemosa</i>	0.1	0.2	Yandi
<i>Paspalidium clementii</i>	0.1	0.1	WRQ 20.01
<i>Ptilotus auriculifolius</i>	0.1	0.3	WRQ 20.20
<i>Ptilotus helipteroides</i>	0.1	0.1	WRQ 20.05
<i>Gomphrena kanisii</i>	0.1	0.2	WRQ 27.07
<i>Sida</i> ? <i>ectogama</i>	0.1	0.6	



**Western Ridge****Site WRQ-36**

**Date** 19/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 766205 mE; 7410794 mN  
 119.604539 E -23.390982 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** BIF  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Scattered mid Eucalyptus leucophloia over low open hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia ancistrocarpa	0.5		1.5		
Acacia bivenosa	0.1				
Acacia inaequilatera	0.1				
Acacia pruinocarpa	0.1				
Acacia spondylophylla	0.1				
Acacia tenuissima	0.5				
Aristida holathera var. holathera	0.1				
Bulbostylis barbata	0.1				
Calytrix carinata	0.5				
Cleome viscosa	0.1				
Corchorus lasiocarpus subsp. parvus	0.1				
Dampiera candidans	0.1				
Dodonaea coriacea	0.5		1		
Enneapogon caerulescens	0.1				
Eriachne aristidea	0.1				
Eriachne ciliata	0.1				
Eriachne mucronata	0.1				
Eriachne pulchella subsp. dominii	0.1				
Eucalyptus leucophloia subsp. leucophloia	2		5		
Fimbristylis dichotoma	0.1				
Fimbristylis simulans	0.1				
Goodenia microptera	0.1				
Goodenia stobbsiana	0.1				
Grevillea wickhamii	1		3		
Hakea chordophylla	0.1				
Hakea lorea subsp. lorea	0.1				
Heliotropium inexplicitum	0.1				
Oldenlandia crouchiana	0.1				
Paspalidium clementii	0.1				
Ptilotus astrolasius	0.1				
Ptilotus auriculifolius	0.1				
Ptilotus calostachyus	0.1				
Ptilotus fusiformis	0.1				
Schizachyrium fragile	0.1				
Senna artemisioides subsp. oligophylla	0.5				
Senna glutinosa subsp. glutinosa	0.1				
Senna glutinosa subsp. pruinosa	0.1				
Senna glutinosa subsp. x Luerssenii	0.1				
Stackhousia sp. swollen gynophore (W.R. Barker 2041)	0.1				
Trachymene oleracea	0.1				
Tribulus suberosus	0.1		0.3		
Trichodesma zeylanicum var. zeylanicum	0.1				
Triodia pungens	10				
Triodia pungens	10				
Triodia vanleeuwenii	30				
Triodia vanleeuwenii	30				

**Western Ridge****Site WRQ-37**

**Date** 20/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 766436 mE; 7411950 mN  
 119.606586 E -23.380513 S  
**Veg Condition** Good  
**Soil** Sandy Clay Loam  
**Rock Type** Conglomerate  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Drainage Area/ Floodplain  
**Vegetation** Low isolated Eucalyptus victrix trees over tall isolated Acacia citrinoviridis shrubs over mid open Acacia pyrifolia var. pyrifolia shrubland over mid Cenchrus ciliaris, Themeda triandra and Eulalia aurea tussock grassland with isolated clumps of Triodia pungens

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia ancistrocarpa	0.1		1.2		
Acacia bivenosa	1		2		
Acacia citrinoviridis	4		4		
Acacia dictyophleba	2		2.2		
Acacia pyrifolia var. pyrifolia	2		2.5		
Alternanthera nana	0.1		0.1		
Amaranthus undulatus	0.1		0.2		
Androcalva luteiflora	0.1		1		
Bidens bipinnata	0.1		0.1		
Boerhavia coccinea	0.1		0.2		
Cenchrus ciliaris	50		0.7		
Cleome viscosa	2		0.4		
Corymbia hamersleyana	0.5		2		
Crotalaria medicaginea var. neglecta	0.1		0.1		
Cucumis variabilis	0.1		0		
Dipteracanthus australasicus subsp. australasicus	0.1		0.1		
Duperreya commixta	0.1		0.1		
Enneapogon lindleyanus	0.1		0.5		
Eragrostis eriopoda	0.1		0.3		
Eremophila longifolia	0.1		2		
Eriachne mucronata	3		0.6	WRQ 37-01	
Eucalyptus victrix	4		6		
Euphorbia australis var. subtomentosa	0.1		0.1		
Evolvulus alsinoides var. decumbens	0.1		0.1		
Evolvulus alsinoides var. villosicalyx	0.1		0.1		
Gomphrena cunninghamii	0.1		0.1		
Gomphrena sp. Indet	0.1		0.1		Insufficient material for confident identification
Goodenia microptera	0.1		0.2		
Gossypium robinsonii	0.1		1.5		
Hybanthus aurantiacus	0.1		0.3		
Notoleptopus decaisnei var. orbicularis	0.1		0.1		
Paspalidium clementii	0.1		0.1		
Phyllanthus maderaspatensis	0.1		0.2		
Polycarpaea longiflora	0.1		0.1		
Portulaca oleracea	0.1		0.1		
Ptilotus auriculifolius	0.1		0.4		
Ptilotus exaltatus	0.1		0.3		
Ptilotus helipteroides	0.1		0.2	WRQ 40-02	
Rhynchosia minima	0.1		0.1		
Salsola australis	0.1		0.1		
Santalum lanceolatum	0.1		2		
Senna artemisioides subsp. helmsii	0.1		0.3		

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<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1	1.2
<i>Setaria verticillata</i>	0.1	0.2
<i>Solanum lasiophyllum</i>	0.1	0.3
<i>Sporobolus australasicus</i>	0.1	0.1
<i>Tephrosia rosea</i> var. <i>Fortescue</i> creeks (M.I.H. Brooker 2186)	0.1	0.3
<i>Tephrosia</i> sp. Newman (A.A. Mitchell PRP 29)	0.1	0.3
<i>Themeda triandra</i>	2	0.6
<i>Trachymene oleracea</i>	0.1	0.1
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1	0.4
<i>Triodia pungens</i>	2	0.6
<i>Triodia pungens</i>	2	0.6

**Western Ridge****Site WRQ-38**

**Date** 20/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 766463 mE; 7412634 mN  
 119.606734 E -23.374344 S  
**Veg Condition** Very Good  
**Soil** Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Drainage Area/ Floodplain  
**Vegetation** Tall *Acacia adsurgens* shrubland over mid open *Triodia wiseana* hummock grassland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia adsurgens</i>	20		3		
<i>Acacia adsurgens</i> x <i>rhodophloia</i>	1		3		
<i>Acacia inaequilatera</i>	0.5		2.5		
<i>Acacia incurvaneura</i>	0.5		3		
<i>Acacia pyrifolia</i> var. <i>pyrifolia</i>	1		2.5		
<i>Acacia tetragonophylla</i>	0.1		2		
<i>Aristida contorta</i>	0.1		0.1		
<i>Bidens bipinnata</i>	0.1		0.1		
<i>Boerhavia coccinea</i>	0.1		0.1		
<i>Bothriochloa ewartiana</i>	0.1		0.6	WRQ 38-04	
<i>Cenchrus ciliaris</i>	0.1		0.5		
<i>Cleome viscosa</i>	0.1		0.1		
<i>Corchorus lasiocarpus</i> subsp. ? <i>lasiocarpus</i>	0.1		0.1		
<i>Corymbia hamersleyana</i>	2		6		
<i>Cucumis variabilis</i>	0.1		0.1		
<i>Enneapogon caerulescens</i>	0.1		0.1		
<i>Enneapogon polyphyllus</i>	0.1		0.1		
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	0.5		1		
<i>Eriachne mucronata</i>	0.1		0.2		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1		
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	0.1		0.2		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Gomphrena cunninghamii</i>	0.1		0.1		
<i>Goodenia microptera</i>	0.1		0.2		
<i>Hakea chordophylla</i>	0.5		2		
<i>Hakea lorea</i> subsp. <i>lorea</i>	0.1		2		
<i>Haloragis gossei</i> var. <i>gossei</i>	0.1		0.1		
<i>Hybanthus aurantiacus</i>	0.1		0.2		
<i>Notoleptopus decaisnei</i> var. <i>orbicularis</i>	0.1		0.1		
<i>Paspalidium clementii</i>	1		0.1		
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Ptilotus auriculifolius</i>	0.1		0.5		
<i>Ptilotus exaltatus</i>	0.1		0.1		
<i>Ptilotus obovatus</i>	0.1		0.3		
<i>Salsola australis</i>	0.1		0.1		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		1		
<i>Senna notabilis</i>	0.1		0.1		
<i>Sporobolus australasicus</i>	0.1		0.1		
<i>Tephrosia</i> sp. Newman (A.A. Mitchell PRP 29)	0.1		0.5		
<i>Trachymene oleracea</i>	0.1		0.1		
<i>Tribulus hirsutus</i>	0.1		0.2		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.3		
<i>Triodia wiseana</i>	20		0.5		
<i>Abutilon lepidum</i>	0.1		0.2	WRQ 38-02	
<i>Acacia</i> ? <i>ayersiana</i> (hybrid)	10		3		wide
<i>Euphorbia biconvexa</i>	0.1		0.1		
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	0.1		0.1	WRQ 38-03	floodplain

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Portulaca pilosa	0.1	0.1	
Heliotropium tenuifolium	0.1	0.1	
Ptilotus helipteroides	0.1	0.1	WRQ 40-02
Glycine canescens	0.1	0	Yandi (glycene)

**Western Ridge****Site WRQ-39**

**Date** 20/04/2020  
**Described by** SC & JE  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 766562 mE; 7410487 mN  
 119.608080 E -23.393697 S  
**Veg Condition** Excellent  
**Soil** Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Hillslope  
**Vegetation** Isolated *Eremophila fraseri*, *Acacia inaequilatera* and mixed *Senna* shrubs over low *Triodia vanleeuwenii* and *Triodia wiseana* hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia adsurgens</i>	0.1		1		
<i>Acacia inaequilatera</i>	1		1		
<i>Acacia pruinocarpa</i>	0.1		1		
<i>Aristida contorta</i>	0.1		0.1		
<i>Boerhavia coccinea</i>	0.1		0.2		
<i>Bulbostylis barbata</i>	0.1		0.1		
<i>Cleome viscosa</i>	0.1		0.2		
<i>Corchorus lasiocarpus</i> subsp. <i>parvus</i>	0.1		0.4		
<i>Enneapogon caerulescens</i>	0.1		0.1		
<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	1		1.1		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	1		3		
<i>Goodenia stobbsiana</i>	0.1		0.2		
<i>Heliotropium cunninghamii</i>	0.1		0.3		
<i>Indigofera rugosa</i>	0.1		0.4		
<i>Polycarpaea longiflora</i>	0.1		0.2		
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Ptilotus auriculifolius</i>	0.1		0.3		
<i>Ptilotus obovatus</i>	0.1		0.3		
<i>Rhynchosia minima</i>	0.1		0.1		
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.3		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		1		
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.5		1.5		
<i>Solanum cleistogamum</i>	0.1		0.2		
<i>Tephrosia densa</i>	0.1		0.4		
<i>Tribulus hirsutus</i>	0.1		0.1		
<i>Tribulus suberosus</i>	0.1		0.3		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.3		
<i>Triodia vanleeuwenii</i>	10		0.3		
<i>Triodia wiseana</i>	40		0.5		
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	0.1		0.1	WRQ 39-01	
<i>Lseilema dolichotrichum</i>	0.1		0.1		

**Western Ridge****Site WRQ-40**

**Date** 17/04/2020  
**Described by** SC & JE  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 766607 mE; 7409213 mN  
 119.608747 E -23.405182 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Gorge  
**Vegetation** Mid Eucalyptus leucophloia very open woodland over low Triodia pungens hummock grassland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia hamersleyensis	0.5		3		
Acacia maitlandii	1				
Acacia pruinocarpa	0.1				
Acacia pyrifolia var. pyrifolia	0.1				
Bulbostylis barbata	0.1				
Cleome viscosa	0.1				
Clerodendrum floribundum var. angustifolium	0.1		1	WRQ 40-01	A separate specimen was identified as Clerodendrum floribundum var. ? angustifolium at this location
Cucumis variabilis	0.1				
Cymbopogon ambiguus	0.1				
Dodonaea pachyneura	4		2.5		
Duperreya commixta	0.1				
Dysphania rhadinostachya subsp. rhadinostachya	0.1				
Enneapogon caeruleus	0.1				
Enneapogon polyphyllus	0.1				
Eremophila forrestii subsp. forrestii	0.1				
Eremophila lachnocalyx	0.1				
Eremophila sp. Hamersley Range (K. Walker KW 136)	0.1			Scjeopp01	
Eriachne mucronata	10				
Eucalyptus leucophloia subsp. leucophloia	10		10		
Evolvulus alsinoides var. villosicalyx	0.1				
Goodenia stobbsiana	0.1				
Hybanthus aurantiacus	0.1				
Mirbelia viminalis	0.1				
Paspalidium clementii	0.1				
Pterocaulon sphacelatum	0.1				
Ptilotus obovatus	0.1				
Senna glutinosa subsp. glutinosa	0.1				
Stemodia viscosa	0.1				
Themeda triandra	0.1				
Trachymene oleracea	0.1				
Trichodesma zeylanicum var. zeylanicum	0.1				
Triodia pungens	50		0.5		
Triodia vanleeuwenii	3				
Sida sp. Excedentifolia (J.L. Egan 1925)	0.1			WRQ 32.03	
Peripleura arida				Jescopp06	
Prostanthera ? albiflora	0.1			WRQ 60-01	
Acacia tenuissima	0.1			WRQ 42-01	
Ptilotus auriculifolius	0.1		0.4	WRQ 40-03	
Ptilotus helipteroides	0.1		0.2	WRQ 40-02	
Cryptandra monticola	0.1				

**Western Ridge****Site WRQ-41**

**Date** 20/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 766658 mE; 7413059 mN  
 119.608560 E -23.370473 S  
**Veg Condition** Excellent  
**Soil** Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Undulating Low Hills  
**Vegetation** Mid *Triodia wiseana* hummock grassland with tall *Acacia inaequilatera*  
 sparse shrubs over mid *Eremophila fraseri* and mixed *Senna* shrubland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia inaequilatera</i>	3		3		
<i>Acacia pruinocarpa</i>	0.1		0.5		
<i>Acacia pyrifolia</i> var. <i>pyrifolia</i>	0.1		1		
<i>Aristida contorta</i>	0.1		0.1		
<i>Boerhavia coccinea</i>	0.1		0.1		
<i>Cleome viscosa</i>	0.1		0.3		
<i>Corchorus lasiocarpus</i> subsp. <i>parvus</i>	0.1		0.2	WRQ 41-02	
<i>Cymbopogon ambiguus</i>	0.1		0.1		
<i>Duperreya commixta</i>	0.1		0		
<i>Enneapogon caerulescens</i>	0.1		0.1		
<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	2		1.2		
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	0.1		0.1		
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	0.1		0.3		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Goodenia microptera</i>	0.1		0.1		
<i>Heliotropium cunninghamii</i>	0.1		0.1		
<i>Indigofera monophylla</i>	0.1		0.1		
<i>Oldenlandia crouchiana</i>	0.1		0.1		
<i>Paspalidium clementii</i>	0.1		0.1		
<i>Phyllanthus erwinii</i>	0.1		0.2	WRQ 41-01	
<i>Polycarpaea longiflora</i>	0.1		0.1		
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Ptilotus auriculifolius</i>	0.1		0.4		
<i>Ptilotus exaltatus</i>	0.1		0.1		
<i>Ptilotus obovatus</i>	0.1		0.3		
<i>Ptilotus rotundifolius</i>	0.1		1		
<i>Rhynchosia minima</i>	0.1		0.1		
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.1		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.3		
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.5		1.8		
<i>Solanum cleistogamum</i>	0.1		0.2		
<i>Sporobolus australasicus</i>	0.1		0.1		
<i>Tribulus hirsutus</i>	0.1		0.3		
<i>Tribulus suberosus</i>	0.1		0.3		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.2		
<i>Triodia wiseana</i>	55		0.6		
<i>Portulaca pilosa</i>	0.1		0.1	WRQ 41-04	
<i>Gomphrena cunninghamii</i>	0.1		0.1		
<i>Heliotropium tenuifolium</i>	0.1		0.1		
<i>Ptilotus helipteroides</i>	0.1		0.1	WRQ 40-02	
<i>Iseilema dolichotrichum</i>	0.1		0.1	WRQ 41-03	



**Western Ridge****Site WRQ-42**

**Date** 17/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 766904 mE; 7409828 mN  
 119.611537 E -23.399585 S  
**Veg Condition** Excellent  
**Soil** Silty Clay Loam  
**Rock Type** BIF  
**Fire Age** Recent (0 to 2 yr)  
**Habitat** Hillslope  
**Vegetation** Sparse mid Eucalyptus leucophloia over sparse mixed shrubs over hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia maitlandii	0.5		5		
Acacia pruinocarpa	0.1		2		
Acacia pyrifolia var. pyrifolia	0.1				
Acacia spondylophylla	0.1				
Aristida holathera var. holathera	0.1			WRQ 42-03	
Corymbia ferritcola	0.5		2.5		
Cymbopogon ambiguus	0.1				
Dysphania rhadinostachya subsp. rhadinostachya	0.1		0.1		
Enneapogon polyphyllus	0.1		0.1		
Eremophila forrestii subsp. forrestii	0.1				
Eremophila fraseri subsp. fraseri	0.1				
Eremophila sp. Hamersley Range (K. Walker KW 136)	0.1				
Eriachne ciliata	0.5				
Eriachne mucronata	1				
Eucalyptus leucophloia subsp. leucophloia	2		4.5		
Goodenia stobbsiana	0.1		0.1		
Goodenia triodiophylla	0.2		0.1		
Hakea chordophylla	0.1		2.5		
Mirbelia viminalis	1				
Ptilotus astrolasius	0.1				
Ptilotus calostachyus	0.1		0.1		
Scaevola browniana subsp. browniana	0.1				
Schizachyrium fragile	0.1				
Senna artemisioides subsp. helmsii	0.1				
Senna artemisioides subsp. oligophylla	0.1				
Senna glutinosa subsp. glutinosa	1		1.5		
Senna glutinosa subsp. pruinosa	0.1				
Seringia elliptica	0.5				
Stackhousia sp. swollen gynophore (W.R. Barker 2041)	0.1				
Tribulus suberosus	0.1				
Triodia pungens	5				
Triodia vanleeuwenii	40				
Acacia tenuissima	0.5		1	WRQ 42-01	
Tephrosia ? sp. NW Eremaean (S. van Leeuwen et al. PBS 0356)	0.1			WRQ 42-02	

**Western Ridge****Site WRQ-43**

**Date** 19/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 767016 mE; 7410630 mN  
 119.612496 E -23.392334 S  
**Veg Condition** Excellent  
**Soil** Silty Clay Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Drainage Area/ Floodplain  
**Vegetation** Scattered Eucalyptus over open low Acacia inaequifolia over low dense hummock grassland and mixed herbs (predominantly Cleome viscosa)

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia ancistrocarpa	0.1				
Acacia bivenosa	0.5				
Acacia maitlandii	0.1				
Acacia pruinocarpa	0.1				
Acacia pyrifolia var. pyrifolia	15		3		
Amaranthus undulatus	0.1				
Androcalva luteiflora	0.1				
Bidens bipinnata	0.1				
Boerhavia coccinea	0.5			WRQ 43-01	
Cenchrus ciliaris	1		0.6		
Cleome viscosa	2				
Corymbia hamersleyana	4		5		
Crotalaria medicaginea var. neglecta	0.1				
Cucumis variabilis	0.1				
Digitaria brownii	0.1				
Duperreya commixta	0.1				
Enneapogon caerulescens	0.1				
Enneapogon polyphyllus	0.1				
Eremophila latrobei subsp. latrobei	0.1				
Eremophila longifolia	2				
Eremophila sp. Hamersley Range (K. Walker KW 136)	0.1				
Euphorbia biconvexa	0.1			WRQ 43-04	
Euphorbia tannensis subsp. eremophila	0.1				
Evolvulus alsinoides var. villosicalyx	0.1				
Gomphrena cunninghamii	0.1				
Gomphrena sp. Indet	0.1				Insufficient material for confident identification
Goodenia cusackiana	0.1				
Goodenia muelleriana	0.1			WRQ 43-02	
Gossypium australe	0.1				
Gossypium robinsonii	1				
Hakea lorea subsp. lorea	0.1				
Heliotropium tenuifolium	0.1			WRQ 43-03	
Indigofera monophylla	0.1				
Jasminum didymum subsp. lineare	0.1				
Notoleptopus decaisnei var. orbicularis	0.1				
Paspalidium clementii	0.1				
Petalostylis labicheoides	0.1				
Portulaca oleracea	0.1				
Pterocaulon sphacelatum	0.1				
Ptilotus auriculifolius	0.1				
Ptilotus exaltatus	0.1				
Ptilotus helipteroides	0.1			WRQ 40-02	
Ptilotus obovatus	0.1				
Rhynchosia minima	0.1				
Santalum lanceolatum	1		2.5		

<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1	
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1	
<i>Setaria verticillata</i>	0.1	
<i>Solanum lasiophyllum</i>	0.1	
<i>Sporobolus australasicus</i>	0.1	
<i>Stemodia viscosa</i>	0.1	
<i>Themeda triandra</i>	0.1	
<i>Trachymene oleracea</i>	0.1	
<i>Tribulus hirsutus</i>	0.1	
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1	
<i>Triodia pungens</i>	40	1
<i>Triodia pungens</i>	40	1

## Western Ridge

## Site WRQ-44

**Date** 21/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 767252 mE; 7411630 mN  
 119.614625 E -23.383273 S  
**Veg Condition** Good  
**Soil** Clay Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Gorge  
**Vegetation** *Corymbia ferriticola*, *Ficus platypoda* low open woodland over *Cenchrus ciliaris*, *Eriachne mucronata* mid sparse tussock grassland with *Cyperus vaginatus* mid sparse sedgeland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Abutilon fraseri</i>	0.1		0.2	WRQ 44.04	
<i>Acacia coriacea</i> subsp. <i>pendens</i>	0.1		5		
<i>Acacia</i> sp. Indet	0.1		0.8		Insufficient material for confident identification
<i>Acacia tetragonophylla</i>	0.1		1.8		
<i>Amaranthus undulatus</i>	0.1		0.2	WRQ 44.05	
<i>Ammannia multiflora</i>	0.1		0.2	WRQ 44.01	
<i>Bidens bipinnata</i>	0.1		0.2		
<i>Boerhavia coccinea</i>	0.1		0.1		
<i>Capparis lasiantha</i>	0.1		0.4		
<i>Capparis spinosa</i> subsp. <i>nummularia</i>	0.1		0.6		
<i>Cenchrus ciliaris</i>	5		0.5		
<i>Cleome viscosa</i>	0.1		0.3		
<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>	0.1		3	WRQ 44.02	
<i>Clerodendrum tomentosum</i> var. <i>lanceolatum</i>	0.1		1.5	WRQ 44.11	
<i>Corymbia ferriticola</i>	6		6	WRQ 44.09	A separate specimen was identified as <i>Corymbia ? ferriticola</i> at this location
<i>Cucumis variabilis</i>	0.1			WRQ 07.03	
<i>Cuscuta victoriana</i>	0.1			WRQ 44.07	
<i>Cymbopogon ambiguus</i>	0.1		0.4	WRQ 08.02	
<i>Cynanchum floribundum</i>	0.1			WRQ 44.06	
<i>Cyperus vaginatus</i>	3		0.9	WRQ 24.01	
<i>Dicladantha forrestii</i>	0.1		0.2	WRQ 44.03	
<i>Dodonaea pachyneura</i>	0.1		2	WRQ 08.01	
<i>Duperreya commixta</i>	0.1				
<i>Eremophila longifolia</i>	0.1		2		
<i>Eriachne mucronata</i>	1		0.2		
<i>Euphorbia biconvexa</i>	0.1		0.2	WRQ 14.01	
<i>Ficus platypoda</i>	1		5	WRQ 08.04	
<i>Glycine</i> sp. Indet	0.1				Insufficient material for confident identification
<i>Gomphrena cunninghamii</i>	0.1		0.1	WRQ 92.01	
<i>Gossypium australe</i>	0.1		0.9		
<i>Gossypium robinsonii</i>	0.1		3		
<i>Jasminum didymum</i> subsp. <i>lineare</i>	0.1		0.1		
<i>Malvastrum americanum</i>	0.1		0.2		
<i>Malvastrum americanum</i>	0.1		0.2		
<i>Plumbago zeylanica</i>	0.1		0.6		
<i>Polycarpaea longiflora</i>	0.1		0.1		
<i>Rhynchosia minima</i>	0.1			WRQ 44.08	
<i>Setaria verticillata</i>	0.1		0.1		
<i>Solanum nigrum</i>	0.1		0.4		
<i>Sonchus oleraceus</i>	0.1		0.1		
<i>Tephrosia rosea</i> var. <i>Fortescue creeks</i> (M.I.H.)	0.1		0.1		



Brooker 2186)		
Tinospora smilacina	0.1	
Trachymene oleracea	0.1	0.2
Trichodesma zeylanicum var. zeylanicum	0.1	0.3

**Western Ridge****Site WRQ-45**

**Date** 21/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 767182 mE; 7412503 mN  
 119.613782 E -23.375407 S  
**Veg Condition** Excellent  
**Soil** Silty Clay Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Stony Plain  
**Vegetation** *Triodia wiseana* and *Triodia pungens* mid hummock grassland with *Acacia adsurgens*, *Acacia inaequilatera* and *Acacia mulga* mid to tall sparse shrubland over annual herbs and grasses

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Abutilon lepidum</i>	0.1		0.2	WRQ 21.03	
<i>Abutilon</i> sp. Pilbara (W.R. Barker 2025)	0.1		0.3	WRQ 45.02	
<i>Acacia</i> ? <i>rhodophloia</i> x ?	0.1		2.2		
<i>Acacia adsurgens</i>	2		2.2	WRQ 45.03	
<i>Acacia ancistrocarpa</i>	0.1		1.5		
<i>Acacia inaequilatera</i>	1		3.5		
<i>Acacia pruinocarpa</i>	0.1		2		
<i>Acacia</i> sp. Indet	0.1		1.5		Insufficient material for confident identification
<i>Acacia tetragonophylla</i>	1		3		
<i>Aristida contorta</i>	0.1		0.2		
<i>Cenchrus ciliaris</i>	0.1		0.2		
<i>Cleome viscosa</i>	0.1		0.2		
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	0.1		0.1	WRQ 09.03	Tentatively identified as <i>Corchorus lasiocarpus</i> subsp. ? <i>lasiocarpus</i> due to insufficient material
<i>Crotalaria medicaginea</i> var. <i>neglecta</i>	0.1		0.1		
<i>Cucumis variabilis</i>	0.1			WRQ 07.03	
<i>Cymbopogon ambiguus</i>	0.1		0.4	WRQ 08.02	
<i>Duperreya commixta</i>	0.1				
<i>Duperreya commixta</i>	0.1				
<i>Enneapogon lindleyanus</i>	0.1		0.2	WRQ 21.11	
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1		2.2		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.2	WRQ 20.04	
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	0.1		0.1		
<i>Euphorbia biconvexa</i>	0.1		0.2	WRQ 14.01	
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	0.1		0.2		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Gomphrena kanisii</i>	0.1		0.2	WRQ 27.07	
<i>Goodenia muelleriana</i>	0.1		0.1	WRQ 06.01	
<i>Goodenia vilmoriniae</i>	0.1		0.2		
<i>Hakea lorea</i> subsp. <i>lorea</i>	0.1		2.6		
<i>Haloragis gossei</i> var. <i>gossei</i>	0.1		0.2	WRQ 09.05	
<i>Heliotropium inexplicitum</i>	0.1		0.1	WRQ 21.09	
<i>Indigofera monophylla</i>	0.1		0.3		
<i>Paspalidium clementii</i>	0.1		0.1	WRQ 20.01	
<i>Phyllanthus maderaspatensis</i>	0.1		0.2		
<i>Portulaca oleracea</i>	0.1		0.2		
<i>Ptilotus auriculifolius</i>	0.1		0.2	WRQ 20.20	
<i>Ptilotus helipteroides</i>	0.1		0.2	WRQ 20.05	
<i>Ptilotus obovatus</i>	0.1		0.3		
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.4		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.5		
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1		1.8	WRQ 21.02	
<i>Senna notabilis</i>	0.1		0.1		

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Solanum lasiophyllum	0.1	0.1	
Sporobolus australasicus	0.1	0.2	WRQ 20.02
Stemodia viscosa	0.1	0.2	Tentatively identified as Stemodia ? viscosa due to insufficient material
Trachymene oleracea	0.1	0.2	
Trichodesma zeylanicum var. zeylanicum	0.1	0.2	
Triodia pungens	5	0.3	
Triodia vanleeuwenii	3	0.3	
Triodia wiseana	28	0.5	
Vincetoxicum lineare	0.1		

## Western Ridge

## Site WRQ-46

<b>Date</b>	20/04/2020
<b>Described by</b>	EEB & MvW
<b>Type</b>	Q 50m x 50m
<b>Location</b>	MGA Zone 50 767074 mE; 7408585 mN 119.613421 E -23.410779 S
<b>Veg Condition</b>	Very Good
<b>Soil</b>	Silty Clay Loam
<b>Rock Type</b>	None Discernible
<b>Fire Age</b>	Old (6+ yr)
<b>Habitat</b>	Sandy/ Stony Plain
<b>Vegetation</b>	Isolated Eucalyptus leucophloia over Eucalyptus gamophylla over mid sparse Acacia ancistrocarpa shrubland over Triodia wiseana hummock grasses

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Abutilon lepidum	0.1		0.1	WRQ 71-04	
Acacia aptaneura	0.2		1.3	WRQ 58-09	Tentatively identified as Acacia ? aptaneura due to insufficient material
Acacia pruinocarpa	0.5		0.8		
Acacia rhodophloia	0.7		1.2	WRQ 69-02	
Acacia sibirica	0.1		0.6	WRQ 69-03	
Acacia tetragonophylla	0.1		1.4		
Aristida holathera var. holathera	0.1		0.25	WRQ 80-13	
Asteraceae sp. Indet	0.1		0.1	WRQ 46.02	Insufficient material for confident identification
Bonamia erecta	0.1		0.3	WRQ 71-13	
Cleome viscosa	0.1		0.3		
Cucumis variabilis	0.1		0.1		
Duperreya commixta	0.1		0.1		
Dysphania sp. Indet	0.1		0.1	WRQ 79-11	Insufficient material for confident identification
Enneapogon lindleyanus	0.1		0.1		
Enneapogon polyphyllus	0.1		0.2		
Eremophila latrobei subsp. latrobei	0.1		0.8		
Eriachne mucronata	0.1		0.3	WRQ 72-03	
Eriachne pulchella subsp. dominii	0.1		0.2		
Eucalyptus gamophylla	0.4		2.8		
Euphorbia biconvexa	0.1		0.1	WRQ 75-15	Tentatively identified as Euphorbia ? biconvexa due to insufficient material
Fimbristylis simulans	0.1		0.2	WRQ 73-03	
Glycine canescens	0.1		0.1	WRQ 75-14	Tentatively identified as Glycine ? canescens due to insufficient material
Gomphrena cunninghamii	0.1		0.1		
Goodenia microptera	0.1		0.3	WRQ 80-17	
Goodenia muelleriana	0.1		0.1	WRQ 80-18	
Goodenia stobbsiana	0.1		0.1	WRQ 46.05	
Gossypium robinsonii	0.1		2.5		
Hakea lorea subsp. lorea	0.4		0.5	WRQ 75-01	
Haloragis gossei var. gossei	0.1		0.1	WRQ 80-06	
Indigofera monophylla	0.2		0.1		
Marsdenia australis	0.1		0.1		
Oldenlandia crouchiana	0.1		0.15	WRQ 78-08	
Paraneurachne muelleri	0.1		0.1		
Paspalidium clementii	0.2		0.2	WRQ 79-18	
Portulaca oleracea	0.1		0.1		
Psyrax suaveolens	0.1		0.5	WRQ 46.04	
Ptilotus auriculifolius	0.1		0.1	WRQ 79-07	
Ptilotus exaltatus	0.1		0.05		



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<i>Ptilotus helipteroides</i>	0.1	0.1	WRQ 80-05
<i>Ptilotus obovatus</i>	0.1	0.4	WRQ 68-04
<i>Ptilotus polystachyus</i>	0.1	0.2	WRQ 75-03
<i>Ptilotus schwartzii</i>	0.1	0.6	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1	0.6	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1	0.4	
<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	0.1	0.5	
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1	1	
<i>Sida fibulifera</i>	0.1	0.1	
<i>Solanum lasiophyllum</i>	0.1	0.2	WRQ 74-04
<i>Sporobolus australasicus</i>	0.1	0.1	
<i>Trachymene</i> sp. Indet	0.1	0.1	WRQ 80-07      Insufficient material for confident identification
<i>Trianthema glossostigma</i>	0.1	0.1	WRQ 46-01
<i>Tribulus suberosus</i>	0.1	0.3	WRQ 79-04
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1	0.15	
<i>Triodia pungens</i>	2	0.25	
<i>Triodia wiseana</i>	12	0.2	WRQ 79-01
<i>Vittadinia arida</i>	0.1	0.1	WRQ 46-03

**Western Ridge****Site WRQ-47**

**Date** 21/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 767240 mE; 7413039 mN  
 119.614252 E -23.370557 S  
**Veg Condition** Poor  
**Soil** Silty Clay Loam  
**Rock Type** Detritals  
**Fire Age** Old (6+ yr)  
**Habitat** Medium Drainage Line  
**Vegetation** Cenchrus ciliaris and Eulalia aurea low tussock grassland with Acacia citrinoviridis tall sparse shrubland with Acacia coriacea subsp. pendens and Eucalyptus victrix low scattered trees

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia ancistrocarpa	2		2	WRQ 71-06	
Acacia citrinoviridis	8		4.5		
Acacia coriacea subsp. pendens	0.1		10		
Acacia sp. Indet	0.1		1.5	WRQ 21st	Insufficient material for confident identification
Acacia tetragonophylla	0.1		2.4		
Acrachne racemosa	0.1		0.3		
Amaranthus undulatus	0.1		0.3	WRQ 47.01	
Bidens bipinnata	0.1		0.1		
Boerhavia coccinea	0.1		0.2		
Cenchrus ciliaris	60		0.4		
Cenchrus setiger	0.1		0.4		
Cleome viscosa	0.1		0.4		
Corchorus tridens	0.1		0.2		
Cucumis variabilis	0.1			WRQ 07.03	
Cyperus vaginatus	0.1		0.2		
Duperreya commixta	0.1				
Enchylaena tomentosa	0.1		0.3		
Enteropogon ramosus	0.1		0.4		
Eremophila longifolia	0.1		3		
Eriachne mucronata	0.1		0.3		
Eucalyptus leucophloia subsp. leucophloia	1		8		
Eucalyptus victrix	0.1		5		
Eulalia aurea	1		0.4		
Euphorbia biconvexa	0.1		0.2	WRQ 14.01	
Evolvulus alsinoides var. decumbens	0.1		0.2		
Gomphrena kanisii	0.1		0.3	WRQ 27.07	
Hakea lorea subsp. lorea	0.1		3.5		
Indigofera monophylla	0.1		0.4		
Indigofera sp. Indet	0.1		0.1		Insufficient material for confident identification
Malvastrum americanum	0.1		0.2		
Melaleuca glomerata	0.1		2		
Melhania oblongifolia	0.1		0.1	WRQ 91.03	
Notoleptopus decaisnei var. orbicularis	0.1		0.1	WRQ 92.02	
Operculina aequisejala	0.1			WRQ 15.16	
Paspalidium clementii	0.1		0.2	WRQ 20.01	
Phyllanthus maderaspatensis	0.1		0.1		
Pluchea dentex	0.1		0.1		
Portulaca oleracea	0.1		0.1		
Ptilotus auriculifolius	0.1		0.1	WRQ 20.20	
Ptilotus exaltatus	0.1		0.2		
Ptilotus helipteroides	0.1		0.2	WRQ 20.05	
Ptilotus obovatus	0.1		0.4		
Rhagodia eremaea	0.1		0.4	WRQ 27.09	
Rhynchosia minima	0.1				

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Santalum lanceolatum	0.1	1	
Senna glutinosa subsp. glutinosa	0.1	1.9	
Setaria verticillata	0.1	0.2	
Solanum lasiophyllum	0.1	0.1	
Sporobolus australasicus	0.1	0.1	WRQ 20.02
Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)	0.1	0.2	
Trichodesma zeylanicum var. zeylanicum	0.1	0.3	
Triodia pungens	0.1	0.3	

**Western Ridge****Site WRQ-48**

**Date** 18/04/2020  
**Described by** SC & JE  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 767073 mE; 7409159 mN  
 119.613314 E -23.405598 S  
**Veg Condition** Excellent  
**Soil** Clay Loam  
**Rock Type** CID  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Low open *Triodia pungens* hummock grassland with isolated low *Eucalyptus leucophloia* trees with scattered low to mid shrubs

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia hamersleyensis</i>	0.1		1.5		
<i>Acacia incurvaneura</i>	0.1		1.5		
<i>Acacia maitlandii</i>	0.1		1.5		
<i>Amaranthus undulatus</i>	0.1		0.1		
<i>Aristida contorta</i>	0.1		0.1		
<i>Aristida holathera</i>	0.1		0.1		
<i>Bulbostylis barbata</i>	0.1		0.1		
<i>Cleome viscosa</i>	0.1		0.1		
<i>Corymbia hamersleyana</i>	0.1		1.5		
<i>Cymbopogon ambiguus</i>	0.1		0.5		
<i>Dampiera candidans</i>	0.1		0.2		
<i>Dysphania rhadinostachya</i> subsp. <i>rhadinostachya</i>	0.1		0.1		
<i>Enneapogon caerulescens</i>	0.1		0.1		
<i>Eremophila lachnocalyx</i>	0.1		0.3		
<i>Eriachne aristidea</i>					
<i>Eriachne mucronata</i>	1		0.3		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	1		3.5		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Gomphrena</i> sp. <i>Indet</i>	0.1		0.1	WRQ 48-01	
<i>Goodenia stobbsiana</i>	0.1		0.1		
<i>Nicotiana benthamiana</i>	0.1		0.2		
<i>Oldenlandia crouchiana</i>	0.1		0.1		
<i>Paspalidium clementii</i>	1		0.1		
<i>Perotis rara</i>	0.1		0.1		
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Ptilotus auriculifolius</i>	0.1		0.2		
<i>Ptilotus calostachyus</i>	0.1		0.1		
<i>Ptilotus fusiformis</i>	0.1		0.1		
<i>Ptilotus obovatus</i>	0.1		0.1		
<i>Schizachyrium fragile</i>	0.1		0.1		
<i>Senna glutinosa</i>	0.1		1.5		
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1		0.5		
<i>Trachymene oleracea</i>	0.1		0.1		
<i>Tribulus suberosus</i>	0.1		0.5		
<i>Triodia pungens</i>	23		0.2		
<i>Peripleura arida</i>	0.1		0.1	SCJEopp05	
<i>Gomphrena cunninghamii</i>	0.1		0.1	WRQ 48-02	
<i>Ptilotus helipteroides</i>	0.1		0.1	WRQ 40-02	
<i>Sida</i> sp. <i>Shovelanna Hill</i> ( <i>S. van Leeuwen</i> 3842)	0.1		0.3	scjeopp03	

## Western Ridge

## Site WRQ-49

<b>Date</b>	21/04/2020
<b>Described by</b>	SC & JE
<b>Type</b>	Q 50m x 50m
<b>Location</b>	MGA Zone 50 767415 mE; 7412263 mN 119.616106 E -23.377535 S
<b>Veg Condition</b>	Excellent
<b>Soil</b>	Sandy Clay Loam
<b>Rock Type</b>	Dolerite
<b>Fire Age</b>	Moderate (3 to 5 yr)
<b>Habitat</b>	Hillslope
<b>Vegetation</b>	Sparse low <i>Acacia inaequilatera</i> over low open <i>Triodia wiseana</i> grassland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia adsurgens</i>	2				
<i>Acacia ancistrocarpa</i>	0.1		2		
<i>Acacia inaequilatera</i>	40				
<i>Acacia pruinocarpa</i>	0.5		2		
<i>Acacia tetragonophylla</i>	0.5				
<i>Acacia wiseana</i>	0.1				
<i>Aristida contorta</i>	0.1				
<i>Boerhavia coccinea</i>	0.1				
<i>Cenchrus ciliaris</i>	0.1				
<i>Cleome viscosa</i>	0.1				
<i>Corchorus lasiocarpus</i> subsp. ? <i>lasiocarpus</i>	0.1				
<i>Crotalaria medicaginea</i> var. <i>neglecta</i>	0.1				
<i>Cucumis variabilis</i>	0.1				
<i>Enneapogon caerulescens</i>	0.1				
<i>Eremophila cuneifolia</i>	0.1				
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1				
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	0.1			WRQ 39-01	
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	0.1				
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1				
<i>Fimbristylis simulans</i>	0.1				
<i>Gomphrena</i> sp. <i>Indet</i>	0.1				
<i>Goodenia microptera</i>	0.1			WRQ 49-02	
<i>Hakea lorea</i> subsp. <i>lorea</i>	0.1				
<i>Haloragis gossei</i> var. <i>gossei</i>	0.1				
<i>Heliotropium cunninghamii</i>	0.1				
<i>Heliotropium inexplicitum</i>	0.1				
<i>Indigofera rugosa</i>	0.1				
<i>Paspalidium clementii</i>	0.1				
<i>Polycarpaea longiflora</i>	0.1				
<i>Portulaca oleracea</i>	0.1				
<i>Ptilotus auriculifolius</i>	0.1				
<i>Ptilotus obovatus</i>	0.1				
<i>Ptilotus rotundifolius</i>	0.1				
<i>Rhynchosia minima</i>	0.1				
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.5		2		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.5				
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1				
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1				
<i>Sida</i> sp. <i>Excedentifolia</i> (J.L. Egan 1925)	0.1				
<i>Sporobolus australasicus</i>	0.1				
<i>Tephrosia densa</i>	0.1				
<i>Tribulus hirsutus</i>	0.1				
<i>Tribulus suberosus</i>	0.1				
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1				
<i>Polycarpaea corymbosa</i>	0.1			WRQ 49-01	

**Western Ridge****Site WRQ-50**

<b>Date</b>	19/04/2020
<b>Described by</b>	SC & JE
<b>Type</b>	Q 100m x 25m
<b>Location</b>	MGA Zone 50 767559 mE; 7410438 mN 119.617834 E -23.393974 S
<b>Veg Condition</b>	Excellent
<b>Soil</b>	Silty Loam
<b>Rock Type</b>	BIF
<b>Fire Age</b>	Old (6+ yr)
<b>Habitat</b>	Gorge
<b>Vegetation</b>	Mid <i>Corymbia ferriticola</i> scattered trees over mid herb and tussock grass

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Abutilon lepidum</i>	0.1			WRQ 50-06	
<i>Acacia incurvaneura</i>	4		8		
<i>Alternanthera nodiflora</i>	0.1				
<i>Amaranthus undulatus</i>	0.1		0.2		
<i>Aristida burbridgeae</i>	0.1			WRQ 50-08	Tentatively identified as <i>Aristida ? burbridgeae</i> due to insufficient material
<i>Astrotricha hamptonii</i>	0.1				
<i>Bidens bipinnata</i>	0.1				
<i>Boerhavia coccinea</i>	0.1				
<i>Centipeda minima</i> subsp. <i>macrocephala</i>	0.1				
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	0.1		0.1	WRQ 50-02	
<i>Cleome viscosa</i>	2				
<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>	0.1				
<i>Corchorus tridens</i>	0.1				
<i>Corymbia ferriticola</i>	8		7	WRQ 50-04	
<i>Cucumis variabilis</i>	0.1				
<i>Cymbopogon ambiguus</i>	1				
<i>Cyperus hesperius</i>	1			WRQ 50-01	
<i>Digitaria brownii</i>	0.1			WRQ 50-09	
<i>Dodonaea pachyneura</i>	0.5		1.5		
<i>Duperreya commixta</i>	0.1				
<i>Eragrostis tenellula</i>	0.1				
<i>Eremophila</i> sp. <i>Hammersley Range</i> (K. Walker KW 136)	0.5				
<i>Eriachne mucronata</i>	10		0.5		
<i>Euphorbia biconvexa</i>	0.1			WRQ 43-04	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1				
<i>Ficus brachypoda</i>	0.5		5		
<i>Fimbristylis simulans</i>	0.1				
<i>Gomphrena cunninghamii</i>	0.1				
<i>Gossypium robinsonii</i>	0.1				
<i>Hybanthus aurantiacus</i>	0.1				
<i>Jasminum didymum</i> subsp. <i>lineare</i>	0.1				
<i>Nicotiana benthamiana</i>	0.1				
<i>Olearia stuartii</i>	1		0.4	WRQ 50-05	
<i>Paspalidium clementii</i>	0.1				
<i>Plumbago zeylanica</i>	0.1		0.3	WRQ 50-03	
<i>Portulaca oleracea</i>	0.1				
<i>Prostanthera albiflora</i>	0.1			WRQ 60-01	Tentatively identified as <i>Prostanthera ? albiflora</i> due to insufficient material
<i>Pterocaulon sphacelatum</i>	0.1				
<i>Ptilotus auriculifolius</i>	0.1				
<i>Ptilotus obovatus</i>	0.1				
<i>Rhynchosia minima</i>	0.1				

Schoenoplectus subulatus	0.1	WRQ 50-07
Senna glutinosa subsp. glutinosa	0.1	
Senna venusta	0.1	
Solanum cleistogamum	0.1	
Solanum horridum	0.1	
Stemodia grossa	0.1	
Stemodia viscosa	0.1	
Tephrosia densa	0.1	
Trachymene oleracea	0.1	
Trichodesma zeylanicum var. zeylanicum	0.1	
Triodia pungens	1	
Triumfetta maconochieana	0.1	
Vincetoxicum lineare	0.1	

**Western Ridge****Site WRQ-51**

**Date** 21/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 767680 mE; 7411974 mN  
 119.618749 E -23.380094 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** Dolerite  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Sparse Eucalyptus leucophloia over low open Triodia hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia adsurgens	0.5				
Acacia ancistrocarpa	0.1				
Acacia hamersleyensis	0.1				
Acacia incurvaneura	0.1				
Acacia maitlandii	0.5				
Acacia pruinocarpa	0.5				
Acacia spondylophylla	1		0.5		
Acacia tenuissima	0.1				
Aristida contorta	0.1				
Cleome viscosa	0.1				
Corchorus lasiocarpus subsp. parvus	0.1				
Corymbia ferriticola	1				
Dampiera candidans	0.1				
Enneapogon polyphyllus					
Eremophila sp. Hamersley Range (K. Walker KW 136)	0.1		1		
Eriachne mucronata	0.5				
Eriachne pulchella subsp. dominii	0.1				
Eucalyptus leucophloia subsp. leucophloia	1				
Evolvulus alsinoides var. villosicalyx	0.1				
Gomphrena cunninghamii	0.1				
Goodenia microptera	0.1				
Goodenia stobbsiana	0.1				
Goodenia triodiophila	0.1				
Grevillea berryana	0.1				
Hakea chordophylla	0.1		1.5		
Haloragis gossei var. gossei	0.1				
Mirbelia viminalis	0.1				
Oldenlandia crouchiana	0.1				
Paspalidium clementii	0.1				
Ptilotus exaltatus	71				
Schizachyrium fragile	0.1				
Senna artemisioides subsp. helmsii	0.1				
Senna glutinosa subsp. glutinosa	0.1				
Senna glutinosa subsp. pruinosa	0.1				
Solanum lasiophyllum	0.1				
Tephrosia densa	0.1				
Trachymene oleracea	0.1				
Tribulus suberosus	0.1				
Trichodesma zeylanicum var. zeylanicum	0.1				
Triodia pungens	5				
Triodia vanleeuwenii	45				
Triumfetta clementii	0.1				
Eucalyptus gamophylla	1				
Polygala glaucifolia					
Sida sp. Excedentifolia (J.L. Egan 1925)	0.1				



**Western Ridge****Site WRQ-52**

**Date** 21/04/2020  
**Described by** CvdB & KG  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 767741 mE; 7413044 mN  
 119.619148 E -23.370434 S  
**Veg Condition** Good  
**Soil** Silty Clay Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Stony Plain  
**Vegetation** *Senna glutinosa* subsp. *luerssenii*, *Acacia victoriae* and *Eremophila cuneifolia* mid sparse shrubland with *Acacia* sp. and *Acacia* ? *paraneura* low scattered trees over scattered chenopods and annual grasses

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia</i> ? <i>paraneura</i>	0.1		6	WRQ 52.04	
<i>Acacia tetragonophylla</i>	0.1		2		
<i>Acacia victoriae</i>	0.1		2		
<i>Aristida contorta</i>	0.1		0.2		
<i>Boerhavia coccinea</i>	0.1		0.1		
<i>Cenchrus ciliaris</i>	0.1		0.3		
<i>Dactyloctenium radulans</i>	0.1		0.1		
<i>Eremophila cuneifolia</i>	0.1		1.1		
<i>Eremophila longifolia</i>	0.1		1.2		
<i>Eriachne mucronata</i>	0.1		0.3		
<i>Hakea lorea</i> subsp. <i>lorea</i>	0.1		1.5		
<i>Maireana</i> ? <i>triptera</i>	0.1		0.2	WRQ 52.02	
<i>Maireana</i> ? <i>villosa</i>	0.1		0.2	WRQ 52.06	
<i>Maireana</i> sp. Indet	0.1		0.2	WRQ 52.05	
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Ptilotus obovatus</i>	0.1		0.3		
<i>Rhagodia eremaea</i>	0.1		0.2		
<i>Santalum lanceolatum</i>	0.1		1.3		
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1		0.6		
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	4		1.6	WRQ 21.02	
<i>Sporobolus australasicus</i>	0.1		0.1	WRQ 20.02	
<i>Acacia</i> sp. Indet	1		5	WRQ 52.01	
<i>Tragus australianus</i>	0.1		0.1	WRQ 52.03	
<i>Goodenia muelleriana</i>	0.1		0.1	WRQ 20.08	
<i>Paspalidium clementii</i>	0.1		0.1	WRQ 20.01	
<i>Gomphrena kanisii</i>	0.1		0.2	WRQ 27.07	

**Western Ridge****Site WRQ-53**

**Date** 19/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 767956 mE; 7411466 mN  
 119.621536 E -23.384640 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Low scattered Eucalyptus leucophloia and Corymbia hamersleyana over sparse Acacia maitlandii over low Triodia vanleeuwenii hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia hamersleyensis	5				
Acacia incurvaneura	0.1		1.5		
Acacia maitlandii	2				
Acacia pruinocarpa	0.1				
Acacia spondylophylla	0.1				
Aristida holathera var. holathera	0.1				
Bulbostylis barbata	0.1				
Chrysocephalum pterochaetum	0.1			SCJEopp04	
Corchorus lasiocarpus subsp. parvus	0.1				
Corymbia hamersleyana	2				
Cucumis variabilis	0.1				
Dampiera candidans	0.1				
Enneapogon caerulescens	0.1				
Eremophila lachnocalyx	0.1				
Eriachne ciliata	0.1				
Eriachne pulchella subsp. dominii	0.1				
Eucalyptus gamophylla	6			WRQ 53-03	
Eucalyptus kingsmillii	1		2	WRQ 60-03	
Eucalyptus leucophloia subsp. leucophloia	1				
Evolvulus alsinoides var. villosicalyx	0.1				
Fimbristylis dichotoma	0.1				
Fimbristylis simulans	0.1				
Glycine canescens	0.1				
Goodenia muelleriana	0.1		0.1	WRQ 53-01	
Goodenia stobbsiana	0.1				
Goodenia triodiophila	0.1				
Hakea chordophylla	0.5				
Haloragis gossei var. gossei	0.1				
Heliotropium tenuifolium	0.1				
Indigofera monophylla	0.1		0.2		
Isotropis parviflora	0.1		0.1	WRQ 53-02	
Jasminum didymum subsp. lineare	0.1				
Lamarchea sulcata	0.1				
Mirbelia viminalis	0.1				
Oldenlandia crouchiana	0.1		0.1		
Paspalidium clementii	0.1				
Petalostylis labicheoides	0.1				
Santalum lanceolatum	0.5		2		
Scaevola browniana subsp. browniana	0.1				
Senna artemisioides subsp. helmsii	0.1				
Senna artemisioides subsp. oligophylla	0.1				
Senna glutinosa subsp. glutinosa	0.1				
Senna glutinosa subsp. pruinosa	0.1				
Seringia elliptica	0.5				
Sida sp. Excedentifolia (J.L. Egan 1925)	0.1				
Solanum lasiophyllum	0.1				
Stackhousia sp. swollen gynophore (W.R.	0.1				



Barker 2041)	
Stemodia viscosa	0.1
Trachymene oleracea	0.1
Triodia pungens	20
Triodia vanleeuwenii	40
Triodia wiseana	0.1

**Western Ridge****Site WRQ-54**

**Date** 18/04/2020  
**Described by** SC & JE  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 767886 mE; 7409332 mN  
 119.621231 E -23.403900 S  
**Veg Condition** Very Good  
**Soil** Clay Loam  
**Rock Type** CID  
**Fire Age** Old (6+ yr)  
**Habitat** Gorge



**Vegetation** Low open grassland of *Eriachne mucronata*, *Paspalidium clementii* and *Triodia pungens* with low open woodland of *Eucalyptus leucophloia*, *Acacia hamersleyensis* and *Acacia incurvaneura* over tall sparse shrubland of *Dodonaea pachyneura*

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia hamersleyensis</i>	2		4		
<i>Acacia incurvaneura</i>	6		5.5		
<i>Acacia pruinocarpa</i>	2		5		
<i>Amaranthus undulatus</i>	0.1		0.2		
<i>Androcalva luteiflora</i>	0.1		0.3		
<i>Bidens bipinnata</i>	1		0.2		
<i>Cheilanthes</i> sp. Indet	0.1		0.1		Insufficient material for confident identification
<i>Cleome viscosa</i>	0.1		0.1		
<i>Corymbia ferriticola</i>	2		4	WRQ 54-03	
<i>Cryptandra monticola</i>	0.5		0.5	WRQ 32-06	
<i>Cucumis variabilis</i>	0.1		0.1		
<i>Cymbopogon ambiguus</i>	0.5		0.5		
<i>Dampiera candidans</i>	0.1		0.3		
<i>Dodonaea pachyneura</i>	5		2.5		
<i>Duperreya commixta</i>	0.1		0.1		
<i>Eremophila lachnocalyx</i>	0.1		0.3		
<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136)	0.1		1		
<i>Eriachne mucronata</i>	20		0.3		
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1		0.1		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	8		5		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Goodenia stobbsiana</i>	0.1		0.2		
<i>Nicotiana occidentalis</i> subsp. <i>obliqua</i>	0.1		0.1		
<i>Paspalidium clementii</i>	5		0.2		
<i>Prostanthera albiflora</i>	1		0.5	WRQ 60-01	Tentatively identified as <i>Prostanthera</i> ? <i>albiflora</i> due to insufficient material
<i>Psyrdrax latifolia</i>	0.1		3		
<i>Pterocaulon sphacelatum</i>	0.1		0.1		
<i>Ptilotus exaltatus</i>	0.1		0.1		
<i>Ptilotus helipteroides</i>	0.1		0.1	WRQ 40-02	
<i>Ptilotus obovatus</i>	0.1		0.3		
<i>Ptilotus polystachyus</i>	0.1		0.1	WRQ 54-05	
<i>Rumex vesicarius</i>	0.1		0.1	SCJEopp07	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.6		
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		1.2		
<i>Sida</i> sp. <i>Excedentifolia</i> (J.L. Egan 1925)	0.1		0.6		
<i>Sida</i> sp. Indet	0.1		0.4	WRQ 54-02	Insufficient material for confident identification
<i>Sida</i> sp. Shovelanna Hill (S. van Leeuwen 3842)	0.1		0.3	SCJEOPP03	

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<i>Stemodia viscosa</i>	0.1	0.3	
<i>Trachymene oleracea</i>	0.1	0.3	
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1	0.3	
<i>Triodia pungens</i>	5	0.4	
<i>Vigna lanceolata</i>	0.1	0.1	
<i>Eremophila platycalyx</i> subsp.?	0.1	0.3	WRQ 54-01

**Western Ridge****Site WRQ-55**

**Date** 17/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 767878 mE; 7410074 mN  
 119.621021 E -23.397211 S  
**Veg Condition** Excellent  
**Soil** Silty Clay Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Hillslope  
**Vegetation** Sparse mid Eucalyptus leucophloia over low density mixed Acacia shrubs over low, dense hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia hamersleyensis	0.5				
Acacia maitlandii	3				
Acacia pachyacra	0.1				
Acacia pruinocarpa	0.5				
Acacia rhodophloia	0.1		1	WRQ 55-01	
Acacia spondylophylla	4				
Bonamia pilbarensis	0.1				
Corymbia hamersleyana	1				
Dampiera candidans	0.1				
Enneapogon polyphyllus	0.1				
Eremophila exilifolia	0.1			WRQ55opp01	
Eremophila sp. Hamersley Range (K. Walker KW 136)	0		0		
Eriachne ciliata	0.1				
Eriachne pulchella subsp. dominii	0.1				
Eucalyptus leucophloia subsp. leucophloia	3				
Goodenia cusackiana	0.1				
Goodenia stobbsiana	0.1				
Goodenia triodiophila	0.1				
Hakea chordophylla	0.1				
Indigofera monophylla	0.1				
Mirbelia viminalis	0.1				
Oldenlandia crouchiana	0.1				
Paspalidium clementii	0.1				
Petalostylis labicheoides	0.1		1		
Scaevola browniana subsp. browniana	0.1				
Senna artemisioides subsp. helmsii	0.1				
Senna glutinosa subsp. glutinosa	2				
Seringia elliptica	0.5				
Stackhousia sp. swollen gynophore (W.R. Barker 2041)	0.1				
Trachymene oleracea	0.1				
Trichodesma zeylanicum var. zeylanicum	0.1				
Triodia pungens	3				
Triodia vanleeuwenii	55		0.5		
Sida sp. Excedentifolia (J.L. Egan 1925)	0.1			WRQ 32.03	
Amyema fitzgeraldii	0.1				

**Western Ridge****Site WRQ-56**

**Date** 21/04/2020  
**Described by** SC & JE  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 768060 mE; 7412120 mN  
 119.622432 E -23.378719 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** Dolerite  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Drainage Area/ Floodplain  
**Vegetation** Scattered Eucalyptus leucophloia over sparse Acacia pruinocarpa and Eremophila sp. Hamersley Range (K. Walker KW 136)

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Abutilon macrum	0.1				
Acacia bivenosa	0.5				
Acacia citrinoviridis	0.5				
Acacia pachyacra	0.1				
Acacia pruinocarpa	2		3		
Acacia pyrifolia var. pyrifolia	0.1				
Acacia synchronicia	0.1				Tentatively identified as Acacia ? synchronicia due to insufficient material
Bidens bipinnata	0.1				
Boerhavia coccinea	0.1				
Bulbostylis barbata	0.1				
Cenchrus ciliaris	0.1				
Cleome viscosa	2				
Cucumis variabilis	0.1				
Cymbopogon ambiguus	0.5				
Dodonaea pachyneura	1.5				
Duperreya commixta	0.1				
Enchylaena tomentosa	0.1			WRQ 56-01	
Enneapogon polyphyllus	0.1				
Eremophila sp. Hamersley Range (K. Walker KW 136)	15				
Eriachne mucronata	5				
Eriachne pulchella subsp. dominii	0.1				
Eucalyptus leucophloia subsp. leucophloia	1		4		
Euphorbia biconvexa	0.1			WRQ 43-04	
Evolvulus alsinoides var. decumbens	0.1				
Gomphrena cunninghamii	0.1				
Gossypium australe	0.1				
Jasminum didymum subsp. lineare	0.1				
Paspalidium clementii	0.1				
Portulaca oleracea	0.1				
Ptilotus exaltatus	0.1				
Ptilotus helipteroides	0.1			WRQ 40-02	
Ptilotus obovatus	0.1				
Rhagodia eremaea	0.1		1		
Santalum lanceolatum	1				
Senna artemisioides subsp. oligophylla	0.1				
Senna glutinosa subsp. glutinosa	0.1				
Senna glutinosa subsp. x luerssenii	0.1				
Senna notabilis	0.1				
Senna venusta	0.1				
Solanum lasiophyllum	0.1				
Sporobolus australasicus	0.1				
Tephrosia densa	0.1				
Themeda triandra	0.1				



Trachymene oleracea	0.1
Tribulus suberosus	0.1
Trichodesma zeylanicum var. zeylanicum	0.1
Triodia pungens	5



## Western Ridge

## Site WRQ-57

**Date** 21/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 768118 mE; 7412615 mN  
 119.622915 E -23.374241 S  
**Veg Condition** Very Good  
**Soil** Silty Clay Loam  
**Rock Type** CID  
**Fire Age** Old (6+ yr)  
**Habitat** Stony Plain  
**Vegetation** Open *Acacia ancistrocarpa*, *Acacia ? paraneura* and *Eremophila* sp.  
 Hamersley Range over *Triodia wiseana* and *Triodia pungens* hummock  
 grassland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Abutilon lepidum</i>	0.1		0.8	WRQ 71-04	
<i>Acacia ancistrocarpa</i>	0.5		3	WRQ 71-06	
<i>Acacia aptaneura</i>	0.1		0.1	WRQ 68-09	Tentatively identified as <i>Acacia ? Aptaneura</i> due to insufficient material
<i>Acacia inaequilatera</i>	8		3		
<i>Acacia pruinocarpa</i>	1		1		
<i>Boerhavia coccinea</i>	0.2		2		
<i>Bonamia erecta</i>	0.1		0.1	WRQ 71-13	
<i>Cenchrus ciliaris</i>	0.1		0.3		
<i>Cleome viscosa</i>	0.2		0.3		
<i>Crotalaria medicaginea</i> var. <i>neglecta</i>	0.1		0.35		
<i>Cucumis variabilis</i>	0.1		0.1		
<i>Duperreya commixta</i>	0.1		0.1		
<i>Enchylaena tomentosa</i>	0.1		0.1	WRQ 68-16	
<i>Enneapogon polyphyllus</i>	0.1		0.2		
<i>Eremophila canaliculata</i>	0.1		0.25	WRQ 73-02	
<i>Eremophila cuneifolia</i>	0.1		0.1	WRQ 26-01	
<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136)	0.1		0.6		
<i>Eriachne mucronata</i>	0.1		1.2	WRQ 72-03	
<i>Euphorbia biconvexa</i>	0.1		0.3	WRQ 57-04	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.2		
<i>Gomphrena cunninghamii</i>	0.1		0.2		
<i>Goodenia microptera</i>	0.1		0.3	WRQ 80-17	
<i>Goodenia muelleriana</i>	0.1		0.4	WRQ 80-18	
<i>Haloragis gossei</i> var. <i>gossei</i>	0.1		0.2	WRQ 80-06	
<i>Heliotropium inexplicitum</i>	0.1		0.2	WRQ 28-04	
<i>Indigofera monophylla</i>	0.1		0.1		
<i>Jasminum didymum</i> subsp. <i>lineare</i>	0.1		0.1		
<i>Notoleptopus decaisnei</i> var. <i>orbicularis</i>	0.1		0.1	WRQ 57-02	
<i>Paspalidium clementii</i>	0.1		0.2	WRQ 79-18	
<i>Phyllanthus maderaspatensis</i>	0.1		0.25		
<i>Portulaca oleracea</i>	0.1		0.1	WRQ 80-12	
<i>Pterocaulon serrulatum</i> var. <i>velutinum</i>	0.1		0.1	WRQ 71-07	Tentatively identified as <i>Pterocaulon ?</i> <i>serrulatum</i> var. <i>velutinum</i> due to insufficient material
<i>Ptilotus auriculifolius</i>	0.1		0.15	WRQ 79-07	
<i>Ptilotus helipteroides</i>	0.1		0.2	WRQ 80-05	
<i>Ptilotus obovatus</i>	0.1		0.2	WRQ 68-04	
<i>Ptilotus schwartzii</i>	0.1		0.1		
<i>Rhagodia eremaea</i>	0.1		0.3	WRQ 75-02	
<i>Rhynchosia minima</i>	0.1		0.5		
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		0.3		

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<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	1	2	WRQ 58-02	
<i>Senna notabilis</i>	0.1	0.1		
<i>Solanum lasiophyllum</i>	0.1	0.1	WRQ 74-04	
<i>Sporobolus australasicus</i>	0.1	0.15	WRQ 68-01	
<i>Stemodia grossa</i>	0.1	0.2	WRQ 78-03	
<i>Tephrosia rosea</i> var. <i>Fortescue creeks</i> (M.I.H. Brooker 2186)	0.1	0.2	WRQ 57.01	Tentatively identified as <i>Tephrosia ? rosea</i> var. <i>Fortescue Creeks</i> (MIH Brooker 2186) due to insufficient material
<i>Themeda triandra</i>	0.1	0.9		
<i>Trachymene</i> sp. Indet	0.1	0.2	WRQ 80-07	Insufficient material for confident identification
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.2	0.3		
<i>Triodia pungens</i>	12	0.3		
<i>Triodia wiseana</i>	8	0.25	WRQ 79-01	
? <i>Santalum</i> sp. Indet	0.1	0.1	WRQ 71-09	

**Western Ridge****Site WRQ-58**

**Date** 19/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 768192 mE; 7408596 mN  
 119.624350 E -23.410496 S  
**Veg Condition** Very Good  
**Soil** Silty Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Drainage Area/ Floodplain  
**Vegetation** Eucalyptus leucophloia mid to low isolated trees over Acacia pruinocarpa and Mulga mid to low open shrubland over Triodia pungens low hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia pruinocarpa	5		1.3		
Cleome viscosa	0.1		0.5		
Duperreya commixta	0.1				
Eucalyptus leucophloia subsp. leucophloia	0.1		12		
Ptilotus exaltatus	0.1		0.1		
Senna notabilis	0.1		0.2		
Stemodia grossa	0.1		0.1	WRQ 78-03	
Trichodesma zeylanicum var. zeylanicum	0.1		0.4		
Triodia pungens	15		0.5		
Acacia sp. Indet	0.1		1.3		
Acacia ? sibirica	2			WRQ 58-05	
Acacia ? rhodophloia	0.1			WRQ 58-07	
Acacia ? aptaneura	2		1.2	WRQ 58-09	
Acacia ? incurvaneura	0.1		1.5	WRQ 58-08	
Androcalva luteiflora	0.1		1.2	WRQ 58-06	
Ptilotus obovatus	0.1		0.5	WRQ 68-04	
Portulaca oleracea	0.1		0.2		
Eremophila platycalyx subsp. ?	2		1.4	WRQ 58-01	
Eremophila sp. Indet.	0.1		1.4		
Tragus australianus	0.1				
Paspalidium clementii	0.1		0.3	WRQ 79-18	
Hakea lorea subsp. lorea	0.1				
Enchylaena tomentosa	0.1		0.3		
Abutilon lepidum	0.1		0.2	WRQ 71-04	
Polygala isingii	0.1		0.1	WRQ 58-03	
Gomphrena cunninghamii	0.1		0.3		
Ptilotus ?calostachyus	0.1			WRQ 71-10	
Senna glutinosa subsp. glutinosa	0.1		1.3	WRQ 58-02	
Senna glutinosa subsp. x luerssenii	0.1		1.5	WRQ 79-05	
Solanum horridum	0.1		0.4		
Sporobolus australasicus	0.1		0.2	WRQ 68-01	
Trachymene sp. Indet	0.1		0.2	WRQ 80-07	
Swainsona sp. Indet	0.1		0.1	WRQ 58-04	
Tribulus suberosus	0.1		0.8	WRQ 79-04	
Triodia wiseana	1			WRQ 79-01	

**Western Ridge****Site WRQ-59**

**Date** 18/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 768339 mE; 7409678 mN  
 119.625597 E -23.400709 S  
**Veg Condition** Excellent  
**Soil** Clay Loam  
**Rock Type** CID  
**Fire Age** Old (6+ yr)  
**Habitat** Hillslope  
**Vegetation** Mid *Triodia pungens* hummock grassland with scattered low *Eucalyptus leucophloia* trees with scattered tall *Acacia hamersleyensis* and *Dodonaea pachyneura* shrubs

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia bivenosa</i>	0.1		1.2		
<i>Acacia hamersleyensis</i>	2		3		
<i>Acacia pruinocarpa</i>	0.1		2		
<i>Acacia rhodophloia</i>	0.1		0.9		
<i>Amaranthus undulatus</i>	0.1		0.1		
<i>Astrotricha hamptonii</i>	0.1		0.8		
<i>Bidens bipinnata</i>	0.1		0.1		
<i>Bulbostylis barbata</i>	0.1		0.1		
<i>Cleome viscosa</i>	0.1		0.1		
<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>	0.1		1		
<i>Cucumis variabilis</i>	0.1		0.1		
<i>Cymbopogon ambiguus</i>	0.1		0.3		
<i>Dampiera candidans</i>	0.1		0.2		
<i>Dodonaea pachyneura</i>	1		2.5		
<i>Dysphania rhadinostachya</i> subsp. <i>rhadinostachya</i>	0.1		0.1		
<i>Enneapogon caerulescens</i>	0.1		0.1		
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	0.1		0.3		
<i>Eremophila lachnocalyx</i>	0.1		0.3		
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1		1.2		
<i>Eriachne mucronata</i>	1		0.3		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	4		4		
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	0.1		0.1		
<i>Fimbristylis dichotoma</i>	0.1		0.1		
<i>Hakea chordophylla</i>	0.1		2		
<i>Paspalidium clementii</i>	0.5		0.1		
<i>Portulaca oleracea</i>	0.1		0.1		
<i>Psydrax suaveolens</i>	0.1		0.5		
<i>Ptilotus auriculifolius</i>	0.1		0.3		
<i>Ptilotus exaltatus</i>	0.1		0.2		
<i>Ptilotus obovatus</i>	0.1		0.2		
<i>Ptilotus rotundifolius</i>	0.1		0.2		
<i>Solanum horridum</i>	0.1		0.1		
<i>Solanum lasiophyllum</i>	0.1		0.3		
<i>Stemodia viscosa</i>	0.1		0.2		
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1		0.5		
<i>Triodia angusta</i>	0.1		0.3		
<i>Triodia pungens</i>	60		0.6		
<i>Triumfetta clementii</i>	0.1		0.3		
<i>Sida</i> sp. <i>Excedentifolia</i> (J.L. Egan 1925)	0.1		0.3	WRQ 59-01	
<i>Prostanthera</i> ? <i>albiflora</i>	0.1		0.5	WRQ 60-01	
<i>Gomphrena cunninghamii</i>	0.1		0.1		
<i>Ptilotus polystachyus</i>	0.1		0.3		
<i>Cryptandra monticola</i>	0.1		0.5		
<i>Sida</i> sp. <i>Indet</i>	0.1		0.3		

**Western Ridge****Site WRQ-60**

**Date** 17/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 768395 mE; 7410661 mN  
 119.625971 E -23.391827 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Hillslope  
**Vegetation** Scattered mid height Eucalyptus leucophloia and Corymbia hamersleyana  
 over low scattered Acacia shrubs over dense hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia hamersleyensis	0.5				
Acacia maitlandii	2				
Acacia pruinocarpa	0.1				
Acacia rhodophloia	0.1				
Acacia spondylophylla	2				
Acacia tetragonophylla	0.1				
Aristida holathera	0.1				
Corchorus lasiocarpus subsp. parvus	0.1		0.5	WRQ60opp01	
Corymbia hamersleyana	1				
Eriachne ciliata	0.1				
Eucalyptus leucophloia subsp. leucophloia	5				
Gompholobium oreophilum	0.1				
Goodenia stobbsiana	0.1				
Grevillea berryana	0.1				
Hakea chordophylla	0.1				
Mirbelia viminalis	0.1				
Petalostylis labicheoides	0.5				
Santalum lanceolatum	0.1				
Senna artemisioides subsp. oligophylla	0.1				
Senna glutinosa subsp. glutinosa	0.5				
Senna glutinosa subsp. pruinosa	0.1				
Seringia elliptica	0.5				
Trachymene oleracea	0.1				
Triodia pungens	10				
Triodia vanleeuwenii	60				
Eremophila ? lachnocalyx	0.1			WRQ 60-04	
Eriachne mucronata	0.5			WRQ 60-05	
Eucalyptus kingsmillii	0.1			WRQ 60-03	
Goodenia microptera	0.1			WRQ 60-05	
Prostanthera ? albiflora	0.1			WRQ 60-01	
Cryptandra monticola	0.1				

**Western Ridge****Site WRQ-61**

**Date** 21/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 768595 mE; 7412885 mN  
 119.627523 E -23.371724 S  
**Veg Condition** Good  
**Soil** Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Sandy/ Stony Plain  
**Vegetation** Acacia (Mulga) tall open shrubland over Acacia ? victoriae mid scattered shrubs over Cenchrus ciliaris and Themeda triandra low tussock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia tetragonophylla	0.1		1.2		
Cenchrus ciliaris	0.1		0.5		
Cleome viscosa	0.1				
Enneapogon polyphyllus	0.1		0.3		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Triodia pungens	0.1		0.5		
Acacia ? synchronicia	1		1.4		
Acacia ? aptaneura	5				
Acacia ? victoriae	1		2.5		
Chrysopogon fallax	0.1		0.7	WRQ 61-06	
Ptilotus obovatus	0.1		0.1	WRQ 68-04	
Boerhavia coccinea	0.1			Yandi	
Portulaca oleracea	0.1		0.1		
Eremophila latrobei subsp. latrobei	0.1		2		
Eriachne pulchella subsp. dominii	2		0.1		
Fimbristylis simulans	0.1				
Eragrostis ? leptocarpa	0.1		0.2	WRQ 61-05	
Aristida contorta	0.1		0.3		
Paspalidium clementii	0.1			WRQ 79-18	
Hakea lorea subsp. lorea	0.1		3.5	WRQ 75-01	
Heliotropium cunninghamii	0.1		0.3	WRQ 61-04	
Trianthema triquetrum	0.1			WRQ 61-09	
Lepidium ? pholidogynum	0.1		0.2	WRQ 61-03	
Maireana ? georgei	0.1		1	WRQ 61-01	
? Enchylaena tomentosa	0.1		0.2	WRQ 78-05	
Sclerolaena sp. Indet	0.1			WRQ 79-03	
Psydrax latifolia	0.1		1.3	WRQ 75-06	
Gomphrena cunninghamii	0.1		0.2		
Ptilotus auriculifolius	0.1			WRQ 79-07	
Rhagodia eremaea	0.1		1.3	WRQ 61-02	
Salsola australis	0.1				
Senna artemisioides subsp. helmsii	0.1		2	WRQ 73-04	
Senna ? hamersleyensis	0.1			WRQ 61-08	
Sida fibulifera	0.1				
Enteropogon ramosus	0.1			WRQ 61-10	
Sporobolus australasicus	0.1		0.2	WRQ 68-01	
Portulaca filifolia	0.1			WRQ 61-07	

**Western Ridge****Site WRQ-62**

<b>Date</b>	21/04/2020
<b>Described by</b>	SC & JE
<b>Type</b>	Q 50m x 50m
<b>Location</b>	MGA Zone 50 768568 mE; 7411335 mN 119.627539 E -23.385714 S
<b>Veg Condition</b>	Excellent
<b>Soil</b>	Sandy Clay Loam
<b>Rock Type</b>	Dolerite
<b>Fire Age</b>	Old (6+ yr)
<b>Habitat</b>	Hillcrest/ Upper Hillslope
<b>Vegetation</b>	Scattered mid Eucalyptus leucophloia over low open Triodia pungens hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Abutilon fraseri	0.1				
Acacia ancistrocarpa	0.1				
Acacia bivenosa	0.1				
Acacia hamersleyensis	2				
Acacia maitlandii	0.5				
Acacia pruinocarpa	0.5				
Aristida contorta	0.1				
Bonamia pilbarensis	0.1				
Cleome viscosa	1				
Corchorus lasiocarpus subsp. parvus	0.1				
Corymbia hamersleyana	0.1				
Dodonaea pachyneura	0.1				
Enneapogon caerulescens	0.1				
Eremophila lachnocalyx	0.1				
Eremophila sp. Hamersley Range (K. Walker KW 136)	0.5				
Eriachne ciliata	0.1				
Eriachne mucronata	0.5				
Eriachne pulchella subsp. dominii	0.1				
Eucalyptus leucophloia subsp. leucophloia	4				
Evolvulus alsinoides var. villosicalyx	0.1				
Goodenia microptera	0.1				
Goodenia stobbsiana	0.1				
Grevillea wickhamii	0.1				
Hakea chordophylla	0.1				
Haloragis gossei var. gossei	0.1				
Mirbelia viminalis	0.1				
Oldenlandia crouchiana	0.1				
Paspalidium clementii	0.1				
Portulaca oleracea	0.1				
Ptilotus auriculifolius	0.1				
Ptilotus calostachyus	0.1				
Senna artemisioides subsp. oligophylla	0.1				
Senna glutinosa subsp. glutinosa	0.5				
Senna glutinosa subsp. pruinosa	0.1				
Trachymene oleracea	0.1				
Tribulus suberosus	0.1				
Triodia pungens	10				
Triodia vanleeuwenii	40				
Acacia tenuissima	0.1				
Peripleura arida	0.1				
Ptilotus polystachyus	0.1				
Sida sp. Excedentifolia (J.L. Egan 1925)	0.1				

**Western Ridge****Site WRQ-63**

**Date** 17/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 768742 mE; 7410754 mN  
 119.629340 E -23.390929 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Low scattered Eucalyptus leucophloia and Hakea chordophylla over low hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia bivenosa	0.1		1.5		
Acacia incurvaneura	0.1				
Acacia maitlandii	2		2.5		
Calytrix carinata	0.1		0.4		
Corymbia hamersleyana	0.1				
Dampiera candidans	0.1				
Eriachne mucronata	0.1				
Eriachne pulchella subsp. dominii	0.1				
Eucalyptus leucophloia subsp. leucophloia	5				
Fimbristylis dichotoma	0.1				
Goodenia stobbsiana	0.1				
Grevillea berryana	0.1		1.2		
Hakea chordophylla	1				
Indigofera monophylla	0.1				
Mirbelia viminalis	0.1				
Petalostylis labicheoides	0.1				
Polygala glaucifolia	0.1			WRQ 63-01	
Ptilotus obovatus	0.1				
Schizachyrium fragile	0.1				
Senna artemisioides subsp. helmsii	0.1				
Senna artemisioides subsp. oligophylla	0.1				
Senna glutinosa subsp. glutinosa	0.5		1.5		
Senna glutinosa subsp. pruinosa	0.1				
Seringia elliptica	0.1				
Stackhousia sp. swollen gynophore (W.R. Barker 2041)	0.1				
Trachymene oleracea	0.1		0.1		
Tribulus suberosus	0.1		0.1		
Triodia pungens	1				
Triodia vanleeuwenii	60				
Acacia sp. Indet	0.1			WRQ 63-02	
Chrysocephalum pterochaetum	0.1			Scjeopp04	
Eucalyptus kingsmillii	0.1				



**Western Ridge****Site WRQ-64**

**Date** 21/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 768649 mE; 7412466 mN  
 119.628132 E -23.375502 S  
**Veg Condition** Very Good  
**Soil** Sandy Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Minor Drainage Line  
**Vegetation** Acacia (Mulga) tall to mid open shrubland over Acacia ancistrocarpa mid scattered shrubs over Triodia pungens isolated clumps of hummock grasses

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia ancistrocarpa	1		1.2		
Acacia pruinocarpa	5		4		
Acacia tetragonophylla	0.1		1.1		
Bidens bipinnata	0.1		0.3		
Cleome viscosa	0.1		0.2		
Cucumis variabilis	0.1		0.1		
Enneapogon lindleyanus	0.1		0.2		
Eragrostis eriopoda	0.1		0.4		
Eriachne pulchella subsp. dominii	0.1		0.2		
Eucalyptus gamophylla	0.1		4		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Indigofera monophylla	0.1		0.1		
Senna notabilis	0.1		0.1		
Stemodia grossa	0.1		0.1	WRQ 78-03	
Trichodesma zeylanicum var. zeylanicum	0.1		0.1		
Triodia pungens	1		0.4		
Acacia sibirica	20		4		
Acacia ? aptaneura	0.1		1.5		
Acacia ? synchronica	0.1		1	WRQ 64-03	
Aristida contorta	0.1		0.4		
Portulaca oleracea	0.1				
Abutilon otocarpum	0.1		0.1	WRQ 71-02	
Eremophila latrobei subsp. latrobei	0.1		1.7		
Ptilotus obovatus	0.1		0.8	WRQ 64-04	
Anthobolus leptomerioides	0.1		0.4		
Paspalidium clementii	0.1		0.15	WRQ 79-18	
Goodenia microptera	0.1		0.2	WRQ 80-17	
Haloragis gossei var. gossei	0.1		0.2	WRQ 80-06	
? Enchylaena tomentosa	0.1		0.3	WRQ 78-05	
Glycine ? canescens	0.1		0.1	WRQ 75-14	
Phyllanthus maderaspatensis	0.1		0.2		
Streptoglossa ? cylindriceps	0.1		0.2	WRQ 64-01	
Ptilotus helipteroides	0.1		0.25	WRQ 80-05	
Gomphrena cunninghamii	0.1				
Ptilotus polystachyus	0.1		0.2	WRQ 75-03	
Ptilotus ?calostachyus	0.1		0.2	WRQ 71-10	
Ptilotus auriculifolius	0.1		0.1	WRQ 79-07	
Senna artemisioides subsp. oligophylla	0.1		0.2		
Senna glutinosa subsp. x luerssenii	0.1		0.2	WRQ 79-05	
Hibiscus burtonii	0.1		0.3	WRQ 64-02	
Solanum lasiophyllum	0.1		0.2	WRQ 74-04	
Sporobolus australasicus	0.1		0.3	WRQ 68-01	
Pterocaulon ? serrulatum var. velutinum	0.1		0.1	WRQ 71-07	
Trachymene sp. Indet	0.1		0.2	WRQ 80-07	
Triodia wiseana	0.1		0.2	WRQ 79-01	

**Western Ridge****Site WRQ-66**

**Date** 18/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 768997 mE; 7410248 mN  
 119.631928 E -23.395450 S

**Veg Condition** Very Good**Soil** Clay Loam**Rock Type** CID**Fire Age** Old (6+ yr)**Habitat** Hillslope

**Vegetation** Mid *Triodia pungens* hummock grassland with scattered *Eucalyptus leucophloia* trees with tall open *Acacia* (*Mugla*) and *Acacia pruinocarpa* shrubland over mid isolated *Eremophila* sp. Hamersley Range shrubs over open grassland of *Paspalidium clementii*

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia hamersleyensis</i>	1		3		
<i>Acacia incurvaneura</i>	2		3.5		
<i>Acacia pruinocarpa</i>	5		4		
<i>Bidens bipinnata</i>	0.1		0.1		
<i>Bulbostylis barbata</i>	0.1		0.1		
<i>Cleome viscosa</i>	0.1		0.3		
<i>Cucumis variabilis</i>	0.1		0.1		
<i>Dodonaea pachyneura</i>	0.1		2	WRQ 66-03	
<i>Duperreya commixta</i>	0.1		0.1		
<i>Enneapogon caerulescens</i>	0.1		0.1		
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	0.1		0.5		
<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136)	1		1.5		
<i>Eriachne mucronata</i>	4		0.4		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	4		4		
<i>Grevillea wickhamii</i>	0.1		1		
<i>Paspalidium clementii</i>	5		0.2		
<i>Psydrax suaveolens</i>	0.1		0.9		
<i>Ptilotus astrolasius</i>	0.1		0.3		
<i>Ptilotus exaltatus</i>	0.1		0.1		
<i>Ptilotus obovatus</i>	0.1		0.5		
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1		1		
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1		0.5		
<i>Stemodia viscosa</i>	0.1		0.1		
<i>Tribulus suberosus</i>	0.1		0.5		
<i>Triodia pungens</i>	40		0.6		
<i>Triumfetta clementii</i>	0.1		0.1		
<i>Sida</i> sp. <i>Excedentifolia</i> (J.L. Egan 1925)	0.1		0.5	WRQ 54-04	
<i>Acacia</i> ? <i>catenulata</i> subsp. <i>occidentalis</i>	10		4		
<i>Acacia mulganeura</i>	0.1		2	WRQ 66-02	
<i>Cheilanthes</i> sp. Indet	0.1		0.1		
<i>Peripleura arida</i>	0.1		0.1		
<i>Euphorbia drummondii</i>	0.1		0.2	WRQ 66-01	
<i>Ptilotus helipteroides</i>	0.1		0.1	WRQ 40-02	
<i>Ptilotus polystachyus</i>	0.1		0.3		
<i>Sida</i> sp. Shovelanna Hill (S. van Leeuwen 3842)	0.1		0.2	scjeopp03	

**Western Ridge****Site WRQ-67**

**Date** 21/04/2020  
**Described by** SC & JE  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 769397 mE; 7411235 mN  
 119.635662 E -23.386485 S  
**Veg Condition** Excellent  
**Soil** Sandy Clay Loam  
**Rock Type** Dolerite  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Scattered mid *Acacia inaequilatera* and *Hakea chordophylla* shrubland over low open *Triodia vanleeuwenii* hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
<i>Acacia adoxa</i> var. <i>adoxo</i>	0.1				
<i>Acacia adsurgens</i>	0.5				
<i>Acacia ancistrocarpa</i>	1				
<i>Acacia bivenosa</i>	0.1				
<i>Acacia inaequilatera</i>	2				
<i>Aristida contorta</i>	0.1				
<i>Aristida holathera</i>	0.1				
<i>Aristida pruinosa</i>	2				
<i>Bulbostylis barbata</i>	0.1				
<i>Corchorus lasiocarpus</i> subsp. <i>parvus</i>	0.1				
<i>Cymbopogon ambiguus</i>	0.1				
<i>Duperreya commixta</i>	0.1				
<i>Enneapogon caerulescens</i>	0.1				
<i>Enneapogon polyphyllus</i>	0.1				
<i>Eriachne ciliata</i>	0.1				
<i>Eriachne mucronata</i>	0.1				
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	0.1				
<i>Eulalia aurea</i>	0.1				
<i>Fimbristylis simulans</i>	0.1				
<i>Goodenia stobbsiana</i>	0.1				
<i>Goodenia triodiophila</i>	0.1				
<i>Grevillea wickhamii</i>	0.5				
<i>Hakea chordophylla</i>	1				
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	0.1			WRQ 57-01	
<i>Indigofera monophylla</i>	0.1				
<i>Jasminum didymum</i> subsp. <i>lineare</i>	0.1				
<i>Paraneurachne muelleri</i>	0.1				
<i>Paspalidium clementii</i>	0.1				
<i>Ptilotus obovatus</i>	0.1				
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1				
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1				
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	0.1				
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	0.1				
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.5				
<i>Senna notabilis</i>	0.1				
<i>Solanum horridum</i>	0.1				
<i>Solanum lasiophyllum</i>	0.1				
<i>Trachymene oleracea</i>	0.1				
<i>Tribulus suberosus</i>	0.1				
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	0.1				
<i>Triodia pungens</i>	1				
<i>Triodia vanleeuwenii</i>	55				
<i>Sida</i> sp. <i>Excedentifolia</i> (J.L. Egan 1925)	0.1			WRQ 57-02	

**Western Ridge****Site WRQ-68**

**Date** 16/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 769284 mE; 7408534 mN  
 119.635038 E -23.410874 S  
**Veg Condition** Poor  
**Soil** Light Medium Clay  
**Rock Type** Quartz  
**Fire Age** Old (6+ yr)  
**Habitat** Drainage Area/ Floodplain  
**Vegetation** Acacia (Mulga) low open woodland over Cleome viscosa, Cenchrus ciliaris mid to low tussock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia pruinocarpa	1		6		
Acacia tetragonophylla	0.1		1		
Bidens bipinnata	0.1		0.3		
Cenchrus ciliaris	5		0.4		
Cleome viscosa	10		0.3		
Corymbia hamersleyana	0.1		2		
Duperreya commixta	0.1		0.1		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Ptilotus exaltatus	0.1		0.2		
Salsola australis	0.1		0.2	WRQ 68.16	
Solanum lasiophyllum	0.1		0.3		
Trichodesma zeylanicum var. zeylanicum	0.1		0.2		
Acacia ? aptaneura	20		8	WRQ 68-08	
Chrysopogon fallax	0.1		1.2	WRQ 68.13	
Ptilotus obovatus	0.1		0.3	WRQ 68-04	
Boerhavia coccinea	0.1		0.1		
Portulaca oleracea	2		0.1	WRQ 68-05	
Citrullus amarus	0.1		0.2	WRQ 68.15	
Anthobolus leptomerioides	0.1		2	WRQ 68.11	
Gomphrena sp. Indet	0.1		0.2	WRQ 68-03	
Maireana villosa	0.1		0.2	WRQ 68.02	
Dipteracanthus australasicus subsp. australasicus	0.1		0.2	WRQ 68-07	
Enchylaena tomentosa	0.1		0.3	WRQ 68-16	
Ptilotus gaudichaudii	0.1		0.2	WRQ 68.12	
Rhagodia eremaea	0.1		0.3	WRQ 68-06	
Sporobolus australasicus	1		0.1	WRQ 68.01	
Triodia pungens	1		0.4	WRQ 68.10	
Cucumis variabilis	0.1		0.1	WRQ 68-14	

**Western Ridge****Site WRQ-69**

**Date** 19/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 769562 mE; 7408921 mN  
 119.637690 E -23.407332 S  
**Veg Condition** Excellent  
**Soil** Silty Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Undulating Low Hills  
**Vegetation** *Triodia wiseana* low hummock grassland with *Eucalyptus leucophloia* mid to low scattered trees over *Hakea lorea* subsp. *lorea* and *Acacia* spp.

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
<i>Acacia bivenosa</i>	0.2		2		
<i>Acacia pruinocarpa</i>	0.5				
<i>Acacia tetragonophylla</i>	0.2		2		
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	0.5		3		
<i>Grevillea wickhamii</i>	0.1		2.5		
<i>Acacia adsurgens</i>	0.3		1.4		
<i>Acacia</i> sp. Indet	0.5		1.5		
<i>Acacia rhodophloia</i>	0.2		1.4	WRQ 69.02	
<i>Acacia</i> ? <i>synchronicia</i>	0.1		0.8		
<i>Acacia sibirica</i>	0.1		1.2	WRQ 69.03	An additional specimen was identified as <i>Acacia</i> ? <i>sibirica</i> at this location
<i>Ptilotus obovatus</i>	0.1		0.5		
<i>Fimbristylis simulans</i>	0		0.1		
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	0.1		2	WRQ 69.01	
<i>Hakea lorea</i> subsp. <i>lorea</i>	0.5		3	WRQ 75-01	
<i>Ptilotus helipteroides</i>	0.1		15	WRQ 80-05	
<i>Ptilotus auriculifolius</i>	0.1		0.2	WRQ 79-07	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1		50		
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1		0.6	WRQ 79-05	
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	0.1		0.8	WRQ 79-09	
<i>Sporobolus australasicus</i>	0.1		15	WRQ 68-01	
<i>Tribulus hirsutus</i>	0.1		0.6		
<i>Triodia wiseana</i>	20		20	WRQ 79-01	

**Western Ridge****Site WRQ-70**

**Date** 18/04/2020  
**Described by** SC & JE  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 769792 mE; 7410342 mN  
 119.639679 E -23.394475 S

**Veg Condition** Very Good**Soil** Clay Loam**Rock Type** CID**Fire Age** Old (6+ yr)**Habitat** Gorge

**Vegetation** Low Acacia ? catenulata subsp. occidentalis and Acacia incurvaneura woodland with scattered low Eucalyptus leucophloia trees over a tall isolated Eremophila sp. Hamersley Range and Dodonaea pachyneura shrubs over Triodia pungens and Triodia angusta open hummock grassland over sparse Eriachne mucronata

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia incurvaneura	5		4		
Acacia pruinocarpa	2		4		
Aristida holathera	0.1		0.1		
Bidens bipinnata	1		0.1		
Cheilanthes sp. Indet	0.1		0.1		
Corymbia ferriticola	2		4	WRQ 70-01	
Cucumis variabilis	0.1		0.1		
Cymbopogon ambiguus	0.1		0.6		
Dodonaea pachyneura	1		2.2		
Duperreya commixta	0.1		0.1		
Enneapogon caerulescens	0.1		0.1		
Eremophila lanceolata	0.1		1.2		
Eremophila sp. Hamersley Range (K. Walker KW 136)	2		2.5		
Eriachne aristidea	0.1		0.1		
Eriachne mucronata	4		0.3		
Eriachne pulchella subsp. dominii	0.1		0.1		
Eucalyptus leucophloia subsp. leucophloia	4		5		
Euphorbia australis var. subtomentosa	0.1		0.1		
Evolvulus alsinoides var. villosicalyx	0.1		0.1		
Hakea chordophylla	0.1		0.5		
Hybanthus aurantiacus	0.1		0.2		
Indigofera gilesii	0.1		0.1		
Indigofera linifolia	0.1		0.1		
Paspalidium clementii	5		0.2		
Portulaca oleracea	0.1		0.1		
Ptilotus exaltatus	0.1		0.1		
Ptilotus obovatus	0.1		0.5		
Senna glutinosa subsp. glutinosa	0.1		1.5		
Seringia elliptica	0.1		0.4		
Solanum horridum	0.1		0.2		
Sporobolus australasicus	0.1		0.1		
Trachymene oleracea	0.1		0.1		
Trichodesma zeylanicum var. zeylanicum	0.1		0.3		
Triodia angusta	1		0.6		
Triodia pungens	10		0.5		
Triumfetta clementii	0.1		0.1		
Sida sp. Excedentifolia (J.L. Egan 1925)	0.1		0.6	WRQ 54-04	
Acacia ? catenulata subsp. occidentalis	20		4		
Maireana ? georgei	0.1		0.1		
Gomphrena cunninghamii	0.1		0.1		
Ptilotus helipteroides	0.1		0.1	WRQ 40-02	
Sida sp. Shovelanna Hill (S. van Leeuwen 3842)	0.1		0.3	scjeopp03	

**Western Ridge****Site WRQ-71**

**Date** 19/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 769878 mE; 7409386 mN  
 119.640695 E -23.403086 S  
**Veg Condition** Very Good  
**Soil** Sandy Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Drainage Area/ Floodplain  
**Vegetation** Eucalyptus gamophylla low scattered trees over Acacia (Mulga) and Acacia bivenosa mid to tall open shrubland over Triodia pungens and Triodia vanleeuwenii

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia bivenosa	1		1.5		
Acacia tetragonophylla	0.2		1.5		
Bidens bipinnata	0.1		0.4		
Cleome viscosa	0.1				
Duperreya commixta	0.1		0.1		
Enneapogon lindleyanus	0.1		0.3		
Enneapogon polyphyllus	0.1		0.4		
Eucalyptus gamophylla	1		6		
Evolvulus alsinoides var. villosicalyx	0.1				
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Hybanthus aurantiacus	0.1		0.5		
Indigofera monophylla	0.1		0.5		
Petalostylis labicheoides	0.1		2		
Themeda triandra	0.1		1.2	WRQ 71-05	
Trichodesma zeylanicum var. zeylanicum	0.1		0.3		
Triodia pungens	15		0.5		
Triodia vanleeuwenii	2		0.3		
Acacia adsurgens	0.1			WRQ 71-11	
Acacia ancistrocarpa	4		1.4	WRQ 71-06	
Acacia ? sibirica x ?	1		1.4	WRQ 71-08	
Acacia sp. Indet	2		1.6		
Acacia ? victoriae	0.1		0.8		
Vittadinia arida	0.1			WRQ 71-15	
Ptilotus obovatus	0.5		0.6	WRQ 68-04	
Portulaca oleracea	0.1		0.1		
Abutilon otocarpum	0.1		0.3	WRQ 71-02	
Cucumis variabilis	0.1				
Cymbopogon sp. Indet	0.1				
Eremophila sp. Indet.	0.1		0.7	WRQ 76-01	
Eremophila latrobei subsp. latrobei	0.1		1.2		
Euphorbia biconvexa	0.1		0.1		
Phyllanthus erwinii	0.1		0.3	WRQ 71-01	
Eragrostis eriopoda	0.1		0.4		
Goodenia microptera	0.1			WRQ 71-15	
Goodenia muelleriana	0.1		0.2	WRQ 80-18	
Paspalidium clementii	0.1		0.4	WRQ 79-18	
Aristida holathera var. holathera	0.1		0.35	WRQ 80-13	
Sida sp. Indet	0.1		0.2	WRQ 71-03	
Abutilon lepidum	0.1		0.3	WRQ 71-04	
Paraneurachne muelleri	0.1			WRQ 71-12	
Bonamia erecta	0.1			WRQ 71-13	
Gomphrena cunninghamii	0.1				
Ptilotus ? calostachyus	0.1		0.4	WRQ 71-10	
Ptilotus auriculifolius	0.1			WRQ 79-07	
Rhagodia eremaea	0.1				

<i>Eriachne mucronata</i>	0.1	0.4	
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	0.1	0.3	EBMVWOpp1
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	0.1	0.6	WRQ 73-05
<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	0.1	1.3	WRQ 79-05
<i>Solanum</i> ? <i>horridum</i>	0.1		WRQ 77-08
<i>Solanum lasiophyllum</i>	0.1	0.4	WRQ 74-04
<i>Sporobolus australasicus</i>	0.1	0.2	WRQ 68-01
<i>Pterocaulon</i> ? <i>serrulatum</i> var. <i>velutinum</i>	0.1	0.3	WRQ 71-07
? <i>Santalum</i> sp. Indet	0.1	0.4	WRQ 71-09
<i>Dysphania</i> sp. Indet	0.1		WRQ 79.11
<i>Trachymene</i> sp. Indet	0.1	0.1	WRQ 80-07
<i>Hibiscus</i> ? <i>burtonii</i>	0.1		WRQ 71-14



**Western Ridge****Site WRQ-72**

**Date** 17/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 769910 mE; 7408249 mN  
 119.641208 E -23.413339 S  
**Veg Condition** Very Good  
**Soil** Silty Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Eucalyptus leucophloia mid to low scattered trees over Hakea lorea subsp. lorea, Acacia pruinocarpa and Acacia bivenosa mid scattered shrubs over Triodia wiseana low hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia bivenosa	2		2		
Acacia pruinocarpa	2		1.5		
Acacia pyrifolia var. pyrifolia	0.1		0.5		
Acacia tetragonophylla	0.1		1.4		
Enneapogon lindleyanus	0.1		0.2		
Eucalyptus leucophloia subsp. leucophloia	3		4		
Hakea lorea subsp. lorea	0.5		3		
Solanum lasiophyllum	0.2		0.5		
Triodia pungens	0.1		0.4		
Acacia ? sibirica	0.1		2		
Acacia maitlandii	0.1		1.2	WRQ 72-04	
Acacia ? victoriae	0.1		0.6		
Ptilotus obovatus	0.1		0.5	WRQ 72-06	
Eremophila platycalyx subsp. ?	0.1		1.2	WRQ 72-02	
Eremophila latrobei subsp. latrobei	0.1		0.5		
Eriachne lanata	0.1		0.5		
Euphorbia ? careyi	0.1		0.1	WRQ 72-05	
Fimbristylis simulans	0.1		0.2	WRQ 73-03	
Paspalidium clementii	0.1		0.2	WRQ 79-18	
Goodenia nuda	0.1		0.3	WRQ 72-01	
Goodenia muelleriana	0.1		0.2	WRQ 80-18	
Eriachne mucronata	0.1		0.3	WRQ 72-03	
Grevillea berryana	0.1		2		
Aristida holathera var. holathera	0.1		0.2	WRQ 80-13	
Senna artemisioides subsp. oligophylla	0.1		0.5		
Senna glutinosa subsp. x luerssenii	0.1		1	WRQ 79-05	
Senna glutinosa subsp. pruinosa	0.1		1.7	WRQ 79-09	
Ptilotus rotundifolius	0.5		0.5	WRQ 79-15	
Sporobolus australasicus	0.1		0.2	WRQ 68-01	
Eremophila canaliculata	0.1		0.6	WRQ 73-02	
Trachymene sp. Indet	0.1		0.2	WRQ 80-07	
Tribulus suberosus	0.1		1.2	WRQ 79-04	

**Western Ridge****Site WRQ-73**

**Date** 17/04/2020  
**Described by** EEB & MvW  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 770356 mE; 7408449 mN  
 119.645531 E -23.411467 S  
**Veg Condition** Good  
**Soil** Silty Clay Loam  
**Rock Type** CID  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Hakea lorea subsp. lorea mid to tall scattered shrubs over Triodia wiseana  
 low hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia bivenosa	0.1		1		
Acacia pruinocarpa	0.1		0.1		
Hakea lorea subsp. lorea	5		2		
Acacia dictyophleba	0.1		1.5	WRQ 73-01	
Trianthema glossostigmum	0.1		0.1	WRQ 73-09	
Eriachne ? lanata	0.1		0.1	WRQ 73-08	
Hibiscus coatesii	0.1		0.1	WRQ 73-10	
Cymbopogon obtectus	0.1		1	WRQ 73-06	
Eremophila latrobei subsp. latrobei	0.1		0.6		
Eremophila platycalyx subsp. ?	0.1		0.6	WRQ 73-12	
Fimbristylis simulans	0.1		0.1	WRQ 73-03	
Goodenia triodiophila	0.1		0.4	WRQ 73-11	
Paspalidium clementii	0.1		0.1	WRQ 79-18	
Senna artemisioides subsp. oligophylla	0.1		0.5	WRQ 73-05	
Senna artemisioides subsp. helmsii	0.1		0.5	WRQ 73-04	
Senna glutinosa subsp. pruinosa	0.2		0.4	WRQ 79-09	
Ptilotus rotundifolius	0.2		0.3	WRQ 79-15	
Eremophila canaliculata	0.1		0.3	WRQ 73-02	
Tribulus suberosus	0.2		0.5	WRQ 79-04	
Triodia wiseana	20		0.3	WRQ 79-01	

**Western Ridge****Site WRQ-74**

**Date** 18/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 770422 mE; 7409077 mN  
 119.646065 E -23.405786 S  
**Veg Condition** Poor  
**Soil** Silty Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Drainage Area/ Floodplain  
**Vegetation** Corymbia hamersleyana mid to low scattered trees over Acacia (Mulga) and Acacia pruinocarpa tall open woodland over Tridodia pungens, Cleome viscosa and Paspalidium clementii

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia pruinocarpa	1		6		
Bidens bipinnata	0.1		0.3		
Cenchrus ciliaris	5		0.5		
Cleome viscosa	1		0.4		
Corymbia hamersleyana	0.1		10		
Duperreya commixta	0.1		0.1		
Enneapogon polyphyllus	0.1		0.5		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Ptilotus exaltatus	0.1		0.4		
Trichodesma zeylanicum var. zeylanicum	0.2		0.3		
Acacia adsurgens x ?	0.1		1.4	WRQ 74-05	
Acacia ? aptaneura	10		8		
Chrysopogon fallax	0.1		0.5	WRQ 68.13	
Boerhavia coccinea	0.1		0.3		
Portulaca oleracea	0.1		0.2		
Hibiscus sturtii var. campylochlamys	0.1		0.2		
Aristida contorta	0.1		0.4	WRQ 74-01	
Paspalidium clementii	5		0.2	WRQ 74-03	
Enchylaena tomentosa	0.1		1.5		
Maireana villosa	0.2		1.4	WRQ 74-02	
Dipteracanthus australasicus subsp. australasicus	0.2		0.3		
Ptilotus helipteroides	0.1		0.2	WRQ 80-05	
Gomphrena cunninghamii	0.1		0.3		
Ptilotus polystachyus	0.1		0.4	WRQ 75-03	
Ptilotus auriculifolius	0.1		0.3	WRQ 79-07	
Salsola australis	0.1		0.2		
Solanum lasiophyllum	0.1		0.4	WRQ 74-04	
Sporobolus australasicus	0.1		0.2	WRQ 68-01	
Dysphania sp. Indet	0.1		0.5	WRQ 79.11	
Cucumis variabilis	0.1		0.1		

**Western Ridge****Site WRQ-75**

**Date** 18/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 770734 mE; 7409783 mN  
 119.648990 E -23.399361 S  
**Veg Condition** Good  
**Soil** Silty Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Minor Drainage Line  
**Vegetation** Acacia pruinocarpa and Corymbia hamersleyana mid scattered trees over  
 Acacia (Mulga) tall sparse shrubland over Cleome viscosa, Cenchrus ciliaris  
 mid to low herb/grassland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia pruinocarpa	1		13		
Acacia tetragonophylla	0.1		1.2		
Alternanthera nodiflora	0.1		0.2		
Bidens bipinnata	1		0.4		
Boerhavia coccinea	0.1		0.3		
Cenchrus ciliaris	5		0.6		
Cleome viscosa	5		0.6		
Corymbia hamersleyana	0.1		9		
Cucumis variabilis	0.1		0.1		
Duperreya commixta	0.1		0.1		
Enneapogon lindleyanus	0.1		0.4		
Evolvulus alsinoides var. decumbens	0.1		0.3		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Jasminum didymum subsp. lineare	0.1		0.5		
Triodia pungens	0.1		0.3		
Acacia ? aptaneura	15		5		
Acacia sp. Indet	0.1		3	WRQ 75-11	
Trianthema pilosum	0.1		0.4	WRQ 75-16	
Chrysopogon fallax	0.2		1.1	WRQ 68.13	
Ptilotus obovatus	0.1		0.5	WRQ 68-04	
Portulaca oleracea	0.1		0.2		
Capparis lasiantha	0.1		0.5		
Eremophila forrestii subsp. ? forrestii	0.1		0.8	WRQ 75-10	
Euphorbia ? biconvexa	0.1		0.2	WRQ 75-14	
Anthobolus leptomerioides	0.5		2		
Paspalidium clementii	0.1		0.2	WRQ 79-18	
Enchylaena tomentosa	0.1		2	WRQ 75-13	
Hakea lorea subsp. lorea	0.1		4	WRQ 75-01	
Haloragis gossei var. gossei	0.1		0.2	WRQ 80-06	
Convolvulus ? clementii	0.1			WRQ 75-09	
Maireana villosa	0.1		0.2	WRQ 68.02	
Sclerolaena sp. Indet	0.1		0.3	WRQ 75-08	
Dipteracanthus australasicus subsp. australasicus	0.5		0.2	WRQ 75-08	
Glycine ? canescens	0.1		0.1	WRQ 75-14	
Psyrax latifolia	0.1		1.4	WRQ 75-06	
Ptilotus helipteroides	0.1		0.2	WRQ 80-05	
Gomphrena cunninghamii	0.1		0.2		
Ptilotus polystachyus	0.1		0.5	WRQ 75-03	
Ptilotus auriculifolius	0.1		0.1	WRQ 79-07	
Rhagodia eremaea	0.1		1	WRQ 75-02	
Salsola australis	0.1		0.2		
Senna artemisioides subsp. x artemisioides	0.1		1	WRQ 75-05	
Sporobolus australasicus	0.1		0.3	WRQ 68-01	
Dicladantha forrestii	0.1		0.3	WRQ 75-04	

## Western Ridge

## Site WRQ-76

**Date** 19/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 771025 mE; 7408724 mN  
 119.652024 E -23.408874 S  
**Veg Condition** Excellent  
**Soil** Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Hakea lorea subsp. lorea mid to tall scattered shrubs over Acacia bivenosa  
 mid scattered shrubs over Triodia wiseana hummock grassland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia adoxa var. adoxa	1		0.5	WRQ 76-04	
Acacia bivenosa	2		2.5		
Acacia pruinocarpa	0.2		1		
Enneapogon lindleyanus	0.1		0.2		
Eucalyptus leucophloia subsp. leucophloia	1		9		
Senna glutinosa subsp. glutinosa	0.1		1.1		
Triodia pungens	0.1		0.5		
Acacia ? sibirica	0.1		1.5		
Acacia maitlandii	0.1		1.2	WRQ 76-02	
Acacia ? aptaneura	0.1		1.4		
Eriachne ? lanata	0.1		0.1	WRQ 73-08	
Eremophila sp. Indet.	0.1		0.7	WRQ 76-01	
Anthobolus leptomerioides	0.2		1.4		
Fimbristylis simulans	0.2		0.2		
Goodenia triodiophila	0.1		0.3		branched
Eriachne mucronata	0.1		0.3		
Hakea lorea subsp. lorea	2		4.5	WRQ 75-01	
Senna artemisioides subsp. helmsii	0.1		0.6	WRQ 73-04	
Senna glutinosa subsp. x luerssenii	0.1		1	WRQ 79-05	
Senna glutinosa subsp. pruinosa	0.1		0.9	WRQ 79-09	
Solanum lasiophyllum	0.1		0.3	WRQ 74-04	
Ptilotus rotundifolius	0.1		0.3	WRQ 79-15	
Dysphania sp. Indet	0.1		0.4	WRQ 79.11	
Triodia vanleeuwenii	40		0.3	WRQ 76-03	

**Western Ridge****Site WRQ-77**

**Date** 18/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 771130 mE; 7408098 mN  
 119.653170 E -23.414498 S  
**Veg Condition** Excellent  
**Soil** Silty Clay Loam  
**Rock Type** Dolerite  
**Fire Age** Old (6+ yr)  
**Habitat** Hillcrest/ Upper Hillslope  
**Vegetation** Acacia bivenosa mid scattered shrubs over Triodia low hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia bivenosa	2		2		
Acacia pyrifolia var. pyrifolia	1		1.3		
Boerhavia coccinea	0.1		0.1		
Cleome viscosa	0.1		0.4		
Enneapogon lindleyanus	0.1		0.2		
Eremophila fraseri subsp. fraseri	0.1		1.2		
Euphorbia tannensis subsp. eremophila	0.1		0.3		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Trichodesma zeylanicum var. zeylanicum	0.1		0.4		
Acacia ? sibirica	0.1		1		
Acacia tenuissima	0.1		1.4	WRQ 77-07	
Acacia ? victoriae	0.1		0.4		
Ptilotus obovatus	0.1		0.5	WRQ 68-04	
Portulaca oleracea	0.1		0.1		
Eriachne ? lanata	0.1		0.1	WRQ 73-08	
Corchorus lasiocarpus subsp. ? parvus	0.1		0.4	WRQ 77-05	
Euphorbia australis var. subtomentosa	0.1		0.1	WRQ 77-04	
Goodenia muelleriana	0.1		0.2	WRQ 80-18	
Paspalidium clementii	0.1		0.2	WRQ 79-18	
Eragrostis desertorum	0.1		0.5	WRQ 77-08	
Haloragis gossei var. gossei	0.1		0.3	WRQ 80-06	
Aristida holathera var. holathera	0.1		0.4	WRQ 80-13	
Indigofera monophylla	0.1		0.6	WRQ 77-02	
Ptilotus helipteroides	0.1		0.1	WRQ 80-05	
Gomphrena cunninghamii	0.1		0.1		
Ptilotus auriculifolius	0.1		0.4	WRQ 79-07	
Rhagodia eremaea	0.1		0.3	WRQ 77-03	
Senna artemisioides subsp. oligophylla	0.1		0.8		
Senna glutinosa subsp. pruinosa	0.1		0.5	WRQ 79-09	
Solanum ? horridum	0.1		0.1	WRQ 77-08	
Ptilotus rotundifolius	0.1		0.5	WRQ 79-15	
Sporobolus australasicus	0.1		0.2	WRQ 68-01	
Trachymene sp. Indet	0.1		0.2	WRQ 80-07	
Tribulus hirsutus	0.1		0.1	WRQ 77-01	
Tribulus platypterus	0.1		0.5	WRQ 77-09	
Triodia wiseana	35		0.6		

## Western Ridge

## Site WRQ-78

**Date** 18/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 771984 mE; 7409181 mN  
 119.661320 E -23.404586 S  
**Veg Condition** Very Good  
**Soil** Silty Clay Loam  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Foothslope  
**Vegetation** Eucalyptus leucophloia mid to low scattered trees over Senna glutinosa subsp. x luerssenii and Acacia pruinocarpa mid to low scattered shrubs over Triodia pungens low hummock grassland

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia bivenosa	0.1		2		
Acacia pruinocarpa	0.1		0.7		
Acacia tetragonophylla	0.1		1		
Duperreya commixta	0.1		0.1		
Enneapogon lindleyanus	0.1		0.25		
Enneapogon polyphyllus	0.1		0.1	WRQ 79-16	
Eucalyptus leucophloia subsp. leucophloia	2		9		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Jasminum didymum subsp. lineare	0.1		0.5		
Stemodia grossa	0.1		0.1	WRQ 78-03	
Trichodesma zeylanicum var. zeylanicum	0.1		0.3		
Acacia dictyophleba	0.1		1	WRQ 73-01	
Acacia ? sibirica	0.1		1.1		
Acacia adsurgens	0.1		1.2	WRQ 78-01	
Acacia tenuissima	0.1		1.5		
Acacia ? victoriae	0.1		0.3		
Ptilotus obovatus	0.1		0.7	WRQ 68-04	
Portulaca oleracea	0.1		0.1		
Eriachne ? lanata	0.1		0.2	WRQ 73-08	
Sida echinocarpa	0.1		0.35	WRQ 78-06	
Hibiscus coatesii	0.1		0.4	WRQ 78-07	
Dodonaea pachyneura	0.1		1.4	WRQ 78-02	
Fimbristylis simulans	0.1		0.1		
Goodenia muelleriana	0.1		0.2	WRQ 80-18	
Paspalidium clementii	0.1		0.2	WRQ 79-18	
Schizachyrium fragile	0.1		0.5	WRQ 78-04	
Eriachne mucronata	0.1		0.4		
Haloragis gossei var. gossei	0.1		0.2	WRQ 80-06	
Aristida holathera var. holathera	0.1		0.4	WRQ 80-13	
? Enchylaena tomentosa	0.1		0.5	WRQ 78-05	
Ptilotus helipteroides	0.1		0.2	WRQ 80-05	
Senna artemisioides subsp. oligophylla	0.1		0.8		
Senna glutinosa subsp. x luerssenii	0.1		1.7	WRQ 79-05	
Solanum ? horridum	0.1		0.2	WRQ 77-08	
Sporobolus australasicus	0.1		0.2	WRQ 68-01	
Eremophila canaliculata	0.1		0.1	WRQ 73-02	
Trachymene sp. Indet	0.1		0.2	WRQ 80-07	
Tribulus suberosus	0.1		0.4	WRQ 79-04	
Triodia wiseana	5		0.3	WRQ 79-01	

**Western Ridge****Site WRQ-79**

**Date** 17/04/2020  
**Described by** EEB & MvW  
**Type** Q 50m x 50m  
**Location** MGA Zone 50  
 772072 mE; 7408192 mN  
 119.662358 E -23.413500 S  
**Veg Condition** Very Good  
**Soil** Silty Loam  
**Rock Type** Dolerite  
**Fire Age** Old (6+ yr)  
**Habitat** Footslope  
**Vegetation** Acacia (Mulga) tall scattered shrubs over Acacia bivenosa and mixed Senna spp. mid scattered shrubs over Triodia wiseana hummock grassland

**SPECIES LIST**

<b>Name</b>	<b>Cover</b>	<b>C Class</b>	<b>Height</b>	<b>Specimen</b>	<b>Notes</b>
Acacia bivenosa	1		2		
Acacia tetragonophylla	0.1		0.5		
Cenchrus ciliaris	0.5		0.4		
Cucumis variabilis	0.1		0.1		
Duperreya commixta	0.1		0.2		
Eriachne mucronata	0.1		0.1		
Evolvulus alsinoides var. villosicalyx	0.1		0.1		
Solanum lasiophyllum	0.1		0.5		
Acacia ? sibirica	1		2	WRQ 79-10	
Acacia ? aptaneura	2		5	WRQ 79-08	
Acacia ? synchronica	0.1		1	WRQ 79-06	
Acacia ? victoriae	0.1		0.5	WRQ 80-02	
Ptilotus obovatus	0.1		1	WRQ 68-04	
Portulaca oleracea	0.1		0.2	WRQ 80-12	
Eremophila sp. Hamersley Range (K. Walker KW 136)	0.1		1	WRQ 79-12	
Eremophila latrobei subsp. latrobei	0.1		1	WRQ 80-09	
Paspalidium clementii	0.1		0.2	WRQ 79-18	
Enneapogon polyphyllus	0.1		0.3	WRQ 79-16	
Sclerolaena sp. Indet	0.1		0.3	WRQ 79-03	
Ptilotus helipteroides	0.1		0.3	WRQ 80-05	
Ptilotus auriculifolius	0.1		0.2	WRQ 79-07	
Tephrosia ? sp. Newman (A. A. Mitchell PRP 29)	0.1		0.2	WRQ 79-14	
Senna artemisioides subsp. oligophylla	0.1		1.5	WRQ 79-13	
Senna glutinosa subsp. x luerssenii	2		1	WRQ 79-05	
Senna glutinosa subsp. pruinosa	0.1		1	WRQ 79-09	
Ptilotus rotundifolius	0.1		0.4	WRQ 79-15	
Sporobolus australasicus	1		0.2	WRQ 68-01	
Dysphania sp. Indet	0.1		0.3	WRQ 79-11	
Tribulus suberosus	0.1		0.4	WRQ 79-04	
Triodia wiseana	25		0.5	WRQ 79-01	



**Western Ridge****Site WRQ-80**

**Date** 17/04/2020  
**Described by** EEB & MvW  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 772257 mE; 7408596 mN  
 119.664096 E -23.409820 S  
**Veg Condition** Good  
**Soil** Clay Loam Sandy  
**Rock Type** None Discernible  
**Fire Age** Old (6+ yr)  
**Habitat** Drainage Area/ Floodplain  
**Vegetation** Eucalyptus gamophylla low scattered trees over Acacia (Mulga) and Acacia bivenosa mid to tall shrubland over Triodia pungens hummock grasses

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Abutilon otocarpum	0.1				
Acacia bivenosa	5		1.2		
Acacia tetragonophylla	0.3		1.5		
Cenchrus ciliaris	2		0.5		
Cleome viscosa	0.1		0.4		
Cucumis variabilis	0.1		0.1		
Duperreya commixta	0.1		0.1		
Enneapogon lindleyanus	0.1		0.3		
Eriachne mucronata	0.1		0.4		
Eucalyptus gamophylla	2		4	WRQ 80-01	
Euphorbia tannensis subsp. eremophila	0.2		0.3		
Evolvulus alsinoides var. villosicalyx	0.1		0.2		
Polycarpaea corymbosa	0.1		0.1		
Senna notabilis	0.1		0.3		
Sida fibulifera	0.1		0.3		
Trichodesma zeylanicum var. zeylanicum	0.1		0.2		
Triodia pungens	15		0.4		
Acacia ? sibirica	2		2	WRQ 80-10	
Acacia ? aptaneura	1		3	WRQ 80-11	
Acacia ? victoriae	0.1		1	WRQ 80-02	
Chrysopogon fallax	0.2		1	WRQ 68.13	
Ptilotus obovatus	0.2		1	WRQ 68-04	
Portulaca oleracea	0.1		0.1	WRQ 80-12	
Corchorus lasiocarpus subsp. ? parvus	0.1		0.3	WRQ 80-08	
Hibiscus sturtii var. campylochlamys	0.1		0.3	WRQ 80-19	
Citrullus amarus	0.1		0.1	WRQ 68.15	
Eremophila latrobei subsp. latrobei	0.1		0.5	WRQ 80-09	
? Jasminum didymum subsp. lineare	0.1		0.4	WRQ 80-22	
Goodenia microptera	0.1		0.2	WRQ 80-17	
Goodenia muelleriana	0.1		0.25	WRQ 80-18	
Paspalidium clementii	0.1		0.2	WRQ 80-16	
Haloragis gossei var. gossei	2		0.3	WRQ 80-06	
Aristida holathera var. holathera	0.1		0.3	WRQ 80-13	
Maireana villosa	0.1		0.5	WRQ 68.02	
Melhaniania oblongifolia	0.1		0.3	WRQ 80-14	
Ptilotus helipteroides	0.1		0.3	WRQ 80-05	
Ptilotus aevoides	0.1		0.1	WRQ 80-04	
Gomphrena cunninghamii	0.1		0.2		
Rhynchosia minima	0.1		0.1	WRQ 80-03	
Senna artemisioides subsp. oligophylla	0.1		0.1	WRQ 80-20	
Sporobolus australasicus	1		0.2	WRQ 68-01	
Trachymene sp. Indet	0.1		0.2	WRQ 80-07	
Tribulus hirsutus	0.1		0.1	WRQ 80-15	

**Western Ridge****Site WRQ-91**

**Date** 20/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 764323 mE; 7411418 mN  
 119.586024 E -23.385664 S  
**Veg Condition** Very Good  
**Soil** Clayey Sand  
**Rock Type** Detritals  
**Fire Age** Moderate (3 to 5 yr)  
**Habitat** Minor Drainage Line  
**Vegetation** Cenchrus ciliaris, Themeda triandra and Eriachne mucronata low open tussock grassland with Eucalyptus victrix, Corymbia hamersleyana low sparse woodland over Acacia ancistrocarpa, Melaleuca glomerata and Acacia pyrifolia scattered tall to low shrubs

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia ancistrocarpa	0.1		2.4		
Acacia citrinoviridis	0.1		3		
Acacia pyrifolia var. pyrifolia	0.1		0.5		
Acacia tetragonophylla	0.1		1.5		
Amaranthus undulatus	0.1		0.2		
Bidens bipinnata	0.1		0.2		
Boerhavia coccinea	0.1		0.1		
Cenchrus ciliaris	5		0.3		
Cleome viscosa	1		0.6		
Corymbia hamersleyana	0.1		6.5		
Crotalaria medicaginea var. neglecta	0.1		0.2		
Cucumis variabilis	0.1			WRQ 7.03	
Duperreya commixta	0.1				
Eremophila longifolia	0.1		2		
Eriachne mucronata	0.1		0.3		
Eucalyptus victrix	1		6		
Euphorbia biconvexa	0.1		0.2	WRQ 14.01	
Euphorbia tannensis subsp. eremophila	0.1		0.2		
Evolvulus alsinoides var. villosicalyx	0.1		0.1		
Flaveria trinervia	0.1		0.3		
Glycine canescens	0.1				
Goodenia muelleriana	0.1		0.1	WRQ 06.01	
Jasminum didymum subsp. lineare	0.1				
Melaleuca glomerata	0.1		3		
Pterocaulon sp. Indet	0.1		0.2		
Ptilotus exaltatus	0.1		0.3		
Rhagodia eremaea	0.1		0.3	WRQ 27.09	
Rhynchosia minima	0.1		0.1		
Setaria verticillata	0.1		0.2		
Sporobolus australasicus	0.1		0.2	WRQ 20.02	
Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)	0.1		0.2		
Themeda triandra	2		0.6		
Trachymene oleracea	0.1		0.1		
Tribulus hirsutus	0.1		0.1	WRQ 09.01	
Tribulus suberosus	0.1		0.2		
Trichodesma zeylanicum var. zeylanicum	0.1		0.3		
Melhantha oblongifolia	0.1		0.2	WRQ 91.03	
Acacia adsurgens	0.1		2.2	WRQ 91.01	
Ipomoea plebeia	0.1			WRQ 15.08	
Corchorus lasiocarpus subsp. ? lasiocarpus	0.1		0.4	WRQ 09.03	
Haloragis gossei var. gossei	0.1		0.1	WRQ 09.05	
Paspalidium clementii	0.1		0.1	WRQ 20.01	
Ptilotus auriculifolius	0.1		0.3	WRQ 20.20	

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<i>Ptilotus aevroides</i>	0.1	0.1	WRQ 20.06
<i>Ptilotus helipteroides</i>	0.1	0.1	WRQ 02.02
<i>Scaevola amblyanthera</i> var. ? <i>centralis</i>	0.1	0.1	WRQ 91.02
<i>Enneapogon lindleyanus</i>	0.1	0.2	WRQ 21.11

**Western Ridge****Site WRQ-92**

**Date** 20/04/2020  
**Described by** CvdB & KG  
**Type** Q 100m x 25m  
**Location** MGA Zone 50  
 766600 mE; 7411191 mN  
 119.608325 E -23.387339 S  
**Veg Condition** Very Good  
**Soil** Loamy Sand  
**Rock Type** BIF  
**Fire Age** Old (6+ yr)  
**Habitat** Medium Drainage Line  
**Vegetation** Eriachne mucronata, Cenchrus ciliaris and Themeda triandra open tussock grassland with Eucalyptus victrix low sparse woodland over Acacia pyrifolia, Acacia citrinoviridis and Gossypium robinsonii mid to tall sparse shrubland.

**SPECIES LIST**

Name	Cover	C Class	Height	Specimen	Notes
Acacia ancistrocarpa	0.1		2.2		
Acacia bivenosa	0.1		1.5		
Acacia citrinoviridis	0.1		2		
Acacia maitlandii	0.1		1.8		
Acacia pyrifolia var. pyrifolia	2		1.6		
Amaranthus undulatus	0.1		0.3		
Androcalva luteiflora	0.1		1.2		
Bidens bipinnata	0.1		0.2		
Boerhavia coccinea	0.1		0.1		
Cenchrus ciliaris	1		0.4		
Cleome viscosa	0.1		0.3		
Corymbia hamersleyana	0.1		4		
Cucumis variabilis	0.1			WRQ 07.03	
Enneapogon lindleyanus	0.1		0.3		
Eremophila longifolia	0.1		1.8		
Eriachne mucronata	10		0.5		
Eucalyptus victrix	3		9		
Euphorbia biconvexa	0.1		0.1	WRQ 14.01	
Evolvulus alsinoides var. villosicalyx	0.1		0.1		
Flaveria trinervia	0.1		0.3		
Glycine canescens	0.1				
Gossypium robinsonii	0.1		2.4		
Hybanthus aurantiacus	0.1		0.3		
Indigofera rugosa	0.1		0.6		
Jasminum didymum subsp. lineare	0.1				
Petalostylis labicheoides	0.1		1.4		
Phyllanthus maderaspatensis	0.1		0.3		
Polycarpaea longiflora	0.1		0.1		
Rhynchosia minima	0.1				
Rumex vesicarius	0.1		0.1		
Santalum lanceolatum	0.1		1.5		
Scaevola spinescens	0.1		0.6		
Senna artemisioides subsp. oligophylla	0.1		0.3		
Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)	0.1		0.5		
Themeda triandra	0.1		0.4		
Trachymene oleracea	0.1		0.2		
Trichodesma zeylanicum var. zeylanicum	0.1		0.2		
Triodia pungens	0.1		0.3		
Waltheria virgata	0.1		0.2		
Acacia sp. (Mulga Group)	0.1		2.2		
Cymbopogon ambiguus	0.1		0.4	WRQ 08.02	
Notoleptopus decaisnei var. orbicularis	0.1		0.2	WRQ 92.02	
Gomphrena cunninghamii	0.1		0.1	WRQ 92.01	
Paspalidium clementii	0.1		0.1	WRQ 20.01	
Ptilotus auriculifolius	0.1		0.3	WRQ 20.20	



## Appendix C: Vegetation Structure Definition

**NVIS Vegetation Structural Classifications**

Cover Characteristics							
Foliage cover *	70-100	30-70	10-30	<10	≈0	0-5	unknown
Crown cover **	>80	50-80	20-50	0.25-20	<0.25	0-5	unknown
% Crown cover ***	>80	50-80	20-50	0.25-20	<0.25	0-5	unknown
Cover code	d	c	i	r	bi	bc	unknown

Growth Form	Height ranges (m)	Structural Formation Classes						
		tree, palm	>30 Tall 10-30 Mid <10 Low	closed forest	open forest	woodland	open woodland	isolated trees
tree mallee	10-30 Tall <10 Mid <3 Low	closed forest mallee	open forest mallee	mallee woodland	open mallee woodland	isolated mallee trees	isolated clumps of mallee trees	mallee trees
shrub, cycad, grass-tree, fern	>2 Tall 1-2 Mid <1 Low	closed shrubland	shrubland	open shrubland	sparse shrubland	isolated shrubs	isolated clumps of shrubs	shrubs
mallee shrub	10-30 Tall <10 Mid <3 Low	closed mallee shrubland	mallee shrubland	open mallee shrubland	sparse mallee shrubland	isolated mallee shrubs	isolated clumps of mallee shrubs	mallee shrubs
heath shrub	>2 Tall 1-2 Mid <1 Low	closed heathland	heathland	open heathland	sparse heathland	isolated heath shrubs	isolated clumps of heath shrubs	heath shrubs
chenopod shrub	>2 Tall 1-2 Mid	closed chenopod shrubland	chenopod shrubland	open chenopod shrubland	sparse chenopod shrubland	isolated chenopod shrubs		chenopod shrubs

Growth Form	Height ranges (m)	Structural Formation Classes						
	<1 Low						isolated clumps of shrubs chenopod	
samphire shrub	>0.5 Low	closed samphire shrubland	samphire shrubland	open samphire shrubland	sparse samphire shrubland	isolated samphire shrubs	isolated clumps of shrubs samphire	samphire shrubs
	<0.5 Low							
hummock grass	>2 Tall	closed hummock grassland	hummock grassland	open hummock grassland	sparse hummock grassland	isolated hummock grasses	isolated clumps of hummock grasses	hummock grasses
	<2 Tall							
tussock grass	>0.5 Mid	closed tussock grassland	tussock grassland	open tussock grassland	sparse tussock grassland	isolated tussock grasses	isolated clumps of tussock grasses	tussock grasses
	<0.5 Low							
other grass	>0.5 Mid	closed grassland	grassland	open grassland	sparse grassland	isolated grasses	isolated clumps of grasses	other grasses
	<0.5 Low							
sedge	>0.5 Mid	closed sedgeland	sedgeland	open sedgeland	sparse sedgeland	isolated sedges	isolated clumps of sedges	sedges
	<0.5 Low							
rush	>0.5 Mid	closed rushland	rushland	open rushland	sparse rushland	isolated rushes	isolated clumps of rushes	rushes
	<0.5 Low							
forb	>0.5 Mid	closed forbland	forbland	open forbland	sparse forbland	isolated forbs	isolated clumps of forbs	forbs
	<0.5 Low							
fern	>2 Tall	closed fernland	fernland	open fernland	sparse fernland	isolated ferns	isolated clumps of ferns	ferns
	1-2 Tall							
	<1 Low							
bryophyte	<0.5	closed bryophyte land	bryophyte land	open bryophyte land	sparse bryophyte land	isolated bryophytes	isolated clumps of bryophytes	bryophytes
lichen	<0.5	closed lichenland	lichenland	open lichenland	sparse lichenland	isolated lichens	isolated clumps of lichens	lichens
vine	>30 Tall	closed vineland	vineland	open vineland	sparse vineland	isolated vines	isolated clumps of vines	vines
	10-30 Med							
	<10 Low							
aquatic	<1 Tall	closed aquatic bed	aquatic bed	open aquatic bed	sparse aquatics	isolated aquatics	isolated clumps of aquatics	aquatics
	0-0.5 Low							
seagrass	<1 Tall	closed seagrass bed	Seagrass bed	open seagrass bed	sparse seagrass bed	isolated seagrasses	isolated clumps of seagrasses	seagrasses

From: NVIS Structural Formation Terminology (Australian Vegetation Attribute Manual Version 6.0 August 2003  
<http://www.environment.gov.au/erin/nvis/publications/avam/pubs/vegetation-attribute-manual-6.pdf>)

\* Foliage Cover is defined for each stratum as 'the proportion of the ground, which would be shaded if sunshine came from directly overhead'. It includes branches and leaves and is similar to the Crown type of Walker and Hopkins (1990) but is applied to a stratum or plot rather than an individual crown. It is generally not directly measured in the field for the upper stratum, although it can be measured by various line interception methods for ground layer vegetation. For the attribute COVER CODE in the Stratum table, the ground cover category refers to ground foliage cover not percentage cover.

\*\* Crown Cover (canopy cover) as per Walker and Hopkins (1990). Although relationships between the two are dependent on season, species, species age etc. (Walker & Hopkins, 1990), the crown cover category classes have been adopted as the defining measure.

\*\*\* The percentage cover is defined as the percentage of a strictly defined plot area, covered by vegetation. This can be an estimate and is a less precise measure than using, for example, a point intercept transect methods on ground layer, or overstorey vegetative cover. That is for precisely measured values (e.g. crown densitometer or point intercept transects) the value measured would be 'foliage' cover. Where less precise or qualitative measures are used these will most probably be recorded as 'percentage' cover.





## Appendix D: Vegetation Condition Definition

**Vegetation Condition Scale (adapted from Keighery (1994) and Trudgen (1988))**

Condition Scale	Description
<b>Excellent (1)</b>	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement
<b>Very Good (2)</b>	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks cause by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
<b>Good (3)</b>	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
<b>Poor (4)</b>	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
<b>Degraded (5)</b>	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
<b>Completely Degraded (6)</b>	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.



## **Appendix E: Flora Species Reconciliation and Amalgamation for Statistical Analysis**

Confirmed	Reconciled Taxon
? <i>Enchylaena tomentosa</i>	? <i>Enchylaena tomentosa</i>
<i>Abutilon fraseri</i>	<i>Abutilon fraseri</i>
<i>Abutilon lepidum</i>	<i>Abutilon lepidum</i>
<i>Abutilon leucopetalum</i>	<i>Abutilon leucopetalum</i>
<i>Abutilon macrum</i>	<i>Abutilon macrum</i>
<i>Abutilon otocarpum</i>	<i>Abutilon otocarpum</i>
<i>Abutilon</i> sp. Pilbara (W.R. Barker 2025)	<i>Abutilon</i> sp. Pilbara (W.R. Barker 2025)
<i>Acacia</i> ? <i>ancistrocarpa</i> x <i>citrinoviridis</i>	<i>Acacia</i> ? <i>ancistrocarpa</i> x <i>citrinoviridis</i>
<i>Acacia</i> ? <i>aptaneura</i>	<i>Acacia</i> ? <i>aptaneura</i>
<i>Acacia</i> ? <i>ayersiana</i> x	<i>Acacia</i> ? <i>ayersiana</i> x ?
<i>Acacia</i> ? <i>catenulata</i> subsp. <i>occidentalis</i>	<i>Acacia</i> ? <i>catenulata</i> subsp. <i>occidentalis</i>
<i>Acacia</i> ? <i>incurvaneura</i>	<i>Acacia</i> ? <i>incurvaneura</i>
<i>Acacia</i> ? <i>paraneura</i>	<i>Acacia</i> ? <i>paraneura</i>
<i>Acacia</i> ? <i>rhodophloia</i>	<i>Acacia</i> ? <i>rhodophloia</i>
<i>Acacia</i> ? <i>rhodophloia</i> x	<i>Acacia</i> ? <i>rhodophloia</i>
<i>Acacia</i> ? <i>sibirica</i>	<i>Acacia</i> ? <i>sibirica</i>
<i>Acacia</i> ? <i>sibirica</i> x	<i>Acacia</i> ? <i>sibirica</i>
<i>Acacia</i> ? <i>synchronicia</i>	<i>Acacia</i> ? <i>synchronicia</i>
<i>Acacia</i> ? <i>tenuissima</i>	<i>Acacia</i> ? <i>tenuissima</i>
<i>Acacia</i> ? <i>victoriae</i>	<i>Acacia</i> ? <i>victoriae</i>
<i>Acacia</i> <i>adoxa</i> var. <i>adoxa</i>	<i>Acacia</i> <i>adoxa</i> var. <i>adoxa</i>
<i>Acacia</i> <i>adsurgens</i>	<i>Acacia</i> <i>adsurgens</i>
<i>Acacia</i> <i>adsurgens</i> x ?	<i>Acacia</i> <i>adsurgens</i>
<i>Acacia</i> <i>adsurgens</i> x <i>rhodophloia</i>	<i>Acacia</i> <i>adsurgens</i> x <i>rhodophloia</i>
<i>Acacia</i> <i>ancistrocarpa</i>	<i>Acacia</i> <i>ancistrocarpa</i>
<i>Acacia</i> <i>ancistrocarpa</i> x ?	<i>Acacia</i> <i>ancistrocarpa</i>
<i>Acacia</i> <i>aptaneura</i>	<i>Acacia</i> <i>aptaneura</i>
<i>Acacia</i> <i>bivenosa</i>	<i>Acacia</i> <i>bivenosa</i>
<i>Acacia</i> <i>citrinoviridis</i>	<i>Acacia</i> <i>citrinoviridis</i>
<i>Acacia</i> <i>coriacea</i> subsp. <i>pendens</i>	<i>Acacia</i> <i>coriacea</i> subsp. <i>pendens</i>
<i>Acacia</i> <i>dictyophleba</i>	<i>Acacia</i> <i>dictyophleba</i>
<i>Acacia</i> <i>hamersleyensis</i>	<i>Acacia</i> <i>hamersleyensis</i>
<i>Acacia</i> <i>inaequilatera</i>	<i>Acacia</i> <i>inaequilatera</i>
<i>Acacia</i> <i>incurvaneura</i>	<i>Acacia</i> <i>incurvaneura</i>
<i>Acacia</i> <i>maitlandii</i>	<i>Acacia</i> <i>maitlandii</i>
<i>Acacia</i> <i>marramamba</i>	<i>Acacia</i> <i>marramamba</i>
<i>Acacia</i> <i>monticola</i>	<i>Acacia</i> <i>monticola</i>
<i>Acacia</i> <i>mulganeura</i>	<i>Acacia</i> <i>mulganeura</i>
<i>Acacia</i> <i>pachyacra</i>	<i>Acacia</i> <i>pachyacra</i>
<i>Acacia</i> <i>pruinocarpa</i>	<i>Acacia</i> <i>pruinocarpa</i>
<i>Acacia</i> <i>pyrifolia</i> var. <i>pyrifolia</i>	<i>Acacia</i> <i>pyrifolia</i> var. <i>pyrifolia</i>
<i>Acacia</i> <i>rhodophloia</i>	<i>Acacia</i> <i>rhodophloia</i>
<i>Acacia</i> <i>rhodophloia</i> x ?	<i>Acacia</i> <i>rhodophloia</i>

Confirmed	Reconciled Taxon
<i>Acacia sibirica</i>	<i>Acacia sibirica</i>
<i>Acacia spondylophylla</i>	<i>Acacia spondylophylla</i>
<i>Acacia ? synchronicia</i>	<i>Acacia ? synchronicia</i>
<i>Acacia tenuissima</i>	<i>Acacia tenuissima</i>
<i>Acacia tetragonophylla</i>	<i>Acacia tetragonophylla</i>
<i>Acacia wiseana</i>	<i>Acacia wiseana</i>
<i>Acrachne racemosa</i>	<i>Acrachne racemosa</i>
<i>Alternanthera nana</i>	<i>Alternanthera nana</i>
<i>Alternanthera nodiflora</i>	<i>Alternanthera nodiflora</i>
<i>Amaranthus undulatus</i>	<i>Amaranthus undulatus</i>
<i>Ammannia multiflora</i>	<i>Ammannia multiflora</i>
<i>Amyema fitzgeraldii</i>	<i>Amyema fitzgeraldii</i>
<i>Androcalva luteiflora</i>	<i>Androcalva luteiflora</i>
<i>Anthobolus leptomerioides</i>	<i>Anthobolus leptomerioides</i>
<i>Aristida ? burbidgeae</i>	<i>Aristida burbidgeae</i>
<i>Aristida contorta</i>	<i>Aristida contorta</i>
<i>Aristida holathera</i> var. <i>holathera</i>	<i>Aristida holathera</i> var. <i>holathera</i>
<i>Aristida inaequiglumis</i>	<i>Aristida inaequiglumis</i>
<i>Aristida pruinosa</i>	<i>Aristida pruinosa</i>
<i>Astrotricha hamptonii</i>	<i>Astrotricha hamptonii</i>
* <i>Bidens bipinnata</i>	Removed
<i>Boerhavia coccinea</i>	<i>Boerhavia coccinea</i>
<i>Bonamia erecta</i>	<i>Bonamia erecta</i>
<i>Bonamia pilbarensis</i>	<i>Bonamia pilbarensis</i>
<i>Bothriochloa ewartiana</i>	<i>Bothriochloa ewartiana</i>
<i>Brunonia australis</i>	<i>Brunonia australis</i>
<i>Bulbostylis barbata</i>	<i>Bulbostylis barbata</i>
<i>Calytrix carinata</i>	<i>Calytrix carinata</i>
<i>Capparis lasiantha</i>	<i>Capparis lasiantha</i>
<i>Capparis spinosa</i> subsp. <i>nummularia</i>	<i>Capparis spinosa</i> subsp. <i>nummularia</i>
* <i>Cenchrus ciliaris</i>	Removed
* <i>Cenchrus setiger</i>	Removed
<i>Centipeda minima</i>	<i>Centipeda minima</i>
<i>Centipeda minima</i> subsp. <i>macrocephala</i>	<i>Centipeda minima</i>
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>
<i>Chrysocephalum apiculatum</i> subsp. <i>pilbarensis</i>	<i>Chrysocephalum apiculatum</i> subsp. <i>pilbarensis</i>
<i>Chrysocephalum pterochaetum</i>	<i>Chrysocephalum pterochaetum</i>
<i>Chrysopogon fallax</i>	<i>Chrysopogon fallax</i>
<i>Citrullus amarus</i>	<i>Citrullus amarus</i>
<i>Cleome viscosa</i>	<i>Cleome viscosa</i>
<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>	<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>
<i>Clerodendrum tomentosum</i> var. <i>lanceolatum</i>	<i>Clerodendrum tomentosum</i> var. <i>lanceolatum</i>
<i>Codonocarpus cotinifolius</i>	<i>Codonocarpus cotinifolius</i>

Confirmed	Reconciled Taxon
<i>Convolvulus ? clementii</i>	<i>Convolvulus ? clementii</i>
<i>Convolvulus ? remotus</i>	<i>Convolvulus ? remotus</i>
<i>Corchorus lasiocarpus</i>	<i>Corchorus lasiocarpus</i>
<i>Corchorus lasiocarpus</i> subsp. ? <i>lasiocarpus</i>	<i>Corchorus lasiocarpus</i>
<i>Corchorus lasiocarpus</i> subsp. ? <i>parvus</i>	<i>Corchorus lasiocarpus</i>
<i>Corchorus lasiocarpus</i> subsp. <i>parvus</i>	<i>Corchorus lasiocarpus</i>
<i>Corchorus tridens</i>	<i>Corchorus tridens</i>
<i>Corymbia candida</i> subsp. <i>dipsodes</i>	<i>Corymbia candida</i> subsp. <i>dipsodes</i>
<i>Corymbia deserticola</i> subsp. <i>deserticola</i>	<i>Corymbia deserticola</i> subsp. <i>deserticola</i>
<i>Corymbia ferritcola</i>	<i>Corymbia ferritcola</i>
<i>Corymbia hamersleyana</i>	<i>Corymbia hamersleyana</i>
<i>Crotalaria medicaginea</i> var. <i>neglecta</i>	<i>Crotalaria medicaginea</i> var. <i>neglecta</i>
<i>Cryptandra monticola</i>	<i>Cryptandra monticola</i>
<i>Cucumis variabilis</i>	<i>Cucumis variabilis</i>
<i>Cullen pogonocarpum</i>	<i>Cullen pogonocarpum</i>
<i>Cuscuta victoriana</i>	<i>Cuscuta victoriana</i>
<i>Cymbopogon ambiguus</i>	<i>Cymbopogon ambiguus</i>
<i>Cymbopogon obtectus</i>	<i>Cymbopogon obtectus</i>
<i>Cynanchum floribundum</i>	<i>Cynanchum floribundum</i>
<i>Cynanchum viminalis</i> subsp. <i>australe</i>	<i>Cynanchum viminalis</i> subsp. <i>australe</i>
<i>Cyperus hesperius</i>	<i>Cyperus hesperius</i>
<i>Cyperus iria</i>	<i>Cyperus iria</i>
<i>Cyperus vaginatus</i>	<i>Cyperus vaginatus</i>
<i>Dactyloctenium radulans</i>	<i>Dactyloctenium radulans</i>
<i>Dampiera candidans</i>	<i>Dampiera candidans</i>
<i>Dichanthium sericeum</i>	<i>Dichanthium sericeum</i>
<i>Dicladanthera forrestii</i>	<i>Dicladanthera forrestii</i>
<i>Dicrastylis cordifolia</i>	<i>Dicrastylis cordifolia</i>
<i>Digitaria brownii</i>	<i>Digitaria brownii</i>
<i>Dipteracanthus australasicus</i> subsp. <i>australasicus</i>	<i>Dipteracanthus australasicus</i> subsp. <i>australasicus</i>
<i>Dodonaea coriacea</i>	<i>Dodonaea coriacea</i>
<i>Dodonaea lanceolata</i> var. <i>lanceolata</i>	<i>Dodonaea lanceolata</i> var. <i>lanceolata</i>
<i>Dodonaea pachyneura</i>	<i>Dodonaea pachyneura</i>
<i>Duperreya commixta</i>	<i>Duperreya commixta</i>
<i>Dysphania rhadinostachya</i> subsp. <i>rhadinostachya</i>	<i>Dysphania rhadinostachya</i> subsp. <i>rhadinostachya</i>
<i>Enchylaena tomentosa</i>	<i>Enchylaena tomentosa</i>
<i>Enneapogon caerulescens</i>	<i>Enneapogon caerulescens</i>
<i>Enneapogon lindleyanus</i>	<i>Enneapogon lindleyanus</i>
<i>Enneapogon polyphyllus</i>	<i>Enneapogon polyphyllus</i>
<i>Enneapogon robustissimus</i>	<i>Enneapogon robustissimus</i>
<i>Enteropogon ramosus</i>	<i>Enteropogon ramosus</i>
<i>Eragrostis ? leptocarpa</i>	<i>Eragrostis ? leptocarpa</i>

Confirmed	Reconciled Taxon
<i>Eragrostis cumingii</i>	<i>Eragrostis cumingii</i>
<i>Eragrostis desertorum</i>	<i>Eragrostis desertorum</i>
<i>Eragrostis eriopoda</i>	<i>Eragrostis eriopoda</i>
<i>Eragrostis leptocarpa</i>	<i>Eragrostis leptocarpa</i>
<i>Eragrostis tenellula</i>	<i>Eragrostis tenellula</i>
<i>Eremophila ?lachnocalyx</i>	<i>Eremophila ? lachnocalyx</i>
<i>Eremophila canaliculata</i>	<i>Eremophila canaliculata</i>
<i>Eremophila cuneifolia</i>	<i>Eremophila cuneifolia</i>
<i>Eremophila exilifolia</i>	<i>Eremophila exilifolia</i>
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	<i>Eremophila forrestii</i>
<i>Eremophila forrestii</i> subsp. <i>?forrestii</i>	<i>Eremophila forrestii</i>
<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	<i>Eremophila fraseri</i> subsp. <i>fraseri</i>
<i>Eremophila lachnocalyx</i>	<i>Eremophila lachnocalyx</i>
<i>Eremophila lanceolata</i>	<i>Eremophila lanceolata</i>
<i>Eremophila latrobei</i> subsp. <i>filiformis</i>	<i>Eremophila latrobei</i>
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	<i>Eremophila latrobei</i>
<i>Eremophila longifolia</i>	<i>Eremophila longifolia</i>
<i>Eremophila platycalyx</i> subsp. <i>?</i>	<i>Eremophila platycalyx</i>
<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136)	<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136)
<i>Eriachne ?lanata</i>	<i>Eriachne lanata</i>
<i>Eriachne aristidea</i>	<i>Eriachne aristidea</i>
<i>Eriachne ciliata</i>	<i>Eriachne ciliata</i>
<i>Eriachne lanata</i>	<i>Eriachne lanata</i>
<i>Eriachne mucronata</i>	<i>Eriachne mucronata</i>
<i>Eriachne pulchella</i>	<i>Eriachne pulchella</i>
<i>Eriachne pulchella</i> subsp. <i>dominii</i>	<i>Eriachne pulchella</i>
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	<i>Eriachne pulchella</i>
<i>Eucalyptus gamophylla</i>	<i>Eucalyptus gamophylla</i>
<i>Eucalyptus kingsmillii</i>	<i>Eucalyptus kingsmillii</i>
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>
<i>Eucalyptus victrix</i>	<i>Eucalyptus victrix</i>
<i>Eucalyptus xerothermica</i>	<i>Eucalyptus xerothermica</i>
<i>Eulalia aurea</i>	<i>Eulalia aurea</i>
<i>Euphorbia ?biconvexa</i>	<i>Euphorbia biconvexa</i>
<i>Euphorbia ?careyi</i>	<i>Euphorbia ? careyi</i>
<i>Euphorbia australis</i>	<i>Euphorbia australis</i>
<i>Euphorbia australis</i> var. <i>subtomentosa</i>	<i>Euphorbia australis</i>
<i>Euphorbia biconvexa</i>	<i>Euphorbia biconvexa</i>
<i>Euphorbia coghlanii</i>	<i>Euphorbia coghlanii</i>
<i>Euphorbia drummondii</i>	<i>Euphorbia drummondii</i>
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>
<i>Evolvulus alsinoides</i> var. <i>decumbens</i>	<i>Evolvulus alsinoides</i>
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	<i>Evolvulus alsinoides</i>

Confirmed	Reconciled Taxon
<i>Ficus brachypoda</i>	<i>Ficus brachypoda</i>
<i>Ficus platypoda</i>	<i>Ficus platypoda</i>
<i>Fimbristylis ?dichotoma</i>	<i>Fimbristylis dichotoma</i>
<i>Fimbristylis dichotoma</i>	<i>Fimbristylis dichotoma</i>
<i>Fimbristylis simulans</i>	<i>Fimbristylis simulans</i>
* <i>Flaveria trinervia</i>	Removed
<i>Glycine ?canescens</i>	<i>Glycine canescens</i>
<i>Glycine canescens</i>	<i>Glycine canescens</i>
<i>Gompholobium oreophilum</i>	<i>Gompholobium oreophilum</i>
<i>Gomphrena cunninghamii</i>	<i>Gomphrena cunninghamii</i>
<i>Gomphrena kanisii</i>	<i>Gomphrena kanisii</i>
<i>Goodenia ?stobbsiana</i>	<i>Goodenia stobbsiana</i>
<i>Goodenia cusackiana</i>	<i>Goodenia cusackiana</i>
<i>Goodenia microptera</i>	<i>Goodenia microptera</i>
<i>Goodenia muelleriana</i>	<i>Goodenia muelleriana</i>
<i>Goodenia nuda</i>	<i>Goodenia nuda</i>
<i>Goodenia stellata</i>	<i>Goodenia stellata</i>
<i>Goodenia stobbsiana</i>	<i>Goodenia stobbsiana</i>
<i>Goodenia triodiophila</i>	<i>Goodenia triodiophila</i>
<i>Goodenia vilmoriniae</i>	<i>Goodenia vilmoriniae</i>
<i>Gossypium australe</i>	<i>Gossypium australe</i>
<i>Gossypium robinsonii</i>	<i>Gossypium robinsonii</i>
<i>Grevillea berryana</i>	<i>Grevillea berryana</i>
<i>Grevillea wickhamii</i>	<i>Grevillea wickhamii</i>
<i>Hakea chordophylla</i>	<i>Hakea chordophylla</i>
<i>Hakea lorea</i> subsp. <i>lorea</i>	<i>Hakea lorea</i> subsp. <i>lorea</i>
<i>Haloragis gossei</i> var. <i>gossei</i>	<i>Haloragis gossei</i> var. <i>gossei</i>
<i>Heliotropium cunninghamii</i>	<i>Heliotropium cunninghamii</i>
<i>Heliotropium heteranthum</i>	<i>Heliotropium heteranthum</i>
<i>Heliotropium inexplicitum</i>	<i>Heliotropium inexplicitum</i>
<i>Heliotropium pachyphyllum</i>	<i>Heliotropium pachyphyllum</i>
<i>Heliotropium tenuifolium</i>	<i>Heliotropium tenuifolium</i>
<i>Hibiscus ?burtonii</i>	<i>Hibiscus burtonii</i>
<i>Hibiscus burtonii</i>	<i>Hibiscus burtonii</i>
<i>Hibiscus coatesii</i>	<i>Hibiscus coatesii</i>
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>
<i>Hybanthus aurantiacus</i>	<i>Hybanthus aurantiacus</i>
<i>Indigofera georgei</i>	<i>Indigofera georgei</i>
<i>Indigofera gilesii</i>	<i>Indigofera gilesii</i>
<i>Indigofera linifolia</i>	<i>Indigofera linifolia</i>
<i>Indigofera linnaei</i>	<i>Indigofera linnaei</i>
<i>Indigofera monophylla</i>	<i>Indigofera monophylla</i>
<i>Indigofera rugosa</i>	<i>Indigofera rugosa</i>



Confirmed	Reconciled Taxon
<i>Ipomoea plebia</i>	<i>Ipomoea plebia</i>
<i>Iseilema dolichotrichum</i>	<i>Iseilema dolichotrichum</i>
<i>Isotropis parviflora</i>	<i>Isotropis parviflora</i>
<i>Isotropis</i> sp. Arid zone (G. Byrne 2775)	<i>Isotropis</i> sp. Arid zone (G. Byrne 2775)
<i>Jasminum didymum</i> subsp. <i>lineare</i>	<i>Jasminum didymum</i> subsp. <i>lineare</i>
? <i>Jasminum didymum</i> subsp. <i>lineare</i>	<i>Jasminum didymum</i> subsp. <i>lineare</i>
<i>Lamarchea sulcata</i>	<i>Lamarchea sulcata</i>
<i>Lepidium</i> ? <i>pholidogynum</i>	<i>Lepidium</i> ? <i>pholidogynum</i>
<i>Maireana</i> ? <i>georgei</i>	<i>Maireana</i> ? <i>georgei</i>
<i>Maireana</i> ? <i>triptera</i>	<i>Maireana</i> ? <i>triptera</i>
<i>Maireana</i> ? <i>villosa</i>	<i>Maireana</i> ? <i>villosa</i>
<i>Maireana georgei</i>	<i>Maireana georgei</i>
<i>Maireana villosa</i>	<i>Maireana villosa</i>
* <i>Malvastrum americanum</i>	Removed
<i>Marsdenia australis</i>	<i>Marsdenia australis</i>
<i>Marsilea hirsuta</i>	<i>Marsilea hirsuta</i>
<i>Melaleuca glomerata</i>	<i>Melaleuca glomerata</i>
<i>Melhania oblongifolia</i>	<i>Melhania oblongifolia</i>
<i>Mirbelia viminalis</i>	<i>Mirbelia viminalis</i>
<i>Nicotiana benthamiana</i>	<i>Nicotiana benthamiana</i>
<i>Nicotiana occidentalis</i> subsp. <i>obliqua</i>	<i>Nicotiana occidentalis</i> subsp. <i>obliqua</i>
<i>Notoleptopus decaisnei</i>	<i>Notoleptopus decaisnei</i>
<i>Notoleptopus decaisnei</i> var. <i>orbicularis</i>	<i>Notoleptopus decaisnei</i>
<i>Oldenlandia crouchiana</i>	<i>Oldenlandia crouchiana</i>
<i>Olearia stuartii</i>	<i>Olearia stuartii</i>
<i>Operculina aequisejala</i>	<i>Operculina aequisejala</i>
<i>Panicum decompositum</i>	<i>Panicum decompositum</i>
<i>Panicum effusum</i>	<i>Panicum effusum</i>
<i>Panicum laevinode</i>	<i>Panicum laevinode</i>
<i>Paraneurachne muelleri</i>	<i>Paraneurachne muelleri</i>
<i>Paspalidium</i> ? <i>clementii</i>	<i>Paspalidium clementii</i>
<i>Paspalidium clementii</i>	<i>Paspalidium clementii</i>
<i>Peripleura arida</i>	<i>Peripleura arida</i>
<i>Perotis rara</i>	<i>Perotis rara</i>
<i>Petalostylis labicheoides</i>	<i>Petalostylis labicheoides</i>
<i>Phyllanthus erwinii</i>	<i>Phyllanthus erwinii</i>
<i>Phyllanthus maderaspatensis</i>	<i>Phyllanthus maderaspatensis</i>
<i>Pluchea dentex</i>	<i>Pluchea dentex</i>
<i>Pluchea rubelliflora</i>	<i>Pluchea rubelliflora</i>
<i>Plumbago zeylanica</i>	<i>Plumbago zeylanica</i>
<i>Polycarpaea corymbosa</i>	<i>Polycarpaea corymbosa</i>
<i>Polycarpaea longiflora</i>	<i>Polycarpaea longiflora</i>
<i>Polycarpea corymbosa</i>	<i>Polycarpea corymbosa</i>

Confirmed	Reconciled Taxon
<i>Polygala glaucifolia</i>	<i>Polygala glaucifolia</i>
<i>Polygala isingii</i>	<i>Polygala isingii</i>
<i>Portulaca filifolia</i>	<i>Portulaca filifolia</i>
<i>Portulaca oleracea</i>	<i>Portulaca oleracea</i>
* <i>Portulaca pilosa</i>	Removed
<i>Prostanthera ?albiflora</i>	<i>Prostanthera albiflora</i>
<i>Psydrax latifolia</i>	<i>Psydrax latifolia</i>
<i>Psydrax suaveolens</i>	<i>Psydrax suaveolens</i>
<i>Pterocaulon ?serrulatum</i> var. <i>velutinum</i>	<i>Pterocaulon serrulatum</i> var. <i>velutinum</i>
<i>Pterocaulon sphacelatum</i>	<i>Pterocaulon sphacelatum</i>
<i>Ptilotus ?calostachyus</i>	<i>Ptilotus calostachyus</i>
<i>Ptilotus aevroides</i>	<i>Ptilotus aevroides</i>
<i>Ptilotus astrolasius</i>	<i>Ptilotus astrolasius</i>
<i>Ptilotus auriculifolius</i>	<i>Ptilotus auriculifolius</i>
<i>Ptilotus calostachyus</i>	<i>Ptilotus calostachyus</i>
<i>Ptilotus exaltatus</i>	<i>Ptilotus exaltatus</i>
<i>Ptilotus fusiformis</i>	<i>Ptilotus fusiformis</i>
<i>Ptilotus gaudichaudii</i>	<i>Ptilotus gaudichaudii</i>
<i>Ptilotus helipteroides</i>	<i>Ptilotus helipteroides</i>
<i>Ptilotus obovatus</i>	<i>Ptilotus obovatus</i>
<i>Ptilotus polystachyus</i>	<i>Ptilotus polystachyus</i>
<i>Ptilotus rotundifolius</i>	<i>Ptilotus rotundifolius</i>
<i>Ptilotus schwartzii</i>	<i>Ptilotus schwartzii</i>
<i>Rhagodia eremaea</i>	<i>Rhagodia eremaea</i>
<i>Rhynchosia minima</i>	<i>Rhynchosia minima</i>
* <i>Rumex vesicarius</i>	Removed
<i>Salsola australis</i>	<i>Salsola australis</i>
<i>Santalum lanceolatum</i>	<i>Santalum lanceolatum</i>
<i>Santalum spicatum</i>	<i>Santalum spicatum</i>
<i>Scaevola ?acacioides</i>	<i>Scaevola acacioides</i>
<i>Scaevola amblyanthera</i> var. <i>?centralis</i>	<i>Scaevola amblyanthera</i> var. <i>centralis</i>
<i>Scaevola amblyanthera</i> var. <i>centralis</i>	<i>Scaevola amblyanthera</i> var. <i>centralis</i>
<i>Scaevola browniana</i> subsp. <i>browniana</i>	<i>Scaevola browniana</i> subsp. <i>browniana</i>
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>
<i>Scaevola spinescens</i>	<i>Scaevola spinescens</i>
<i>Schizachyrium fragile</i>	<i>Schizachyrium fragile</i>
<i>Schoenoplectus sublatus</i>	<i>Schoenoplectus sublatus</i>
<i>Sclerolaena cornisheana</i>	<i>Sclerolaena cornisheana</i>
<i>Senna ?artemisioides</i> subsp. <i>oligophylla</i>	<i>Senna artemisioides</i>
<i>Senna ?hamersleyensis</i>	<i>Senna hamersleyensis</i>
<i>Senna artemisioides</i> subsp. <i>× artemisioides</i>	<i>Senna artemisioides</i>
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	<i>Senna artemisioides</i>
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	<i>Senna artemisioides</i>

Confirmed	Reconciled Taxon
<i>Senna glaucifolia</i>	<i>Senna glaucifolia</i>
<i>Senna glutinosa</i> subsp. × <i>luerssenii</i>	<i>Senna glutinosa</i>
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	<i>Senna glutinosa</i>
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	<i>Senna glutinosa</i>
<i>Senna notabilis</i>	<i>Senna notabilis</i>
<i>Senna venusta</i>	<i>Senna venusta</i>
<i>Seringia elliptica</i>	<i>Seringia elliptica</i>
<i>Seringia nephrosperma</i>	<i>Seringia nephrosperma</i>
<i>Setaria verticillata</i>	<i>Setaria verticillata</i>
<i>Sida</i> ? <i>ectogama</i>	<i>Sida ectogama</i>
<i>Sida echinocarpa</i>	<i>Sida echinocarpa</i>
<i>Sida fibulifera</i>	<i>Sida fibulifera</i>
<i>Sida</i> sp. <i>Excedentifolia</i> (J. L. Egan 1925)	<i>Sida</i> sp. <i>Excedentifolia</i> (J. L. Egan 1925)
<i>Sida</i> sp. <i>Shovelanna Hill</i> (S. van Leeuwen 3842)	<i>Sida</i> sp. <i>Shovelanna Hill</i> (S. van Leeuwen 3842)
<i>Solanum</i> ? <i>horridum</i>	<i>Solanum horridum</i>
<i>Solanum cleistogamum</i>	<i>Solanum cleistogamum</i>
<i>Solanum horridum</i>	<i>Solanum horridum</i>
<i>Solanum lasiophyllum</i>	<i>Solanum lasiophyllum</i>
* <i>Solanum nigrum</i>	Removed
* <i>Sonchus oleraceus</i>	Removed
<i>Spermacoce brachystema</i>	<i>Spermacoce brachystema</i>
<i>Sporobolus australasicus</i>	<i>Sporobolus australasicus</i>
<i>Stackhousia</i> sp. <i>swollen gynophore</i> (W.R. Barker 2041)	<i>Stackhousia</i> sp. <i>swollen gynophore</i> (W.R. Barker 2041)
<i>Stemodia</i> ? <i>viscosa</i>	<i>Stemodia viscosa</i>
<i>Stemodia grossa</i>	<i>Stemodia grossa</i>
<i>Stemodia viscosa</i>	<i>Stemodia viscosa</i>
<i>Streptoglossa</i> ? <i>cylindriceps</i>	<i>Streptoglossa cylindriceps</i>
<i>Swainsona decurrens</i>	<i>Swainsona decurrens</i>
<i>Tephrosia</i> ? <i>rosea</i> var. <i>Fortescue creeks</i> (M.I.H. Brooker 2186)	<i>Tephrosia rosea</i>
<i>Tephrosia</i> ? sp. <i>Newman</i> (A. A. Mitchell PRP 29)	<i>Tephrosia</i> sp. <i>Newman</i> (A. A. Mitchell PRP 29)
<i>Tephrosia</i> ? sp. <i>NW Eremaean</i> (S. van Leeuwen et al. PBS 0356)	<i>Tephrosia</i> sp. <i>NW Eremaean</i> (S. van Leeuwen et al. PBS 0356)
<i>Tephrosia densa</i>	<i>Tephrosia densa</i>
<i>Tephrosia rosea</i> var. <i>Fortescue creeks</i> (M.I.H. Brooker 2186)	<i>Tephrosia rosea</i>
<i>Tephrosia</i> sp. <i>Newman</i> (A. A. Mitchell PRP 29)	<i>Tephrosia</i> sp. <i>Newman</i> (A. A. Mitchell PRP 29)
<i>Themeda triandra</i>	<i>Themeda triandra</i>
<i>Tinospora smilacina</i>	<i>Tinospora smilacina</i>
<i>Trachymene oleracea</i>	<i>Trachymene oleracea</i>
<i>Tragus australianus</i>	<i>Tragus australianus</i>
<i>Trianthema glossostigmum</i>	<i>Trianthema glossostigmum</i>
<i>Trianthema pilosum</i>	<i>Trianthema pilosum</i>
<i>Trianthema triquetrum</i>	<i>Trianthema triquetrum</i>

Confirmed	Reconciled Taxon
<i>Tribulus hirsutus</i>	<i>Tribulus hirsutus</i>
<i>Tribulus occidentalis</i>	<i>Tribulus occidentalis</i>
<i>Tribulus platypterus</i>	<i>Tribulus platypterus</i>
<i>Tribulus suberosus</i>	<i>Tribulus suberosus</i>
<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>
<i>Triodia angusta</i>	<i>Triodia angusta</i>
<i>Triodia basedowii</i>	<i>Triodia basedowii</i>
<i>Triodia pungens</i>	<i>Triodia pungens</i>
<i>Triodia vanleeuwenii</i>	<i>Triodia vanleeuwenii</i>
<i>Triodia wiseana</i>	<i>Triodia wiseana</i>
<i>Triumfetta clementii</i>	<i>Triumfetta clementii</i>
<i>Triumfetta maconochieana</i>	<i>Triumfetta maconochieana</i>
<i>Vigna lanceolata</i>	<i>Vigna lanceolata</i>
<i>Vigna</i> sp. Hamersley Clay (A.A. Mitchell PRP 113)	<i>Vigna</i> sp. Hamersley Clay (A.A. Mitchell PRP 113)
<i>Vincetoxicum lineare</i>	<i>Vincetoxicum lineare</i>
<i>Vittadinia arida</i>	<i>Vittadinia arida</i>
<i>Waltheria virgata</i>	<i>Waltheria virgata</i>



## Appendix F: Key Findings from Literature Review

Survey Details	Methods	Results	Significant Findings	Limitations
HGM (1997) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Targeted Searching Survey <b>Location:</b> Adjacent north <b>Timing:</b> November 1996 and January 1997	<ul style="list-style-type: none"> <li>Targeted Searching Survey</li> </ul>	<ul style="list-style-type: none"> <li>No introduced taxa</li> </ul>	<ul style="list-style-type: none"> <li>One Priority 4 flora taxon:               <ul style="list-style-type: none"> <li><i>Lepidium catapycnon</i><sup>5</sup></li> </ul> </li> <li>3,184 live and 1,048 dead individuals of the Priority 4 flora taxon <i>Lepidium catapycnon</i></li> </ul>	<ul style="list-style-type: none"> <li>Timing of Survey (Poor season)</li> </ul>
ENV (1999a) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Targeted Searching Survey <b>Location:</b> Adjacent north <b>Timing:</b> June to August 1999	<ul style="list-style-type: none"> <li>Targeted Searching Survey</li> </ul>	<ul style="list-style-type: none"> <li>No introduced taxa</li> </ul>	<ul style="list-style-type: none"> <li>One Priority 4 flora taxon:               <ul style="list-style-type: none"> <li><i>Lepidium catapycnon</i></li> </ul> </li> <li>36 sub-populations of <i>Lepidium catapycnon</i> (P4)</li> <li>Estimated count of 6,011 individuals of <i>Lepidium catapycnon</i> (P4)</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
ENV (1999b) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Targeted Searching Survey <b>Location:</b> Adjacent and surrounding <b>Timing:</b> June to November 1999	<ul style="list-style-type: none"> <li>Targeted Searching Survey</li> </ul>	<ul style="list-style-type: none"> <li>No introduced taxa</li> </ul>	<ul style="list-style-type: none"> <li>One Priority 4 flora taxon:               <ul style="list-style-type: none"> <li><i>Lepidium catapycnon</i></li> </ul> </li> <li>8 new populations of <i>Lepidium catapycnon</i> (P4)</li> <li>Estimated count of 7,493 individuals of <i>Lepidium catapycnon</i> (P4)</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
HGM (1999) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> Adjacent north <b>Timing:</b> May 1999	<ul style="list-style-type: none"> <li>Targeted Searching Survey</li> </ul>	<ul style="list-style-type: none"> <li>No introduced taxa</li> </ul>	<ul style="list-style-type: none"> <li>One Priority 4 flora taxon:               <ul style="list-style-type: none"> <li><i>Lepidium catapycnon</i><sup>6</sup></li> </ul> </li> <li>Estimated count of 9523 individuals of <i>Lepidium catapycnon</i> (P4) at Mt Whaleback and 920 individuals at Weeli Wolli</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
Halpern Glick Maunsell (1999) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> Partially overlaps Study Area <b>Timing:</b> August 1999	<ul style="list-style-type: none"> <li>10 detailed floristic sites (quadrats)</li> <li>Opportunistic collections</li> </ul>	<ul style="list-style-type: none"> <li>206 plant taxa</li> <li>44 families</li> <li>101 genera</li> <li>Four introduced taxa</li> <li>Five vegetation associations</li> </ul>	<ul style="list-style-type: none"> <li>One priority listed flora taxon:               <ul style="list-style-type: none"> <li><i>Triumfetta leptacantha</i><sup>7</sup></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Timing of Survey (Poor season)</li> </ul>

<sup>5</sup> *Lepidium catapycnon* was previously listed as a Threatened flora species. It is now listed as Priority 4.

<sup>6</sup> *Lepidium catapycnon* was previously listed as a Threatened flora species. It is now listed as Priority 4

<sup>7</sup> *Triumfetta leptacantha* was listed as a Priority 3 species at the time of the survey but is no longer listed as a Priority flora species.

Survey Details	Methods	Results	Significant Findings	Limitations
Biota (2001) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Biological Assessment <b>Location:</b> Adjacent north <b>Timing:</b> 28 September – 8 October 2000	<ul style="list-style-type: none"> <li>60 detailed floristic sites (quadrats)</li> <li>Targeted Searches</li> </ul>	<ul style="list-style-type: none"> <li>380 plant taxa</li> <li>98 families</li> <li>168 genera</li> <li>11 introduced taxa</li> <li>27 Vegetation associations</li> <li>4 broad landform formations</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>Timing of survey (Poor season)</li> <li>Recently burnt</li> <li>Lack of aerial photography for portion of the Study Area</li> </ul>
Ecologia (2004) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Targeted Searching <b>Location:</b> Adjacent north <b>Timing:</b> 22 June 2004	<ul style="list-style-type: none"> <li>Targeted Searching Survey</li> </ul>	<ul style="list-style-type: none"> <li>Four introduced taxa</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>Timing of Survey (Poor season)</li> </ul>
Ecologia (2005) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> Partially overlaps Study Area <b>Timing:</b> 25 – 29 May 2005	<ul style="list-style-type: none"> <li>Seven detailed floristic sites (quadrats)</li> <li>Targeted searching</li> </ul>	<ul style="list-style-type: none"> <li>91 plant taxa</li> <li>28 families</li> <li>47 genera</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
Ecologia (2006a) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Targeted Survey <b>Location:</b> ~ 7 km northeast <b>Timing:</b> 9 January 2006	<ul style="list-style-type: none"> <li>Targeted Searching Survey</li> </ul>	<ul style="list-style-type: none"> <li>64 plant taxa</li> <li>One introduced taxon</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
Ecologia (2006b) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Targeted Survey <b>Location:</b> ~ 7 km northeast <b>Timing:</b> 18-19 April 2006	<ul style="list-style-type: none"> <li>Targeted Searching Survey</li> </ul>	<ul style="list-style-type: none"> <li>122 plant taxa</li> <li>30 families</li> <li>58 genera</li> <li>Three introduced taxa</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
Ecologia (2006c) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> ~ 2 km northeast <b>Timing:</b> 29 May – 4 June 2006	<ul style="list-style-type: none"> <li>36 detailed floristic sites (quadrats; 50x50m)</li> </ul>	<ul style="list-style-type: none"> <li>152 plant taxa</li> <li>35 families</li> <li>79 genera</li> <li>Five broad floristic formations</li> <li>Three introduced taxa</li> </ul>	<ul style="list-style-type: none"> <li>One priority listed flora taxon:               <ul style="list-style-type: none"> <li><i>Calotis latiuscula</i><sup>8</sup></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Timing of Survey (end of dry season)</li> </ul>

<sup>8</sup> *Calotis latiuscula* was listed as a Priority 3 species at the time of the survey but is no longer listed as a Priority flora species.

Survey Details	Methods	Results	Significant Findings	Limitations
ENV (2006a) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> Adjacent north <b>Timing:</b> 2 – 13 August 2006	<ul style="list-style-type: none"> <li>81 detailed floristic sites (quadrats) and relevé plots</li> <li>Targeted Searching</li> </ul>	<ul style="list-style-type: none"> <li>243 plant taxa</li> <li>42 families</li> <li>117 genera</li> <li>Seven introduced taxa</li> <li>Nine broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>One priority listed flora taxon:               <ul style="list-style-type: none"> <li><i>Lepidium catapycnon</i> (P4)<sup>9</sup></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
ENV (2006b) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> ~ 12 km northeast <b>Timing:</b> 25 – 29 September 2006	<ul style="list-style-type: none"> <li>Nine detailed floristic sites (quadrats) and relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>117 plant taxa</li> <li>25 families</li> <li>59 genera</li> <li>Seven introduced taxa</li> <li>Nine vegetation associations</li> <li>Two broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
<b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> Adjacent north <b>Timing:</b> 25 – 29 September 2006	<ul style="list-style-type: none"> <li>Ten detailed floristic sites (quadrats) and relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>168 plant taxa</li> <li>39 families</li> <li>99 genera</li> <li>Eight introduced taxa</li> <li>11 vegetation associations</li> <li>Six broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
ENV (2006d) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> Adjacent north <b>Timing:</b> 16– 20 October 2006	<ul style="list-style-type: none"> <li>41 detailed floristic sites (quadrats; 50x50m)</li> <li>Four relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>285 plant taxa</li> <li>47 families</li> <li>115 genera</li> <li>13 introduced taxa</li> <li>20 broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>One Priority listed taxon:               <ul style="list-style-type: none"> <li><i>Acacia kenneallyi</i> (P3)<sup>10</sup></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> <li>Misidentification on flora taxa</li> </ul>

<sup>9</sup> *Lepidium catapycnon* is no longer listed as a Threatened flora species. It is now listed as Priority 4.

<sup>10</sup> *Acacia kenneallyi* is restricted to the northern Kimberley region of Western Australia and the Whaleback record was a misidentification.



Survey Details	Methods	Results	Significant Findings	Limitations
<p>GHD (2008)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Detailed Flora and Vegetation and Level 1 Fauna Survey  <b>Location:</b> ~ 16 km northeast  <b>Timing:</b> November 2008</p>	<ul style="list-style-type: none"> <li>• 119 detailed floristic sites (quadrats; 50x50m)</li> <li>• 22 relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>• 321 plant taxa</li> <li>• 52 families</li> <li>• 14 introduced taxa</li> <li>• Nine vegetation associations</li> </ul>	<ul style="list-style-type: none"> <li>• Two priority listed flora taxa: <ul style="list-style-type: none"> <li>○ <i>Brunonia</i> sp. Long hairs (D.E. Symon 2440)<sup>11</sup></li> <li>○ <i>Triumfetta leptacantha</i><sup>12</sup></li> </ul> </li> <li>• Four range extensions: <ul style="list-style-type: none"> <li>○ <i>Fimbristylis leucocolea</i></li> <li>○ <i>Acacia cuthbertsonii</i> subsp. <i>cuthbertsonii</i></li> <li>○ <i>Acrachne racemose</i></li> <li>○ *<i>Pennisetum setaceum</i>.</li> </ul> </li> <li>• One Weed of National Significance: <ul style="list-style-type: none"> <li>○ *<i>Tamarix aphylla</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• No significant limitations</li> </ul>
<p>Biologic (2009)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Detailed Flora and Vegetation Survey  <b>Location:</b> Adjacent north  <b>Timing:</b> 6– 16 July 2009</p>	<ul style="list-style-type: none"> <li>• Detailed floristic sites (quadrats)</li> </ul>	<ul style="list-style-type: none"> <li>• 319 plant taxa</li> <li>• 54 families</li> <li>• 148 genera</li> <li>• 14 introduced taxa</li> <li>• 10 vegetation associations</li> </ul>	<ul style="list-style-type: none"> <li>• One Priority listed taxon: <ul style="list-style-type: none"> <li>• <i>Goodenia nuda</i> (P4)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Vegetation condition due to mining activities</li> </ul>
<p>ENV (2009b)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Detailed Flora and Vegetation Survey  <b>Location:</b> ~ 8 km northeast  <b>Timing:</b> 5 – 15 May 2009</p>	<ul style="list-style-type: none"> <li>• 151 detailed floristic sites (quadrats)</li> <li>• 29 relevé plots</li> <li>• Targeted searching</li> </ul>	<ul style="list-style-type: none"> <li>• 501 plant taxa</li> <li>• 58 families</li> <li>• 172 genera</li> <li>• 14 introduced taxa</li> <li>• 30 vegetation associations</li> </ul>	<ul style="list-style-type: none"> <li>• One Priority listed taxon: <ul style="list-style-type: none"> <li>○ <i>Goodenia nuda</i> (P4)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Timing of survey (Poor season)</li> </ul>
<p>ENV (2009c)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Detailed Flora and Vegetation Survey  <b>Location:</b> Adjacent North  <b>Timing:</b> 21 – 22 April 2009</p>	<ul style="list-style-type: none"> <li>• Seven detailed floristic sites (quadrats)</li> <li>• Three relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>• 124 plant taxa</li> <li>• 28 families</li> <li>• 65 genera</li> <li>• Five introduced taxa</li> <li>• Seven vegetation associations</li> </ul>	<ul style="list-style-type: none"> <li>• No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>• No significant limitations</li> </ul>

<sup>11</sup> *Brunonia* sp. Long hairs (D.E. Symon 2440) was listed as a Priority 1 species at the time of the survey but is no longer listed as a Priority flora species.

<sup>12</sup> *Triumfetta leptacantha* was listed as a Priority 3 species at the time of the survey but is no longer listed as a Priority flora species

Survey Details	Methods	Results	Significant Findings	Limitations
ENV (2009a) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Reconnaissance Flora and Vegetation Survey <b>Location:</b> ~ 18 km northeast <b>Timing:</b> 14 July 2009	<ul style="list-style-type: none"> <li>Four detailed floristic sites (quadrats)</li> <li>One relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>80 plant taxa</li> <li>24 families</li> <li>53 genera</li> <li>Six introduced taxa</li> <li>Three vegetation associations</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
Onshore and Biologic (2009) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation and Level 1 Fauna Survey <b>Location:</b> Partially overlaps Study Area <b>Timing:</b> 22-25 June 2009	<ul style="list-style-type: none"> <li>30 detailed floristic sites (quadrats; 50x50m)</li> <li>Relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>201 plant taxa</li> <li>40 families</li> <li>100 genera</li> <li>17 introduced taxa</li> <li>Nine vegetation associations</li> <li>Seven broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>Timing of survey (Poor season)</li> </ul>
Astron (2010) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> Adjacent northeast <b>Timing:</b> 12 March 2010	<ul style="list-style-type: none"> <li>Five detailed floristic sites (quadrats; 50x50m)</li> <li>Two relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>71 plant taxa</li> <li>18 families</li> <li>38 genera</li> <li>Two introduced taxa</li> <li>Three vegetation associations</li> <li>One broad floristic formation</li> </ul>	<ul style="list-style-type: none"> <li>One Priority listed flora taxon: <i>Tephrosia</i> sp. Pilbara Ranges (S. van Leeuwen 4246)<sup>13</sup></li> </ul>	<ul style="list-style-type: none"> <li>Timing of Survey (Poor season)</li> </ul>
ENV (2010) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> Partially overlaps Study Area <b>Timing:</b> 11 – 14 December 2009	<ul style="list-style-type: none"> <li>28 detailed floristic sites (quadrats)</li> <li>One relevé plot</li> </ul>	<ul style="list-style-type: none"> <li>189 plant taxa</li> <li>37 families</li> <li>86 genera</li> <li>Three introduced taxa</li> <li>10 vegetation associations</li> </ul>	<ul style="list-style-type: none"> <li>One Priority listed taxon:               <ul style="list-style-type: none"> <li><i>Tephrosia</i> sp. Pilbara Ranges (S. van Leeuwen 4246)<sup>13</sup></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Timing of survey (Poor season)</li> </ul>
Eco Logical (2011) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Reconnaissance Flora and Vegetation and Level 1 Fauna Survey <b>Location:</b> ~ 6 km northeast <b>Timing:</b> 15-17 August 2011	<ul style="list-style-type: none"> <li>Relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>33 plant taxa</li> <li>Six families</li> <li>15 genera</li> <li>Three introduced taxa</li> <li>14 vegetation associations</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>

<sup>13</sup> *Tephrosia* sp. Pilbara Ranges (S. van Leeuwen 4246) was listed as a Priority 3 species at the time of the survey, but this species is not current and is more recently known as *Tephrosia oxalidea* which is not listed as a Priority flora species.

Survey Details	Methods	Results	Significant Findings	Limitations
ENV (2011) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> Adjacent north <b>Timing:</b> 17 – 21 January 2011	<ul style="list-style-type: none"> <li>15 detailed floristic sites (quadrats)</li> </ul>	<ul style="list-style-type: none"> <li>127 plant taxa</li> <li>31 families</li> <li>64 genera</li> <li>Seven introduced taxa</li> <li>Eight vegetation associations</li> </ul>	<ul style="list-style-type: none"> <li>No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>Timing of survey (Poor season)</li> </ul>
GHD (2011a) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> Partially overlaps Study Area <b>Timing:</b> 20 – 28 May and 2 – 6 August 2010	<ul style="list-style-type: none"> <li>88 detailed floristic sites (quadrats)</li> <li>35 relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>347 plant taxa</li> <li>48 families</li> <li>159 genera</li> <li>13 introduced taxa</li> <li>22 vegetation associations</li> <li>10 broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>Three Priority listed taxa:               <ul style="list-style-type: none"> <li><i>Indigofera gilesii</i> (P3)</li> <li><i>Gymnanthera cunninghamii</i> (P3)</li> <li><i>Goodenia nuda</i> (P4)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Timing of survey (Poor season)</li> </ul>
Eco Logical (2012) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Reconnaissance Flora and Vegetation and Level 1 Fauna Survey <b>Location:</b> ~ 13 km northeast <b>Timing:</b> 18-19 August 2011	<ul style="list-style-type: none"> <li>Three detailed floristic sites (quadrats; 50x50m)</li> <li>Opportunistic observations</li> </ul>	<ul style="list-style-type: none"> <li>52 plant taxa</li> <li>14 families</li> <li>26 genera</li> <li>Seven vegetation associations</li> <li>One introduced taxa (<i>Cenchrus ciliaris</i>)</li> </ul>	<ul style="list-style-type: none"> <li>No significant findings</li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>
ENV (2012) <b>Client:</b> BHP Billiton Iron Ore <b>Type:</b> Detailed Flora and Vegetation Survey <b>Location:</b> ~ 12 km northeast <b>Timing:</b> 8-19 April & 29-31 July 2011	<ul style="list-style-type: none"> <li>51 detailed floristic sites (quadrats; 50x50m)</li> <li>One mapping note</li> </ul>	<ul style="list-style-type: none"> <li>455 plant taxa</li> <li>52 families</li> <li>170 genera</li> <li>19 introduced taxa</li> <li>13 Vegetation associations</li> <li>Ten broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>Five Priority listed flora taxa:               <ul style="list-style-type: none"> <li><i>Aristida jerichoensis</i> var. <i>subspinulifera</i> (P3)<sup>14</sup></li> <li><i>Calotis latiuscula</i><sup>15</sup></li> <li><i>Goodenia nuda</i> (P4)</li> <li><i>Eremophila magnifica</i> var. <i>velutina</i> (P3)</li> <li><i>Isotropis parviflora</i> (P2)</li> </ul> </li> <li>One Weed of National Significance:               <ul style="list-style-type: none"> <li>*<i>Tamarix aphylla</i></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>No significant limitations</li> </ul>

<sup>14</sup> *Aristida jerichoensis* var. *subspinulifera* was listed as a Priority 1 species at the time of the survey but is now listed as Priority 3.

<sup>15</sup> *Calotis latiuscula* was listed as a Priority 3 species at the time of the survey but is no longer listed as a Priority flora species.

Survey Details	Methods	Results	Significant Findings	Limitations
<p>Onshore (2013)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Desktop Assessment  <b>Location:</b> Adjacent north  <b>Timing:</b> April 2013</p>	<ul style="list-style-type: none"> <li>• Desktop Assessment</li> </ul>	<ul style="list-style-type: none"> <li>• 352 plant taxa</li> <li>• 48 families</li> <li>• 147 genera</li> <li>• 19 introduced taxa</li> <li>• 20 vegetation associations</li> <li>• Six broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>• Three Priority listed taxa: <ul style="list-style-type: none"> <li>○ <i>Calotis latiuscula</i><sup>15</sup></li> <li>○ <i>Eremophila magnifica</i> subsp. <i>magnifica</i> (P4)</li> <li>○ <i>Lepidium catapycnon</i> (P4)<sup>16</sup></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• No significant limitations</li> </ul>
<p>Astron (2014)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Reconnaissance Flora and Vegetation Survey  <b>Location:</b> ~ 13 km east  <b>Timing:</b> 15 May 2014</p>	<ul style="list-style-type: none"> <li>• Eight relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>• 54 plant taxa</li> <li>• 21 families</li> <li>• 35 genera</li> <li>• Two introduced taxa</li> <li>• Three vegetation associations</li> <li>• Three broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>• No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>• No significant limitations</li> </ul>
<p>Onshore (2014a)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Mapping Consolidation  <b>Location:</b> Adjacent and surrounding  <b>Timing:</b> Mapping consolidation completed in 2015. Additional field surveys completed in July and August 2013</p>	<ul style="list-style-type: none"> <li>• A combination of: <ul style="list-style-type: none"> <li>○ Review of historical surveys</li> <li>○ Field surveys to fill 'gaps'</li> <li>○ Consolidation of vegetation mapping</li> <li>○ Review significant plant taxa</li> <li>○ Review of introduced weed taxa</li> <li>○ Consolidation of vegetation condition mapping</li> <li>○ Review and consolidation of raw and spatial data</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• 15 landform types described and mapped</li> <li>• 218 vegetation associations</li> <li>• 53 broad floristic formations.</li> </ul>	<ul style="list-style-type: none"> <li>• Themeda grasslands on cracking clay TEC present</li> <li>• Six PECs represented in the Study Area</li> <li>• 57 significant plant taxa including one threatened<sup>17</sup>, 14 P1, 11 P2, 26 P3, and four P4</li> <li>• 56 introduced weed taxa, including seven recognised as Declared Plant Pests under the BAM Act</li> <li>• Three introduced weed taxa that are listed as WoNS (<i>*Jatropha gossypifolia</i>, <i>*Parkinsonia aculeata</i> and <i>*Tamarix aphylla</i>).</li> </ul>	<ul style="list-style-type: none"> <li>• Timing of historical field surveys</li> <li>• Detail in raw data lacking</li> <li>• Variability in scope and resources for previous baseline surveys</li> <li>• Variability in completeness of raw data</li> <li>• Vegetation classification variable</li> <li>• Vegetation mapping linework and overlapping datasets</li> <li>• Mis-identification of keystone plant taxa.</li> <li>• Gaps in vegetation datasets.</li> </ul>

<sup>16</sup> *Lepidium catapycnon* is no longer listed as a Threatened flora species. It is now listed as Priority 4.

<sup>17</sup> *Lepidium catapycnon* is no longer listed as a Threatened flora species. It is now listed as Priority 4.

Survey Details	Methods	Results	Significant Findings	Limitations
<p>Onshore (2014b)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Detailed Flora and Vegetation Survey Level One Fauna assessment  <b>Location:</b> Adjacent south  <b>Timing:</b> 21 – 24 June 2014</p>	<ul style="list-style-type: none"> <li>• 12 detailed floristic sites (quadrats)</li> <li>• 116 relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>• 199 plant taxa</li> <li>• 32 families</li> <li>• 93 genera</li> <li>• Seven introduced taxa</li> <li>• 17 vegetation associations</li> <li>• 10 broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>• One priority listed flora taxon and one taxon of interest: <ul style="list-style-type: none"> <li>○ <i>Calotis latiuscula</i><sup>18</sup></li> <li>○ <i>Aristida cf. nitidula</i> (species of interest)</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• No significant limitations</li> </ul>
<p>Onshore (2015)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Reconnaissance Flora and Vegetation Survey  <b>Location:</b> ~ 9 km northeast  <b>Timing:</b> 18 December 2014</p>	<ul style="list-style-type: none"> <li>• 35 relevé plots</li> </ul>	<ul style="list-style-type: none"> <li>• 125 plant taxa</li> <li>• 25 families</li> <li>• 73 genera</li> <li>• 15 introduced taxa</li> <li>• 14 vegetation associations</li> <li>• 10 broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>• No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>• No significant limitations</li> </ul>

<sup>18</sup> *Calotis latiuscula* was listed as a Priority 3 species at the time of the survey but is no longer listed as a Priority flora species

Survey Details	Methods	Results	Significant Findings	Limitations
<p>Onshore (2016)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Desktop Assessment  <b>Location:</b> Adjacent south  <b>Timing:</b> October 2016</p>	<ul style="list-style-type: none"> <li>• Desktop assessment</li> </ul>	<ul style="list-style-type: none"> <li>• 13 vegetation associations</li> <li>• Nine broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>• Conservation significant flora identified as likely to occur in the study area:               <ul style="list-style-type: none"> <li>○ <i>Aristida lazaridis</i> (P2)</li> <li>○ <i>Calotis latiuscula</i><sup>19</sup></li> <li>○ <i>Eremophila magnifica</i> subsp. <i>magnifica</i> (P4)</li> <li>○ <i>Eremophila magnifica</i> subsp. <i>velutina</i> (P3)</li> <li>○ <i>Goodenia nuda</i> (P4)</li> <li>○ <i>Gymnanthera cunninghamii</i> (P3)</li> <li>○ <i>Indigofera gilesii</i> (P3)</li> <li>○ <i>Ipomoea racemigera</i> (P2)</li> <li>○ <i>Isotropis parviflora</i> (P2)</li> <li>○ <i>Lepidium catapycnon</i> (P4)<sup>20</sup></li> <li>○ <i>Triodia</i> sp. Mt Ella (M.E. Trudgen 12739) (P3)</li> </ul> </li> <li>• One vegetation association was closely affiliated to the West Angelas Cracking-Clays Priority Ecological Community (PEC) (Priority 1). A further three vegetation associations supporting Mulga Low Open Forest (to Low Woodland) were representative of 'Valley Floor Mulga' within the Hamersley subregion (considered to be an 'ecosystem at risk' by DPaW) (Kendrick 2001)</li> </ul>	<ul style="list-style-type: none"> <li>• Gaps in vegetation datasets</li> <li>• Timing of historical field surveys</li> <li>• Detail in raw data lacking</li> <li>• Variability in scope and resources for previous baseline surveys</li> <li>• Variability in completeness of raw data</li> <li>• Vegetation classification variable</li> <li>• Vegetation mapping linework and overlapping datasets</li> <li>• Mis-identification of keystone plant taxa</li> </ul>

<sup>19</sup> *Calotis latiuscula* was listed as a Priority 3 species at the time of the survey but is no longer listed as a Priority flora species.

<sup>20</sup> *Lepidium catapycnon* is no longer listed as a Threatened flora species. It is now listed as Priority 4.

Survey Details	Methods	Results	Significant Findings	Limitations
<p>Onshore (2018)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Desktop Assessment  <b>Location:</b> Adjacent south  <b>Timing:</b> November 2018</p>	<ul style="list-style-type: none"> <li>• Desktop Assessment</li> </ul>	<ul style="list-style-type: none"> <li>• 13 vegetation associations</li> <li>• Six broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>• Identified as likely to occur in the study area: <ul style="list-style-type: none"> <li>○ <i>Calotis latiuscula</i><sup>21</sup></li> <li>○ <i>Eremophila magnifica</i> subsp. <i>magnifica</i> (P4)</li> <li>○ <i>Goodenia nuda</i> (P4)</li> <li>○ <i>Ipomoea racemigera</i> (P2)</li> </ul> </li> <li>• Two vegetation associations supporting Mulga Low Open Forest (to Low Woodland) were representative of 'Valley Floor Mulga' within the Hamersley subregion (considered to be an 'ecosystem at risk' by DBCA) (Kendrick 2001)</li> </ul>	<ul style="list-style-type: none"> <li>• Gaps in vegetation datasets</li> <li>• Timing of historical field surveys</li> <li>• Detail in raw data lacking</li> <li>• Variability in scope and resources for previous baseline surveys</li> <li>• Variability in completeness of raw data</li> <li>• Vegetation classification variable</li> <li>• Vegetation mapping linework and overlapping datasets</li> <li>• Mis-identification of keystone plant taxa</li> </ul>
<p>Biologic (2020a)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Detailed Flora and Vegetation Survey  <b>Location:</b> Adjacent south  <b>Timing:</b> 18 and 25-29 March 2019</p>	<ul style="list-style-type: none"> <li>• 44 detailed floristic sites (quadrats)</li> <li>• Six relevé plots</li> <li>• Targeted Searches</li> </ul>	<ul style="list-style-type: none"> <li>• 185 plant taxa</li> <li>• 34 families</li> <li>• 91 genera</li> <li>• Nine introduced taxa</li> <li>• 18 vegetation associations</li> <li>• Nine broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>• No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>• Timing of survey (Poor season)</li> </ul>
<p>Biologic (2020b)  <b>Client:</b> BHP Billiton Iron Ore  <b>Type:</b> Detailed Flora and Vegetation Survey  <b>Location:</b> Adjacent south  <b>Timing:</b> 11 – 18 March 2019</p>	<ul style="list-style-type: none"> <li>• 34 detailed floristic sites (quadrats)</li> <li>• Five relevé plots</li> <li>• Targeted Searches</li> </ul>	<ul style="list-style-type: none"> <li>• 152 plant taxa</li> <li>• 29 families</li> <li>• 70 genera</li> <li>• Three introduced taxa</li> <li>• 16 vegetation associations</li> <li>• Seven broad floristic formations</li> </ul>	<ul style="list-style-type: none"> <li>• No conservation significant flora</li> </ul>	<ul style="list-style-type: none"> <li>• Timing of survey (Poor season)</li> <li>• Proportion of flora recorded and/or collected</li> </ul>

<sup>21</sup> *Calotis latiuscula* was listed as a Priority 3 species at the time of the survey but is no longer listed as a Priority flora species.

## Appendix G: Database Search Results

Parks and Wildlife Service (DBCA, 2020c)  
EPBC Act Protected Matters Search (DAWE, 2020)  
NatureMap (DBCA, 2020a)  
Atlas of Living Australia (ALA, 2020)  
Western Australian Organism List (DPIRD, 2020)



Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
Acanthaceae	<i>Dicladanthera forrestii</i>	●	●	□	□	□	□	□				
	<i>Dipteracanthus australasicus</i>	□	●	●	□	□	□	□				
	<i>Dipteracanthus australasicus</i> subsp. <i>australasicus</i>	●	□	●	□	□	□	□				
Acarosporaceae	<i>Acarospora citrina</i>	●	□	□	□	□	□	□				
Aizoaceae	<i>Trianthema glossostigma</i>	●	●	□	□	□	□	□				
	<i>Trianthema pilosum</i>	●	●	□	□	□	□	□				
	<i>Trianthema triquetrum</i>	●	●	□	□	□	□	□				
Alismataceae	<i>Sagittaria platyphylla</i>	□	□	□	□	□	□	●				Y
Amaranthaceae	<i>Aerva javanica</i>	□	□	●	□	□	□	□				Y
	<i>Alternanthera angustifolia</i>	●	●	□	□	□	□	□				
	<i>Alternanthera nana</i>	●	●	●	□	□	□	□				
	<i>Alternanthera nodiflora</i>	●	●	□	□	□	□	□				
	<i>Alternanthera pungens</i>	●	●	□	□	□	□	□				Y
	<i>Amaranthus cuspidifolius</i>	●	●	□	□	□	□	□				
	<i>Amaranthus mitchellii</i>	●	●	□	□	□	□	□				
	<i>Amaranthus undulatus</i>	●	●	□	□	□	□	□				
	<i>Gomphrena affinis</i> subsp. <i>pilbarensis</i>	□	□	●	□	□	□	□				
	<i>Gomphrena canescens</i>	●	●	□	□	□	□	□				
	<i>Gomphrena cunninghamii</i>	●	●	●	□	□	□	□				
	<i>Gomphrena kanisii</i>	●	●	●	□	□	□	□				
	<i>Gomphrena lanata</i>	●	●	□	□	□	□	□				
	<i>Gomphrena sordida</i>	●	●	□	□	□	□	□				
<i>Ptilotus aevroides</i>	●	●	●	□	□	□	□					

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Ptilotus aphyllus</i>	●	●	□	□	□	□	□				
	<i>Ptilotus astrolasius</i>	●	●	●	□	□	□	□				
	<i>Ptilotus auriculifolius</i>	●	●	□	□	□	□	□				
	<i>Ptilotus axillaris</i>	●	●	□	□	□	□	□				
	<i>Ptilotus calostachyus</i>	●	●	●	□	□	□	□				
	<i>Ptilotus carinatus</i>	●	●	□	□	□	□	□				
	<i>Ptilotus clementii</i>	●	●	●	□	□	□	□				
	<i>Ptilotus drummondii</i>	●	●	□	□	□	□	□				
	<i>Ptilotus exaltatus</i>	●	□	●	□	□	□	□				
	<i>Ptilotus fusiformis</i>	●	●	□	□	□	□	□				
	<i>Ptilotus gaudichaudii</i>	●	●	□	□	□	□	□				
	<i>Ptilotus gomphrenoides</i>	●	●	●	□	□	□	□				
	<i>Ptilotus helipteroides</i>	●	●	●	□	□	□	□				
	<i>Ptilotus incanus</i>	●	●	□	□	□	□	□				
	<i>Ptilotus nobilis</i>	□	●	□	□	□	□	□				
	<i>Ptilotus obovatus</i>	●	●	●	□	□	□	□				
	<i>Ptilotus polystachyus</i>	●	●	□	□	□	□	□				
	<i>Ptilotus rotundifolius</i>	●	●	●	□	□	□	□				
	<i>Ptilotus schwartzii</i>	●	●	□	□	□	□	□				
Anacardiaceae	<i>Schinus molle</i>	□	□	●	□	□	□	□				Y
Apiaceae	<i>Cyclospermum leptophyllum</i>	□	□	●	□	□	□	□				Y
Apocynaceae	<i>Calotropis procera</i>	□	□	□	□	□	□	●				Y
	<i>Cryptostegia madagascariensis</i>	□	□	□	□	□	□	●				Y

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Cynanchum floribundum</i>	●	●	□	□	□	□	□				
	<i>Gymnanthera cunninghamii</i>	●	●	●	●	●	□	□	3			
	<i>Marsdenia australis</i>	□	□	●	□	□	□	□				
	<i>Vincetoxicum lineare</i>	□	□	●	□	□	□	□				
Araceae	<i>Pistia stratiotes</i>	□	□	□	□	□	□	●				Y
	<i>Zantedeschia aethiopica</i>	□	□	□	□	□	□	●				Y
Araliaceae	<i>Astrotricha hamptonii</i>	●	●	●	□	□	□	□				
	<i>Hydrocotyle ranunculoides</i>	□	□	□	□	□	□	●				Y
	<i>Trachymene bialata</i>	●	●	□	□	□	□	□				
	<i>Trachymene glaucifolia</i>	□	●	□	□	□	□	□				
	<i>Trachymene oleracea</i>	●	●	□	□	□	□	□				
	<i>Trachymene oleracea</i> subsp. <i>oleracea</i>	●	□	□	□	□	□	□				
Arecaceae	<i>Washingtonia filifera</i>	□	□	●	□	□	□	□				Y
Asparagaceae	<i>Agave americana</i>	□	□	●	□	□	□	□				Y
	<i>Asparagus asparagoides</i>	□	□	□	□	□	□	●				Y
Asteraceae	<i>Actinobole drummondianum</i>	□	●	□	□	□	□	□				
	<i>Actinobole oldfieldianum</i>	●	●	□	□	□	□	□				
	<i>Bidens bipinnata</i>	●	●	●	□	□	□	□				Y
	<i>Bidens subalternans</i> var. <i>araneosa</i>	●	□	□	□	□	□	□				Y
	<i>Bidens subalternans</i> var. <i>simulans</i>	●	□	□	□	□	□	□				Y
	<i>Brachyscome ciliaris</i>	□	●	□	□	□	□	□				
	<i>Brachyscome cilioarpa</i>	□	●	□	□	□	□	□				
	<i>Brachyscome rudallensis</i>	●	●	□	□	□	□	□				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Calocephalus beardii</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calocephalus knappii</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calocephalus pilbarensis</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calotis hispidula</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calotis latiuscula</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calotis multicaulis</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calotis plumulifera</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Centipeda minima</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Centipeda minima</i> subsp. <i>macrocephala</i>	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Chondrilla juncea</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●				Y
	<i>Chrysocephalum apiculatum</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Chrysocephalum apiculatum</i> subsp. <i>pilbarensis</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Chrysocephalum gilesii</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Chrysocephalum pterochaetum</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Conyza bonariensis</i>	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Erigeron bonariense</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Flaveria trinervia</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Gnephosis arachnoidea</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Ixiochlamys cuneifolia</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Lactuca saligna</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Lactuca serriola</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Lactuca serriola</i> forma <i>serriola</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Leiocarpa semicalva</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Leiocarpa semicalva</i> subsp. <i>semicalva</i>	●	□	□	□	□	□	□				
	<i>Minuria integerrima</i>	●	●	□	□	□	□	□				
	<i>Olearia fluvialis</i>	●	●	□	□	□	□	□				
	<i>Olearia xerophila</i>	□	●	□	□	□	□	□				
	<i>Onopordum acaulon</i>	□	□	□	□	□	□	●				Y
	<i>Peripleura arida</i>	●	□	●	□	□	□	□				
	<i>Peripleura obovata</i>	□	□	●	□	□	□	□				
	<i>Peripleura virgata</i>	●	□	□	□	□	□	□				
	<i>Pluchea dunlopii</i>	□	□	●	□	□	□	□				
	<i>Pluchea rubelliflora</i>	□	□	●	□	□	□	□				
	<i>Podolepis capillaris</i>	●	●	□	□	□	□	□				
	<i>Pterocaulon serrulatum</i>	□	●	□	□	□	□	□				
	<i>Pterocaulon serrulatum</i> var. <i>velutinum</i>	●	□	□	□	□	□	□				
	<i>Pterocaulon sphacelatum</i>	●	●	●	□	□	□	□				
	<i>Pterocaulon sphaeranthoides</i>	□	□	●	□	□	□	□				
	<i>Rhodanthe charsleyae</i>	●	●	□	□	□	□	□				
	<i>Rhodanthe floribunda</i>	●	●	□	□	□	□	□				
	<i>Rhodanthe humboldtiana</i>	●	●	□	□	□	□	□				
	<i>Rhodanthe margarethae</i>	●	●	□	□	□	□	□				
	<i>Rhodanthe polakii</i>	●	●	□	□	□	□	□				
	<i>Rhodanthe propinqua</i>	●	●	□	□	□	□	□				
	<i>Rhodanthe sterilescens</i>	●	●	□	□	□	□	□				
	<i>Rhodanthe stricta</i>	●	●	□	□	□	□	□				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Roebuckiella similis</i>	●	●	□	□	□	□	□				
	<i>Rutidosis helichrysoides</i>	●	●	●	□	□	□	□				
	<i>Rutidosis helichrysoides</i> subsp. <i>helichrysoides</i>	●	□	□	□	□	□	□				
	<i>Senecio hamersleyensis</i>	□	□	●	□	□	□	□				
	<i>Silybum marianum</i>	□	□	□	□	□	□	●				Y
	<i>Sonchus asper</i>	□	●	□	□	□	□	□				
	<i>Sonchus oleraceus</i>	●	●	●	□	□	□	□				Y
	<i>Streptoglossa adscendens</i>	□	□	●	□	□	□	□				
	<i>Streptoglossa bubakii</i>	□	□	●	□	□	□	□				
	<i>Streptoglossa cylindriceps</i>	●	●	□	□	□	□	□				
	<i>Streptoglossa decurrens</i>	●	●	□	□	□	□	□				
	<i>Streptoglossa liatroides</i>	●	●	●	□	□	□	□				
	<i>Streptoglossa macrocephala</i>	□	●	□	□	□	□	□				
	<i>Streptoglossa odora</i>	●	●	□	□	□	□	□				
	<i>Symphotrichum squamatum</i>	●	●	●	□	□	□	□				Y
	<i>Vittadinia arida</i>	□	●	□	□	□	□	□				
	<i>Vittadinia eremaea</i>	●	●	□	□	□	□	□				
	<i>Vittadinia</i> sp. Coondewanna Flats (S. van Leeuwen 4684)	□	●	□	●	□	□	□	1			
	<i>Vittadinia virgata</i>	□	●	□	□	□	□	□				
	<i>Xanthium spinosum</i>	□	□	□	□	□	□	●				Y
	<i>Xanthium strumarium</i>	□	□	□	□	□	□	●				Y
	<i>Xerochrysum boreale</i>	●	●	□	●	□	□	□	3			
Boraginaceae	<i>Echium plantagineum</i>	□	□	□	□	□	□	●				Y

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Halgania erecta</i>	●	●	□	□	□	□	□				
	<i>Halgania solanacea</i>	□	●	□	□	□	□	□				
	<i>Halgania solanacea</i> var. <i>Mt Doreen</i> (G.M. Chippendale 4206)	●	□	□	□	□	□	□				
	<i>Heliotropium cunninghamii</i>	●	●	●	□	□	□	□				
	<i>Heliotropium heteranthum</i>	●	●	●	□	□	□	□				
	<i>Heliotropium ovalifolium</i>	□	●	□	□	□	□	□				
	<i>Heliotropium pachyphyllum</i>	●	●	□	□	□	□	□				
	<i>Heliotropium tanythrix</i>	●	●	●	□	□	□	□				
	<i>Heliotropium tenuifolium</i>	●	●	□	□	□	□	□				
	<i>Trichodesma zeylanicum</i>	●	●	●	□	□	□	□				
	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	●	□	□	□	□	□	□				
Brassicaceae	<i>Cuphonotus andraeanus</i>	□	●	□	□	□	□	□				
	<i>Lepidium catapycnon</i>	●	●	●	●	●	□	□	4			
	<i>Lepidium echinatum</i>	●	●	□	□	□	□	□				
	<i>Lepidium muelleri-ferdinandii</i>	●	●	□	□	□	□	□				
	<i>Lepidium oxytrichum</i>	●	●	□	□	□	□	□				
	<i>Lepidium pedicellosum</i>	●	●	●	□	□	□	□				
	<i>Lepidium phlebopetalum</i>	●	●	□	□	□	□	□				
	<i>Lepidium platypetalum</i>	●	●	●	□	□	□	□				
	<i>Menkea villosula</i>	●	●	□	□	□	□	□				
	<i>Sisymbrium orientale</i>	□	□	●	□	□	□	□				Y
	<i>Stenopetalum anfractum</i>	□	●	□	□	□	□	□				
	<i>Stenopetalum decipiens</i>	●	●	●	□	□	□	□				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Stenopetalum nutans</i>	●	●	□	□	□	□	□				
	<i>Stenopetalum velutinum</i>	●	●	□	□	□	□	□				
Cactaceae	<i>Austrocylindropuntia cylindrica</i>	□	□	□	□	□	□	●				Y
	<i>Austrocylindropuntia subulata</i>	□	□	□	□	□	□	●				Y
	<i>Cylindropuntia fulgida</i>	□	□	□	□	□	□	●				Y
	<i>Cylindropuntia imbricata</i>	□	□	□	□	□	□	●				Y
	<i>Cylindropuntia kleiniae</i>	□	□	□	□	□	□	●				Y
	<i>Cylindropuntia pallida</i>	□	□	□	□	□	□	●				Y
	<i>Cylindropuntia tunicata</i>	□	□	□	□	□	□	●				Y
	<i>Opuntia elata</i>	□	□	□	□	□	□	●				Y
	<i>Opuntia elatior</i>	□	□	□	□	□	□	●				Y
	<i>Opuntia engelmannii</i>	□	□	□	□	□	□	●				Y
	<i>Opuntia ficus-indica</i>	□	□	□	□	□	□	●				Y
	<i>Opuntia microdasys</i>	□	□	□	□	□	□	●				Y
	<i>Opuntia monacantha</i>	□	□	□	□	□	□	●				Y
	<i>Opuntia polyacantha</i>	□	□	□	□	□	□	●				Y
	<i>Opuntia puberula</i>	□	□	□	□	□	□	●				Y
	<i>Opuntia stricta</i>	□	□	□	□	□	□	●				Y
<i>Opuntia tomentosa</i>	□	□	□	□	□	□	●				Y	
Campanulaceae	<i>Wahlenbergia tumidifruca</i>	●	●	□	□	□	□	□				
Capparaceae	<i>Capparis lasiantha</i>	●	●	●	□	□	□	□				
	<i>Capparis spinosa</i>	□	□	●	□	□	□	□				
	<i>Capparis umbonata</i>	●	●	□	□	□	□	□				



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Caryophyllaceae	<i>Polycarpaea corymbosa</i>	☐	●	●	☐	☐	☐	☐				
	<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	●	☐	☐	☐	☐	☐	☐				
	<i>Polycarpaea holtzei</i>	●	●	☐	☐	☐	☐	☐				
	<i>Polycarpaea involucreta</i>	●	●	☐	☐	☐	☐	☐				
	<i>Polycarpaea longiflora</i>	●	●	●	☐	☐	☐	☐				
Celastraceae	<i>Maytenus</i> sp. Mt Windell (S. van Leeuwen 846)	●	●	☐	☐	☐	☐	☐				
	<i>Stackhousia intermedia</i>	●	●	☐	☐	☐	☐	☐				
	<i>Stackhousia</i> sp. swollen gynophore (W.R. Barker 2041)	●	☐	●	☐	☐	☐	☐				
Chenopodiaceae	<i>Atriplex codonocarpa</i>	●	●	●	☐	☐	☐	☐				
	<i>Atriplex lindleyi</i>	☐	●	☐	☐	☐	☐	☐				
	<i>Atriplex semilunaris</i>	●	●	☐	☐	☐	☐	☐				
	<i>Atriplex vesicaria</i>	●	●	☐	☐	☐	☐	☐				
	<i>Chenopodium auricomum</i>	●	●	☐	☐	☐	☐	☐				
	<i>Dysphania kalpari</i>	●	●	☐	☐	☐	☐	☐				
	<i>Dysphania melanocarpa</i>	●	●	☐	☐	☐	☐	☐				
	<i>Dysphania rhadinostachya</i>	☐	●	☐	☐	☐	☐	☐				
	<i>Dysphania rhadinostachya</i> subsp. <i>rhadinostachya</i>	●	☐	☐	☐	☐	☐	☐				
	<i>Dysphania saxatilis</i>	☐	☐	●	☐	☐	☐	☐				
	<i>Enchylaena tomentosa</i>	☐	●	●	☐	☐	☐	☐				
	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	●	☐	●	☐	☐	☐	☐				
	<i>Maireana carnosa</i>	●	●	●	☐	☐	☐	☐				
	<i>Maireana georgei</i>	●	●	●	☐	☐	☐	☐				
	<i>Maireana melanocoma</i>	●	●	●	☐	☐	☐	☐				

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	<i>Maireana planifolia</i>	●	●	●	□	□	□	□				
	<i>Maireana prosthocochaeta</i>	●	●	□	●	●	□	□	3			
	<i>Maireana pyramidata</i>	□	□	●	□	□	□	□				
	<i>Maireana tomentosa</i>	●	●	●	□	□	□	□				
	<i>Maireana triptera</i>	□	●	□	□	□	□	□				
	<i>Maireana villosa</i>	●	●	●	□	□	□	□				
	<i>Neobassia astrocarpa</i>	□	□	●	□	□	□	□				
	<i>Rhagodia eremaea</i>	●	●	●	□	□	□	□				
	<i>Rhagodia</i> sp. Hamersley (M. Trudgen 17794)	●	●	□	●	●	□	□	3			
	<i>Salsola australis</i>	●	●	●	□	□	□	□				
	<i>Sclerolaena bicornis</i>	□	□	●	□	□	□	□				
	<i>Sclerolaena convexula</i>	●	●	●	□	□	□	□				
	<i>Sclerolaena cornishiana</i>	●	●	●	□	□	□	□				
	<i>Sclerolaena costata</i>	●	●	□	□	□	□	□				
	<i>Sclerolaena cuneata</i>	●	●	●	□	□	□	□				
	<i>Sclerolaena densiflora</i>	□	●	●	□	□	□	□				
	<i>Sclerolaena diacantha</i>	□	●	□	□	□	□	□				
	<i>Sclerolaena eriacantha</i>	□	□	●	□	□	□	□				
	<i>Sclerolaena lanicuspis</i>	●	●	●	□	□	□	□				
	<i>Sclerolaena minuta</i>	●	●	□	□	□	□	□				
	<i>Sclerolaena tetragona</i>	●	●	□	□	□	□	□				
	<i>Tecticornia disarticulata</i>	●	●	□	□	□	□	□				
Cleomaceae	<i>Cleome oxalidea</i>	●	●	□	□	□	□	□				

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	<i>Cleome viscosa</i>	●	●	●	□	□	□	□				
Colchicaceae	<i>Wurmbea deserticola</i>	●	●	□	□	□	□	□				
Commelinaceae	<i>Commelina ensifolia</i>	●	●	□	□	□	□	□				
Convovulaceae	<i>Bonamia erecta</i>	●	●	□	□	□	□	□				
	<i>Bonamia media</i>	□	□	●	□	□	□	□				
	<i>Bonamia pilbarensis</i>	●	●	□	□	□	□	□				
	<i>Convolvulus clementii</i>	●	●	□	□	□	□	□				
	<i>Duperreya commixta</i>	□	□	●	□	□	□	□				
	<i>Evolvulus alsinoides</i>	□	●	□	□	□	□	□				
	<i>Evolvulus alsinoides var. villosicalyx</i>	●	□	●	□	□	□	□				
	<i>Ipomoea costata</i>	●	●	□	□	□	□	□				
	<i>Ipomoea lonchophylla</i>	●	●	□	□	□	□	□				
	<i>Ipomoea muelleri</i>	●	●	□	□	□	□	□				
	<i>Ipomoea pes-caprae</i>	□	●	□	□	□	□	□				
	<i>Ipomoea pes-caprae</i> subsp. <i>brasiliensis</i>	●	□	□	□	□	□	□				
	<i>Ipomoea plebeia</i>	●	●	□	□	□	□	□				
	<i>Ipomoea racemigera</i>	●	●	□	●	□	□	□	2			
	<i>Operculina aequisepala</i>	●	●	□	□	□	□	□				
	<i>Polymeria ambigua</i>	□	●	□	□	□	□	□				
	<i>Polymeria calycina</i>	●	●	□	□	□	□	□				
Cucurbitaceae	<i>Austrobryonia pilbarensis</i>	●	●	□	□	□	□	□				
	<i>Citrullus amarus</i>	●	□	●	□	□	□	□				Y
	<i>Citrullus colocynthis</i>	□	□	●	□	□	□	□				Y

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	<i>Cucumis melo</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cucumis variabilis</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Cyperaceae	<i>Bulbostylis barbata</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Bulbostylis turbinata</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus betchei</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus betchei</i> subsp. <i>commiscens</i>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus bifax</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus bulbosus</i>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus cunninghamii</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus cunninghamii</i> subsp. <i>cunninghamii</i>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus involucratus</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Cyperus iria</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus ixiocarpus</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus pulchellus</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus squarrosus</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Cyperus tenuiflorus</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Cyperus vaginatus</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eleocharis pallens</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Fimbristylis dichotoma</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Fimbristylis microcarya</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<i>Fimbristylis simulans</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<i>Schoenoplectiella laevis</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Droseraceae	<i>Drosera finlaysoniana</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

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	<i>Drosera indica</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Elatinaceae	<i>Bergia pedicellaris</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Euphorbiaceae	<i>Euphorbia australis</i>	<input type="checkbox"/>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Euphorbia australis</i> var. <i>hispidula</i>	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Euphorbia australis</i> var. <i>subtomentosa</i>	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Euphorbia biconvexa</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Euphorbia boophthona</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Euphorbia careyi</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Euphorbia coghlanii</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Euphorbia drummondii</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Euphorbia hirta</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2			
	<i>Euphorbia tannensis</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
<i>Jatropha gossypifolia</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●			Y	
Fabaceae	<i>Acacia acradenia</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia adoxa</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia adoxa</i> var. <i>adoxo</i>	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia adoxa</i> var. <i>adoxo</i> x <i>spondylophylla</i>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia adsurgens</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia adsurgens</i> x <i>rhodophloia</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia ampliceps</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia ancistrocarpa</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

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	<i>Acacia aneura</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia aneura</i> var. <i>intermedia</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia aptaneura</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia arida</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia atkinsiana</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia ayersiana</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia bivenosa</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia bromilowiana</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4			
	<i>Acacia catenulata</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia catenulata</i> subsp. <i>occidentalis</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia citrinoviridis</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia coolgardiensis</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia coriacea</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia coriacea</i> subsp. <i>pendens</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia corusca</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1			
	<i>Acacia dictyophleba</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia distans</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia elachantha</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia eriopoda</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia fuscaneura</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia hamersleyensis</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia hilliana</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Acacia inaequilatera</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Acacia incurvaneura</i>	●	●	●	□	□	□	□				
	<i>Acacia kempeana</i>	□	●	●	□	□	□	□				
	<i>Acacia ligulata</i>	□	●	□	□	□	□	□				
	<i>Acacia macraneura</i>	●	●	●	□	□	□	□				
	<i>Acacia maitlandii</i>	●	●	●	□	□	□	□				
	<i>Acacia marramamba</i>	●	●	●	□	□	□	□				
	<i>Acacia melleodora</i>	●	●	□	□	□	□	□				
	<i>Acacia monticola</i>	●	●	□	□	□	□	□				
	<i>Acacia mulganeura</i>	●	●	□	□	□	□	□				
	<i>Acacia pachyacra</i>	●	●	●	□	□	□	□				
	<i>Acacia pachycarpa</i>	●	●	□	□	□	□	□				
	<i>Acacia paraneura</i>	●	●	●	□	□	□	□				
	<i>Acacia pruinocarpa</i>	●	●	●	□	□	□	□				
	<i>Acacia pteraneura</i>	●	●	●	□	□	□	□				
	<i>Acacia ptychophylla</i>	●	●	□	□	□	□	□				
	<i>Acacia pyrifolia</i>	□	●	●	□	□	□	□				
	<i>Acacia pyrifolia</i> var. <i>morrisonii</i>	●	□	□	□	□	□	□				
	<i>Acacia pyrifolia</i> var. <i>pyrifolia</i>	●	□	□	□	□	□	□				
	<i>Acacia rhodophloia</i>	●	●	●	□	□	□	□				
	<i>Acacia rhodophloia</i> x <i>sibirica</i>	●	●	□	□	□	□	□				
	<i>Acacia sclerosperma</i>	□	●	□	□	□	□	□				
	<i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i>	●	□	●	□	□	□	□				
	<i>Acacia sericophylla</i>	●	●	□	□	□	□	□				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Acacia sibirica</i>	●	●	●	□	□	□	□				
	<i>Acacia</i> sp. Jimblebar (S. van Leeuwen 1342)	●	●	□	□	□	□	□				
	<i>Acacia spondylophylla</i>	●	●	●	□	□	□	□				
	<i>Acacia subcontorta</i>	□	●	□	□	□	□	□				
	<i>Acacia subtiliformis</i>	●	●	□	●	●	□	□	3			
	<i>Acacia synchronicia</i>	●	●	●	□	□	□	□				
	<i>Acacia tenuissima</i>	●	●	●	□	□	□	□				
	<i>Acacia tetragonophylla</i>	●	●	●	□	□	□	□				
	<i>Acacia trudgeniana</i>	□	□	●	□	□	□	□				
	<i>Acacia tumida</i>	□	●	□	□	□	□	□				
	<i>Acacia tumida</i> var. <i>pilbarensis</i>	●	□	□	□	□	□	□				
	<i>Acacia victoriae</i>	●	●	●	□	□	□	□				
	<i>Acacia wanyu</i>	●	●	□	□	□	□	□				
	<i>Acacia xiphophylla</i>	□	●	□	□	□	□	□				
	<i>Alhagi maurorum</i>	□	□	□	□	□	□	●				Y
	<i>Crotalaria medicaginea</i>	□	●	□	□	□	□	□				
	<i>Crotalaria medicaginea</i> var. <i>neglecta</i>	●	□	□	□	□	□	□				
	<i>Crotalaria smithiana</i>	□	□	□	●	□	□	□	3			
	<i>Cullen cinereum</i>	●	●	□	□	□	□	□				
	<i>Cullen graveolens</i>	●	●	●	□	□	□	□				
	<i>Cullen lachnostachys</i>	●	●	□	□	□	□	□				
	<i>Cullen leucanthum</i>	●	●	□	□	□	□	□				
	<i>Cullen leucochaites</i>	●	●	□	□	□	□	□				



Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Cullen pogonocarpum</i>	●	●	□	□	□	□	□				
	<i>Desmanthus virgatus</i>	●	●	●	□	□	□	□				Y
	<i>Desmodium campylocaulon</i>	●	●	□	□	□	□	□				
	<i>Desmodium filiforme</i>	●	●	●	□	□	□	□				
	<i>Gastrolobium grandiflorum</i>	●	●	□	□	□	□	□				
	<i>Glycine canescens</i>	●	●	□	□	□	□	□				
	<i>Gompholobium oreophilum</i>	●	●	□	□	□	□	□				
	<i>Gompholobium polyzygum</i>	□	●	□	□	□	□	□				
	<i>Indigofera boviperda</i>	□	□	●	□	□	□	□				
	<i>Indigofera colutea</i>	●	●	●	□	□	□	□				
	<i>Indigofera georgei</i>	●	●	●	□	□	□	□				
	<i>Indigofera gilesii</i>	●	●	●	●	●	□	□	3			
	<i>Indigofera linifolia</i>	□	□	●	□	□	□	□				
	<i>Indigofera linnaei</i>	□	□	●	□	□	□	□				
	<i>Indigofera monophylla</i>	●	●	●	□	□	□	□				
	<i>Indigofera rugosa</i>	●	●	□	□	□	□	□				
	<i>Isotropis atropurpurea</i>	●	●	●	□	□	□	□				
	<i>Isotropis parviflora</i>	●	●	□	●	□	□	□	2			
	<i>Isotropis</i> sp. Arid zone (G. Byrne 2775)	●	□	□	□	□	□	□				
	<i>Jacksonia aculeata</i>	●	●	□	□	□	□	□				
	<i>Kennedia prorepens</i>	●	●	□	□	□	□	□				
	<i>Lotus cruentus</i>	●	●	□	□	□	□	□				
	<i>Mirbelia ramulosa</i>	●	□	□	□	□	□	□				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Mirbelia viminalis</i>	●	●	□	□	□	□	□				
	<i>Muelleranthus trifoliolatus</i>	●	●	□	□	□	□	□				
	<i>Neptunia dimorphantha</i>	●	●	●	□	□	□	□				
	<i>Parkinsonia aculeata</i>	□	□	□	□	□	□	●				Y
	<i>Petalostylis cassioides</i>	●	●	□	□	□	□	□				
	<i>Petalostylis labicheoides</i>	●	●	●	□	□	□	□				
	<i>Prosopis glandulosa x velutina</i>	□	□	□	□	□	□	●				Y
	<i>Rhynchosia australis</i>	●	●	●	□	□	□	□				
	<i>Rhynchosia minima</i>	□	●	●	□	□	□	□				
	<i>Senna alata</i>	□	□	□	□	□	□	●				Y
	<i>Senna artemisioides</i>	●	●	□	□	□	□	□				
	<i>Senna artemisioides</i> subsp. <i>filifolia</i>	●	□	●	□	□	□	□				
	<i>Senna artemisioides</i> subsp. <i>helmsii</i>	●	□	●	□	□	□	□				
	<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	●	□	●	□	□	□	□				
	<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	●	□	●	□	□	□	□				
	<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	●	□	□	□	□	□	□				
	<i>Senna ferraria</i>	●	●	●	□	□	□	□				
	<i>Senna glaucifolia</i>	●	●	●	□	□	□	□				
	<i>Senna glutinosa</i>	□	●	□	□	□	□	□				
	<i>Senna glutinosa</i> subsp. <i>chatelainiana</i>	□	□	●	□	□	□	□				
	<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	●	□	●	□	□	□	□				
	<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	●	□	●	□	□	□	□				
	<i>Senna glutinosa</i> subsp. <i>x luerssenii</i>	●	□	●	□	□	□	□				

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		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Senna hamersleyensis</i>	●	●	●	□	□	□	□				
	<i>Senna notabilis</i>	●	●	●	□	□	□	□				
	<i>Senna obtusifolia</i>	□	□	□	□	□	□	●				Y
	<i>Senna occidentalis</i>	●	●	●	□	□	□	□				Y
	<i>Senna sericea</i>	□	□	●	□	□	□	□				
	<i>Senna</i> sp. Billabong (J.D. Alonzo 721)	●	●	□	□	□	□	□				
	<i>Senna</i> sp. Meekatharra (E. Bailey 1-26)	●	●	●	□	□	□	□				
	<i>Senna stricta</i>	●	●	●	□	□	□	□				
	<i>Senna symonii</i>	□	□	●	□	□	□	□				
	<i>Senna venusta</i>	●	●	□	□	□	□	□				
	<i>Swainsona canescens</i>	●	●	□	□	□	□	□				
	<i>Swainsona decurrens</i>	●	●	●	□	□	□	□				
	<i>Swainsona formosa</i>	□	●	□	□	□	□	□				
	<i>Swainsona kingii</i>	●	●	●	□	□	□	□				
	<i>Swainsona leeana</i>	●	●	□	□	□	□	□				
	<i>Tamarindus indica</i>	□	□	●	□	□	□	□				Y
	<i>Tephrosia densa</i>	●	□	□	□	□	□	□				
	<i>Tephrosia oxalidea</i>	●	●	●	□	□	□	□				
	<i>Tephrosia rosea</i>	□	●	□	□	□	□	□				
	<i>Tephrosia rosea</i> var. <i>Fortescue creeks</i> (M.I.H. Brooker 2186)	●	□	●	□	□	□	□				
	<i>Tephrosia</i> sp. clay soils (S. van Leeuwen et al. PBS 0273)	●	●	●	□	□	□	□				
	<i>Tephrosia</i> sp. deserts (J.R. Maconochie 1403)	●	●	□	□	□	□	□				
	<i>Tephrosia</i> sp. Fortescue (A.A. Mitchell 606)	□	●	□	□	□	□	□				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Tephrosia</i> sp. Newman (A.A. Mitchell PRP 29)	●	●	●	□	□	□	□				
	<i>Tephrosia supina</i>	●	●	□	□	□	□	□				
	<i>Trigonella suavissima</i>	●	●	□	□	□	□	□				
	<i>Ulex europaeus</i>	□	□	□	□	□	□	●				Y
	<i>Vachellia farnesiana</i>	□	□	●	□	□	□	□				Y
	<i>Vigna lanceolata</i>	□	□	●	□	□	□	□				
	<i>Vigna</i> sp. Hamersley Clay (A.A. Mitchell PRP 113)	●	●	□	□	□	□	□				
	<i>Zornia albiflora</i>	□	□	●	□	□	□	□				
Frankeniaceae	<i>Frankenia setosa</i>	●	●	□	□	□	□	□				
Geraniaceae	<i>Erodium cygnorum</i>	●	●	□	□	□	□	□				
Goodeniaceae	<i>Brunonia australis</i>	●	●	□	□	□	□	□				
	<i>Brunonia australis</i> var. <i>A Kimberley Flora</i> (K.F. Kenneally 5452)	●	□	□	□	□	□	□				
	<i>Brunonia</i> sp. Long hairs (D.E. Symon 2440)	●	□	●	□	□	□	□				
	<i>Dampiera candicans</i>	●	●	●	□	□	□	□				
	<i>Dampiera cinerea</i>	●	●	□	□	□	□	□				
	<i>Dampiera metallorum</i>	□	□	□	●	●	□	□	3			
	<i>Goodenia azurea</i>	□	●	□	□	□	□	□				
	<i>Goodenia azurea</i> subsp. <i>hesperia</i>	●	□	□	□	□	□	□				
	<i>Goodenia berringbinensis</i>	●	●	□	●	□	□	□	3			
	<i>Goodenia cusackiana</i>	●	●	●	□	□	□	□				
	<i>Goodenia forrestii</i>	●	●	□	□	□	□	□				
	<i>Goodenia hartiana</i>	□	□	□	□	●	□	□				
<i>Goodenia lamprosperma</i>	●	●	□	□	□	□	□					

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Goodenia microptera</i>	●	●	●	□	□	□	□				
	<i>Goodenia mimuloides</i>	□	●	□	□	□	□	□				
	<i>Goodenia muelleriana</i>	●	●	●	□	□	□	□				
	<i>Goodenia nuda</i>	●	●	●	●	□	□	□	4			
	<i>Goodenia pasqua</i>	●	●	□	□	□	□	□				
	<i>Goodenia prostrata</i>	●	●	□	□	□	□	□				
	<i>Goodenia ramelii</i>	●	●	□	□	□	□	□				
	<i>Goodenia scaevolina</i>	●	●	□	□	□	□	□				
	<i>Goodenia</i> sp. East Pilbara (A.A. Mitchell PRP 727)	●	□	●	●	●	□	□	4			
	<i>Goodenia</i> sp. Sandy Creek (R.D. Royce 1653)	●	●	□	□	□	□	□				
	<i>Goodenia stellata</i>	●	●	□	□	□	□	□				
	<i>Goodenia stobbsiana</i>	●	●	●	□	□	□	□				
	<i>Goodenia tenuiloba</i>	●	●	□	□	□	□	□				
	<i>Goodenia triodiophila</i>	●	●	●	□	□	□	□				
	<i>Goodenia vilmoriniae</i>	●	●	□	□	□	□	□				
	<i>Scaevola acacioides</i>	●	●	□	□	□	□	□				
	<i>Scaevola amblyanthera</i>	□	□	●	□	□	□	□				
	<i>Scaevola browniana</i>	●	●	□	□	□	□	□				
	<i>Scaevola browniana</i> subsp. <i>browniana</i>	●	□	□	□	□	□	□				
	<i>Scaevola parvifolia</i>	□	●	□	□	□	□	□				
	<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>	●	□	□	□	□	□	□				
	<i>Scaevola</i> sp. Mt Nameless (P.A.S. Wurm 1443)	●	●	□	□	□	□	□				
	<i>Scaevola spinescens</i>	●	●	●	□	□	□	□				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Velleia connata</i>	●	●	□	□	□	□	□				
	<i>Velleia glabrata</i>	●	●	□	□	□	□	□				
Gyrostemonaceae	<i>Codonocarpus cotinifolius</i>	●	●	●	□	□	□	□				
Haloragaceae	<i>Gonocarpus ephemerus</i>	●	●	□	□	□	□	□				
	<i>Haloragis gossei</i>	●	●	□	□	□	□	□				
	<i>Haloragis gossei</i> var. <i>gossei</i>	●	□	□	□	□	□	□				
	<i>Haloragis maierae</i>	●	●	□	□	□	□	□				
Hemerocallidaceae	<i>Tricoryne</i> sp. Hamersley Range (S. van Leeuwen 915)	●	●	□	□	□	□	□				
Iridaceae	<i>Moraea flaccida</i>	□	□	□	□	□	□	●				Y
	<i>Moraea miniata</i>	□	□	□	□	□	□	●				Y
Lamiaceae	<i>Clerodendrum floribundum</i>	□	●	□	□	□	□	□				
	<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>	●	□	●	□	□	□	□				
	<i>Dicrastylis cordifolia</i>	●	●	□	□	□	□	□				
	<i>Dicrastylis kumarinensis</i>	●	●	□	□	□	□	□				
	<i>Newcastelia cephalantha</i>	●	●	□	□	□	□	□				
	<i>Newcastelia</i> sp. Hamersley Range (S. van Leeuwen 4264)	●	●	□	□	□	□	□				
	<i>Pityrodia augustensis</i>	□	□	□	□	□	●	□		VUL	VUL	
	<i>Prostanthera albiflora</i>	●	●	□	□	□	□	□				
Lauraceae	<i>Cassytha capillaris</i>	●	●	●	□	□	□	□				
Loganiaceae	<i>Mitrasacme connata</i>	●	●	□	□	□	□	□				
Loranthaceae	<i>Amyema bifurcata</i>	●	●	□	□	□	□	□				
	<i>Amyema fitzgeraldii</i>	●	●	●	□	□	□	□				
	<i>Amyema gibberula</i>	□	●	□	□	□	□	□				

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		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Amyema gibberula</i> var. <i>gibberula</i>	●	□	□	□	□	□	□				
	<i>Amyema hilliana</i>	●	●	□	□	□	□	□				
	<i>Amyema miquelii</i>	●	●	●	□	□	□	□				
	<i>Amyema preissii</i>	●	●	●	□	□	□	□				
	<i>Amyema sanguinea</i>	□	●	□	□	□	□	□				
	<i>Amyema sanguinea</i> var. <i>pulchra</i>	●	□	□	□	□	□	□				
	<i>Lysiana casuarinae</i>	●	●	□	□	□	□	□				
	<i>Lysiana murrayi</i>	●	●	□	□	□	□	□				
Lythraceae	<i>Ammannia multiflora</i>	●	●	□	□	□	□	□				
	<i>Rotala diandra</i>	●	●	□	□	□	□	□				
Malvaceae	<i>Abutilon amplum</i>	●	●	□	□	□	□	□				
	<i>Abutilon cryptopetalum</i>	●	●	●	□	□	□	□				
	<i>Abutilon cunninghamii</i>	●	●	□	□	□	□	□				
	<i>Abutilon fraseri</i>	●	●	●	□	□	□	□				
	<i>Abutilon lepidum</i>	●	●	□	□	□	□	□				
	<i>Abutilon macrum</i>	●	●	●	□	□	□	□				
	<i>Abutilon malvifolium</i>	●	●	□	□	□	□	□				
	<i>Abutilon otocarpum</i>	●	●	●	□	□	□	□				
	<i>Abutilon oxycarpum</i>	●	●	□	□	□	□	□				
	<i>Abutilon oxycarpum</i> subsp. <i>Prostrate</i> (A.A. Mitchell PRP 1266)	□	□	●	□	□	□	□				
	<i>Abutilon</i> sp. <i>Dioicum</i> (A.A. Mitchell PRP 1618)	●	●	□	□	□	□	□				
	<i>Abutilon</i> sp. <i>Pilbara</i> (W.R. Barker 2025)	●	●	□	□	□	□	□				
	<i>Androcalva loxophylla</i>	●	●	□	□	□	□	□				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Androcalva luteiflora</i>	●	●	●	□	□	□	□				
	<i>Corchorus crozophorifolius</i>	●	●	□	□	□	□	□				
	<i>Corchorus elachocarpus</i>	●	□	□	□	□	□	□				
	<i>Corchorus laniflorus</i>	●	●	●	□	□	□	□				
	<i>Corchorus lasiocarpus</i>	●	●	□	□	□	□	□				
	<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>	●	□	●	□	□	□	□				
	<i>Corchorus lasiocarpus</i> subsp. <i>parvus</i>	●	□	●	□	□	□	□				
	<i>Corchorus parviflorus</i>	□	□	●	□	□	□	□				
	<i>Corchorus</i> sp. Hamersley Range hilltops (S. van Leeuwen 3826)	●	●	□	□	□	□	□				
	<i>Corchorus tridens</i>	●	●	●	□	□	□	□				
	<i>Corchorus walcottii</i>	□	●	□	□	□	□	□				
	<i>Gossypium australe</i>	□	□	●	□	□	□	□				
	<i>Gossypium robinsonii</i>	□	□	●	□	□	□	□				
	<i>Gossypium sturtianum</i>	□	●	□	□	□	□	□				
	<i>Gossypium sturtianum</i> var. <i>sturtianum</i>	●	□	□	□	□	□	□				
	<i>Hibiscus austrinus</i>	□	●	□	□	□	□	□				
	<i>Hibiscus austrinus</i> var. <i>austrinus</i>	●	□	□	□	□	□	□				
	<i>Hibiscus burtonii</i>	●	●	●	□	□	□	□				
	<i>Hibiscus campanulatus</i>	●	□	□	□	□	□	□				
	<i>Hibiscus coatesii</i>	●	●	●	□	□	□	□				
	<i>Hibiscus goldsworthii</i>	●	●	□	□	□	□	□				
	<i>Hibiscus haynaldii</i>	●	●	□	□	□	□	□				
	<i>Hibiscus</i> sp. Gardneri (A.L. Payne PRP 1435)	□	□	●	□	□	□	□				



Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Hibiscus</i> sp. Gurinbiddy Range (M.E. Trudgen MET 15708)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	2			
	<i>Hibiscus sturtii</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Hibiscus sturtii</i> var. <i>grandiflorus</i>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Hibiscus sturtii</i> var. <i>truncatus</i>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Hibiscus verdcourtii</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Keraudrenia nephrosperma</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Malvastrum americanum</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Melhania oblongifolia</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Seringia elliptica</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Seringia nephrosperma</i>	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida arenicola</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida brownii</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida calyxhymenia</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida cardiophylla</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida corrugata</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida echinocarpa</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida ectogama</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida fibulifera</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida platycalyx</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida</i> sp. Barlee Range (S. van Leeuwen 1642)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3			
	<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida</i> sp. Excedentifolia (J.L. Egan 1925)	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

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		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Sida</i> sp. Golden calyces glabrous (H.N. Foote 32)	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida</i> sp. L (A.M. Ashby 4202)	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida</i> sp. Pilbara (A.A. Mitchell PRP 1543)	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida</i> sp. Rabbit Flat (B.J. Carter 626)	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida</i> sp. Shovelanna Hill (S. van Leeuwen 3842)	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida</i> sp. spiciform panicles (E. Leyland s.n. 14/8/90)	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida</i> sp. Supplejack Station (T.S. Henshall 2345)	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida</i> sp. tiny glabrous fruit (A.A. Mitchell PRP1152)	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Sida trichopoda</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Triumfetta leptacantha</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Triumfetta maconochieana</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Marsileaceae	<i>Marsilea drummondii</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Marsilea exarata</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Marsilea hirsuta</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Molluginaceae	<i>Mollugo molluginea</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Montiaceae	<i>Calandrinia ptychosperma</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calandrinia quadrivalvis</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calandrinia reticulata</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calandrinia schistorhiza</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calandrinia stagnensis</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Calandrinia tepperiana</i>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

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Moraceae	<i>Ficus brachypoda</i>	●	●	●	□	□	□	□				
Myrtaceae	<i>Calytrix carinata</i>	●	●	●	□	□	□	□				
	<i>Calytrix nematochlada</i>	□	●	□	□	□	□	□				
	<i>Corymbia aspera</i>	●	●	□	□	□	□	□				
	<i>Corymbia candida</i>	●	●	●	□	□	□	□				
	<i>Corymbia candida</i> subsp. <i>dipsodes</i>	●	□	□	□	□	□	□				
	<i>Corymbia deserticola</i>	●	●	□	□	□	□	□				
	<i>Corymbia deserticola</i> subsp. <i>deserticola</i>	●	□	□	□	□	□	□				
	<i>Corymbia eremaea</i>	□	□	●	□	□	□	□				
	<i>Corymbia ferritcola</i>	●	●	●	□	□	□	□				
	<i>Corymbia hamersleyana</i>	●	●	●	□	□	□	□				
	<i>Corymbia lenziana</i>	□	●	□	□	□	□	□				
	<i>Corymbia opaca</i>	●	●	□	□	□	□	□				
	<i>Corymbia terminalis</i>	□	●	□	□	□	□	□				
	<i>Eucalyptus alatissima</i>	□	●	□	□	□	□	□				
	<i>Eucalyptus camaldulensis</i>	□	●	□	□	□	□	□				
	<i>Eucalyptus camaldulensis</i> subsp. <i>obtusa</i>	●	□	●	□	□	□	□				
	<i>Eucalyptus camaldulensis</i> subsp. <i>refulgens</i>	□	□	●	□	□	□	□				
	<i>Eucalyptus erythrocorys</i>	□	□	●	□	□	□	□				
	<i>Eucalyptus ewartiana</i>	●	●	□	□	□	□	□				
	<i>Eucalyptus gamophylla</i>	●	●	●	□	□	□	□				
<i>Eucalyptus kingsmillii</i>	●	●	□	□	□	□	□					
<i>Eucalyptus leucophloia</i>	□	●	□	□	□	□	□					

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		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	●	□	●	□	□	□	□				
	<i>Eucalyptus lucasii</i>	●	●	●	□	□	□	□				
	<i>Eucalyptus patellaris</i>	□	●	□	□	□	□	□				
	<i>Eucalyptus pilbarensis</i>	□	●	□	□	□	□	□				
	<i>Eucalyptus repullulans</i>	●	●	□	□	□	□	□				
	<i>Eucalyptus socialis</i>	●	●	□	□	□	□	□				
	<i>Eucalyptus socialis</i> subsp. <i>eucentrica</i>	●	□	●	□	□	□	□				
	<i>Eucalyptus striatocalyx</i>	□	●	□	□	□	□	□				
	<i>Eucalyptus trivalva</i>	●	●	●	□	□	□	□				
	<i>Eucalyptus victrix</i>	●	●	□	□	□	□	□				
	<i>Eucalyptus xerothermica</i>	●	●	●	□	□	□	□				
	<i>Lamarchea sulcata</i>	●	●	□	□	□	□	□				
	<i>Melaleuca eleuterostachya</i>	□	●	●	□	□	□	□				
	<i>Melaleuca glomerata</i>	●	●	□	□	□	□	□				
Nyctaginaceae	<i>Boerhavia burbidgeana</i>	□	□	●	□	□	□	□				
	<i>Boerhavia coccinea</i>	□	□	●	□	□	□	□				
	<i>Boerhavia paludosa</i>	□	□	●	□	□	□	□				
	<i>Boerhavia repleta</i>	●	●	□	□	□	□	□				
Oleaceae	<i>Jasminum didymum</i>	□	●	●	□	□	□	□				
	<i>Jasminum didymum</i> subsp. <i>lineare</i>	●	□	●	□	□	□	□				
Ophioglossaceae	<i>Ophioglossum lusitanicum</i>	●	●	□	□	□	□	□				
Orobanchaceae	<i>Striga squamigera</i>	●	●	□	□	□	□	□				
Oxalidaceae	<i>Oxalis</i> sp. Pilbara (M.E. Trudgen 12725)	●	●	□	●	□	□	□	2			

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Papaveraceae	<i>Argemone ochroleuca</i>	☐	☐	●	☐	☐	☐	☐				Y
	<i>Argemone ochroleuca</i> subsp. <i>ochroleuca</i>	☐	☐	●	☐	☐	☐	☐				Y
Phrymaceae	<i>Mimulus gracilis</i>	●	●	☐	☐	☐	☐	☐				
	<i>Peplidium maritimum</i>	●	●	☐	☐	☐	☐	☐				
Phyllanthaceae	<i>Phyllanthus maderaspatensis</i>	☐	☐	●	☐	☐	☐	☐				
	<i>Phyllanthus virgatus</i>	●	●	☐	☐	☐	☐	☐				
	<i>Synostemon rhytidospermus</i>	●	●	☐	☐	☐	☐	☐				
Plantaginaceae	<i>Stemodia viscosa</i>	●	●	●	☐	☐	☐	☐				
Plumbaginaceae	<i>Plumbago zeylanica</i>	●	●	☐	☐	☐	☐	☐				
Poaceae	<i>Amphipogon caricinus</i>	●	●	☐	☐	☐	☐	☐				
	<i>Amphipogon sericeus</i>	●	●	☐	☐	☐	☐	☐				
	<i>Aristida aff. nitidula</i>	☐	☐	●	☐	☐	☐	☐				
	<i>Aristida burbridgeae</i>	●	●	●	☐	☐	☐	☐				
	<i>Aristida contorta</i>	●	●	●	☐	☐	☐	☐				
	<i>Aristida holathera</i>	☐	●	●	☐	☐	☐	☐				
	<i>Aristida holathera</i> var. <i>holathera</i>	●	☐	●	☐	☐	☐	☐				
	<i>Aristida inaequiglumis</i>	●	●	●	☐	☐	☐	☐				
	<i>Aristida jerichoensis</i>	☐	●	☐	☐	☐	☐	☐				
	<i>Aristida jerichoensis</i> var. <i>subspinulifera</i>	●	☐	☐	●	☐	☐	☐	3			
	<i>Aristida latifolia</i>	●	●	●	☐	☐	☐	☐				
	<i>Aristida lazaridis</i>	●	●	☐	●	☐	☐	☐	2			
	<i>Aristida nitidula</i>	●	☐	☐	☐	☐	☐	☐				
	<i>Aristida obscura</i>	●	●	☐	☐	☐	☐	☐				

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	<i>Astrebla elymoides</i>	●	●	□	□	□	□	□				
	<i>Austrostipa nitida</i>	●	●	□	□	□	□	□				
	<i>Brachyachne convergens</i>	□	●	□	□	□	□	□				
	<i>Brachyachne prostrata</i>	□	●	□	□	□	□	□				
	<i>Cenchrus ciliaris</i>	●	●	●	□	□	●	□				Y
	<i>Cenchrus setiger</i>	●	●	●	□	□	□	□				Y
	<i>Chloris barbata</i>	□	□	●	□	□	□	□				Y
	<i>Chloris pectinata</i>	●	●	●	□	□	□	□				
	<i>Chloris pumilio</i>	●	●	□	□	□	□	□				
	<i>Chloris virgata</i>	●	●	●	□	□	□	□				Y
	<i>Chrysopogon fallax</i>	●	●	●	□	□	□	□				
	<i>Cymbopogon ambiguus</i>	●	●	●	□	□	□	□				
	<i>Cymbopogon obtectus</i>	□	□	●	□	□	□	□				
	<i>Cynodon convergens</i>	●	□	●	□	□	□	□				
	<i>Cynodon dactylon</i>	●	●	●	□	□	□	□				Y
	<i>Cynodon prostratus</i>	●	●	□	□	□	□	□				
	<i>Dactyloctenium radulans</i>	●	●	●	□	□	□	□				
	<i>Dichanthium fecundum</i>	●	●	□	□	□	□	□				
	<i>Dichanthium sericeum</i>	□	●	□	□	□	□	□				
	<i>Dichanthium sericeum</i> subsp. <i>humilius</i>	●	□	●	□	□	□	□				
	<i>Dichanthium sericeum</i> subsp. <i>sericeum</i>	●	□	□	□	□	□	□				
	<i>Digitaria ammophila</i>	●	●	□	□	□	□	□				
	<i>Digitaria brownii</i>	●	●	●	□	□	□	□				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Digitaria ciliaris</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Digitaria ctenantha</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Diplachne fusca</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Diplachne fusca</i> subsp. <i>muelleri</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Echinochloa colona</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				Y
	<i>Elytrophorus spicatus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Enneapogon avenaceus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Enneapogon caerulescens</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Enneapogon lindleyanus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Enneapogon polyphyllus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Enneapogon robustissimus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Enteropogon ramosus</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis cumingii</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis dielsii</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis elongata</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis eriopoda</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis lanipes</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis leptocarpa</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis olida</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis pergracilis</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis setifolia</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis speciosa</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eragrostis tenellula</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

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	<i>Eragrostis xerophila</i>	●	●	●	□	□	□	□				
	<i>Eriachne aristidea</i>	□	●	□	□	□	□	□				
	<i>Eriachne benthamii</i>	●	●	□	□	□	□	□				
	<i>Eriachne flaccida</i>	●	●	●	□	□	□	□				
	<i>Eriachne helmsii</i>	□	□	●	□	□	□	□				
	<i>Eriachne lanata</i>	●	●	●	□	□	□	□				
	<i>Eriachne mucronata</i>	●	●	●	□	□	□	□				
	<i>Eriachne obtusa</i>	●	●	□	□	□	□	□				
	<i>Eriachne pulchella</i>	□	●	□	□	□	□	□				
	<i>Eriachne pulchella</i> subsp. <i>dominii</i>	●	□	●	□	□	□	□				
	<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	●	□	□	□	□	□	□				
	<i>Eriachne tenuiculmis</i>	●	●	□	□	□	□	□				
	<i>Eriochloa pseudoacrotricha</i>	●	●	□	□	□	□	□				
	<i>Eulalia aurea</i>	●	●	●	□	□	□	□				
	<i>Iseilema dolichotrichum</i>	●	●	□	□	□	□	□				
	<i>Iseilema eremaeum</i>	●	●	●	□	□	□	□				
	<i>Iseilema membranaceum</i>	●	●	□	□	□	□	□				
	<i>Iseilema vaginiflorum</i>	●	●	●	□	□	□	□				
	<i>Leptochloa digitata</i>	●	●	□	□	□	□	□				
	<i>Panicum decompositum</i>	●	●	□	□	□	□	□				
	<i>Panicum effusum</i>	●	●	●	□	□	□	□				
	<i>Panicum laevinode</i>	●	●	□	□	□	□	□				
	<i>Paraneurachne muelleri</i>	●	●	●	□	□	□	□				



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	<i>Paspalidium clementii</i>	●	●	●	□	□	□	□				
	<i>Paspalidium constrictum</i>	●	●	●	□	□	□	□				
	<i>Paspalidium rarum</i>	●	●	●	□	□	□	□				
	<i>Perotis rara</i>	●	●	●	□	□	□	□				
	<i>Schizachyrium fragile</i>	●	●	●	□	□	□	□				
	<i>Setaria dielsii</i>	●	●	□	□	□	□	□				
	<i>Setaria surgens</i>	●	●	□	□	□	□	□				
	<i>Setaria verticillata</i>	●	●	●	□	□	□	□				Y
	<i>Sorghum plumosum</i>	●	●	●	□	□	□	□				
	<i>Sporobolus actinocladius</i>	●	●	●	□	□	□	□				
	<i>Sporobolus australasicus</i>	●	●	●	□	□	□	□				
	<i>Themeda</i> sp. Hamersley Station (M.E. Trudgen 11431)	●	●	●	●	□	□	□	3			
	<i>Themeda triandra</i>	●	●	●	□	□	□	□				
	<i>Thyridolepis mitchelliana</i>	●	●	□	□	□	□	□				
	<i>Thyridolepis xerophila</i>	●	●	□	□	□	□	□				
	<i>Tragus australianus</i>	●	●	●	□	□	□	□				
	<i>Triodia angusta</i>	●	●	●	□	□	□	□				
	<i>Triodia basedowii</i>	●	●	●	□	□	□	□				
	<i>Triodia bitextura</i>	□	●	□	□	□	□	□				
	<i>Triodia brizoides</i>	●	●	●	□	□	□	□				
	<i>Triodia epactia</i>	□	●	●	□	□	□	□				
	<i>Triodia longiceps</i>	●	●	●	□	□	□	□				
	<i>Triodia melvillei</i>	●	●	□	□	□	□	□				

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	<i>Triodia pascoeana</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Triodia pungens</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Triodia schinzii</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Triodia</i> sp. Mt Ella (M.E. Trudgen 12739)	●	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	3			
	<i>Triodia vanleeuwenii</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Triodia wiseana</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Tripogonella loliiformis</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Triraphis mollis</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Urochloa occidentalis</i> var. <i>ciliata</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Urochloa piligera</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Urochloa subquadripara</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Xerochloa imberbis</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Yakirra australiensis</i>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Yakirra australiensis</i> var. <i>australiensis</i>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Polygalaceae	<i>Polygala glaucifolia</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Polygonaceae	<i>Rumex vesicarius</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●				Y
Portulacaceae	<i>Portulaca cyclophylla</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Portulaca decipiens</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Portulaca filifolia</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Portulaca intraterranea</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Portulaca oleracea</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Portulaca pilosa</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Proteaceae	<i>Grevillea berryana</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

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	<i>Grevillea juncifolia</i>	☐	●	☐	☐	☐	☐	☐				
	<i>Grevillea juncifolia</i> subsp. <i>juncifolia</i>	●	☐	☐	☐	☐	☐	☐				
	<i>Grevillea pyramidalis</i>	●	●	☐	☐	☐	☐	☐				
	<i>Grevillea saxicola</i>	☐	☐	☐	●	☐	☐	☐	3			
	<i>Grevillea stenobotrya</i>	●	●	●	☐	☐	☐	☐				
	<i>Grevillea striata</i>	●	●	●	☐	☐	☐	☐				
	<i>Grevillea wickhamii</i>	☐	●	●	☐	☐	☐	☐				
	<i>Grevillea wickhamii</i> subsp. <i>aprica</i>	●	☐	☐	☐	☐	☐	☐				
	<i>Grevillea wickhamii</i> subsp. <i>hispidula</i>	●	☐	☐	☐	☐	☐	☐				
	<i>Hakea chordophylla</i>	●	●	●	☐	☐	☐	☐				
	<i>Hakea lorea</i>	☐	●	☐	☐	☐	☐	☐				
	<i>Hakea lorea</i> subsp. <i>lorea</i>	●	☐	●	☐	☐	☐	☐				
	<i>Hakea preissii</i>	●	●	●	☐	☐	☐	☐				
Pteridaceae	<i>Cheilanthes brownii</i>	●	●	●	☐	☐	☐	☐				
	<i>Cheilanthes lasiophylla</i>	●	●	☐	☐	☐	☐	☐				
	<i>Cheilanthes sieberi</i>	☐	●	●	☐	☐	☐	☐				
	<i>Cheilanthes sieberi</i> subsp. <i>pseudovellea</i>	●	☐	☐	☐	☐	☐	☐				
	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	●	☐	●	☐	☐	☐	☐				
	<i>Cheilanthes tenuifolia</i>	●	☐	☐	☐	☐	☐	☐				
Rhamnaceae	<i>Cryptandra monticola</i>	●	●	☐	☐	☐	☐	☐				
	<i>Ziziphus mauritiana</i>	☐	☐	☐	☐	☐	☐	●				Y
Rosaceae	<i>Rubus anglocandicans</i>	☐	☐	☐	☐	☐	☐	●				Y
	<i>Rubus laudatus</i>	☐	☐	☐	☐	☐	☐	●				Y

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	<i>Rubus rugosus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				Y
	<i>Rubus ulmifolius</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>				Y
Rubiaceae	<i>Oldenlandia crouchiana</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Psydrax latifolia</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Psydrax rigidula</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Psydrax suaveolens</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Spermacoce brachystema</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Ruppiaceae	<i>Ruppia polycarpa</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Santalaceae	<i>Anthobolus leptomerioides</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Santalum lanceolatum</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Sapindaceae	<i>Atalaya hemiglauca</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Diplopeltis stuartii</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Diplopeltis stuartii</i> var. <i>stuartii</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Dodonaea bursariifolia</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Dodonaea coriacea</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Dodonaea lanceolata</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Dodonaea lanceolata</i> var. <i>lanceolata</i>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Dodonaea pachyneura</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Dodonaea petiolaris</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Scrophulariaceae	<i>Eremophila canaliculata</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eremophila capricornica</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	1			
	<i>Eremophila clarkei</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
	<i>Eremophila cuneifolia</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				

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	<i>Eremophila exilifolia</i>	●	●	●	□	□	□	□				
	<i>Eremophila flaccida</i>	□	●	□	□	□	□	□				
	<i>Eremophila flaccida</i> subsp. <i>flaccida</i>	●	□	□	□	□	□	□				
	<i>Eremophila forrestii</i>	□	●	●	□	□	□	□				
	<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	●	□	●	□	□	□	□				
	<i>Eremophila fraseri</i>	□	●	□	□	□	□	□				
	<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	●	□	●	□	□	□	□				
	<i>Eremophila galeata</i>	●	●	□	□	□	□	□				
	<i>Eremophila jucunda</i>	□	●	□	□	□	□	□				
	<i>Eremophila jucunda</i> subsp. <i>pulcherrima</i>	●	□	□	□	□	□	□				
	<i>Eremophila lachnocalyx</i>	●	●	●	□	□	□	□				
	<i>Eremophila lanceolata</i>	●	●	●	□	□	□	□				
	<i>Eremophila latrobei</i>	□	●	●	□	□	□	□				
	<i>Eremophila latrobei</i> subsp. <i>filiformis</i>	●	□	□	□	□	□	□				
	<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	●	□	●	□	□	□	□				
	<i>Eremophila longifolia</i>	●	●	●	□	□	□	□				
	<i>Eremophila maculata</i>	□	●	□	□	□	□	□				
	<i>Eremophila maculata</i> subsp. <i>brevifolia</i>	●	□	□	□	□	□	□				
	<i>Eremophila maculata</i> subsp. <i>maculata</i>	●	□	□	□	□	□	□				
	<i>Eremophila magnifica</i>	□	●	●	□	□	□	□				
	<i>Eremophila magnifica</i> subsp. <i>magnifica</i>	●	□	●	●	□	□	□	4			
	<i>Eremophila magnifica</i> subsp. <i>velutina</i>	●	□	●	●	□	□	□	3			
	<i>Eremophila margarethae</i>	●	●	□	□	□	□	□				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Eremophila platycalyx</i>	☐	●	●	☐	☐	☐	☐				
	<i>Eremophila platycalyx</i> subsp. Neds Creek (N.H. Speck 1228)	●	☐	☐	☐	☐	☐	☐				
	<i>Eremophila platycalyx</i> subsp. <i>pardalota</i>	●	☐	●	☐	☐	☐	☐				
	<i>Eremophila rhexos</i>	●	●	☐	●	☐	☐	☐	1			
	<i>Eremophila rigida</i>	●	●	☐	●	●	☐	☐	3			
	<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136)	●	☐	☐	●	☐	☐	☐	3			
	<i>Eremophila</i> sp. West Angelas (S. van Leeuwen 4068)	●	●	☐	●	☐	☐	☐	1			
	<i>Eremophila tietkensis</i>	☐	●	☐	☐	☐	☐	☐				
	<i>Eremophila youngii</i>	☐	●	☐	☐	☐	☐	☐				
	<i>Eremophila youngii</i> subsp. <i>lepidota</i>	●	☐	☐	●	☐	☐	☐	4			
	<i>Myoporum montanum</i>	●	●	☐	☐	☐	☐	☐				
Solanaceae	<i>Nicotiana benthamiana</i>	●	●	☐	☐	☐	☐	☐				
	<i>Nicotiana occidentalis</i>	●	●	☐	☐	☐	☐	☐				
	<i>Nicotiana occidentalis</i> subsp. <i>obliqua</i>	●	☐	☐	☐	☐	☐	☐				
	<i>Nicotiana rosulata</i>	●	●	☐	☐	☐	☐	☐				
	<i>Nicotiana rosulata</i> subsp. <i>rosulata</i>	●	☐	☐	☐	☐	☐	☐				
	<i>Solanum centrale</i>	●	●	☐	☐	☐	☐	☐				
	<i>Solanum cleistogamum</i>	●	●	●	☐	☐	☐	☐				
	<i>Solanum diversiflorum</i>	☐	●	☐	☐	☐	☐	☐				
	<i>Solanum elaeagnifolium</i>	☐	☐	☐	☐	☐	☐	●				Y
	<i>Solanum elatius</i>	●	●	☐	☐	☐	☐	☐				
	<i>Solanum horridum</i>	☐	☐	●	☐	☐	☐	☐				
	<i>Solanum lachnophyllum</i>	●	●	☐	☐	☐	☐	☐				

Family	Taxon	Source							Conservation Status			Introduced
		NatureMap	ALA	BHP	WAH	TPFL	EPBC	WAOL	DBCA	BC Act	EPBC Act	
	<i>Solanum lasiophyllum</i>	●	●	●	□	□	□	□				
	<i>Solanum linnaeanum</i>	□	□	□	□	□	□	●				Y
	<i>Solanum morrisonii</i>	□	●	□	□	□	□	□				
	<i>Solanum nigrum</i>	□	□	●	□	□	□	□				Y
	<i>Solanum piceum</i>	●	●	□	□	□	□	□				
	<i>Solanum sturtianum</i>	□	●	□	□	□	□	□				
Stylidiaceae	<i>Stylidium desertorum</i>	□	●	□	□	□	□	□				
Tamaricaceae	<i>Tamarix aphylla</i>	□	□	●	□	□	□	●				Y
Thymelaeaceae	<i>Pimelea forrestiana</i>	●	●	□	□	□	□	□				
	<i>Pimelea holroydii</i>	●	●	□	□	□	□	□				
Typhaceae	<i>Typha domingensis</i>	●	●	□	□	□	□	□				
Ustilaginaceae	<i>Anthracocystis tumefaciens</i>	●	□	□	□	□	□	□				
Verbenaceae	<i>Lantana camara</i>	□	□	□	□	□	□	●				Y
Violaceae	<i>Hybanthus aurantiacus</i>	●	●	□	□	□	□	□				
Zygophyllaceae	<i>Tribulus astrocarpus</i>	●	●	□	□	□	□	□				
	<i>Tribulus eichlerianus</i>	●	□	□	□	□	□	□				
	<i>Tribulus hirsutus</i>	●	●	□	□	□	□	□				
	<i>Tribulus hystrix</i>	□	●	□	□	□	□	□				
	<i>Tribulus macrocarpus</i>	●	●	□	□	□	□	□				
	<i>Tribulus suberosus</i>	●	●	●	□	□	□	□				
	<i>Tribulus terrestris</i>	●	●	●	□	□	□	□				Y
	<i>Zygophyllum iodocarpum</i>	□	●	□	□	□	□	□				
	<i>Zygophyllum simile</i>	□	●	□	□	□	□	□				

## Appendix H: Conservation Significant Flora Likelihood of Occurrence

### Source

- A: Threatened and Priority Flora Database (DBCA, 2020c)
- B: Western Australian Herbarium Specimen Database (DBCA, 2020c)
- C: NatureMap (DBCA, 2020a)



Taxon	Conservation Status			Habit and Habitat	Habitat within Study Area	Within Current Known Distribution	Distance to Nearest Record	Likelihood of Occurrence	Likelihood Post-Survey
	DBCA	BC Act	EPBC Act						
<i>Gymnanthera cunninghamii</i>	P3			Erect shrub, 1-2 m high. Fl. cream-yellow-green, Jan to Dec. Sandy soils.	Yes	Yes	Within	Confirmed	Confirmed
<i>Indigofera gilesii</i>	P3			Shrub, to 1.5 m high. Fl. purple-pink, May or Aug. Pebbly loam. Amongst boulders & outcrops, hills.	Yes	Yes	Within	Confirmed	Confirmed
<i>Goodenia nuda</i>	P4			Erect to ascending herb, to 0.5 m high. Fl. yellow, Apr to Aug.	Yes	Yes	2.9 km E	Highly Likely	Confirmed
<i>Euphorbia inappendiculata</i> var. <i>inappendiculata</i>	P2			Prostrate annual herb, to 0.1 m high. Red brown clay loam. Flat plain, cracking clay floodplain, gentle slopes.	Yes	Yes	5.3 km NE	Likely	Possible
<i>Lepidium catapycnon</i>	P4			Open, woody perennial, herb or shrub, 0.2-0.3 m high, stems zigzag. Fl. white, Oct. Skeletal soils. Hillsides.	Yes	Yes	1.4 km N	Likely	Possible
<i>Eremophila magnifica</i> subsp. <i>magnifica</i>	P4			Shrub, 0.5-1.5 m high. Fl. blue, Aug to Nov. Skeletal soils over ironstone. Rocky screes.	Possible	Yes	6.5 km NNE	Likely	Unlikely
<i>Isotropis parviflora</i>	P2			Shrub, 0.1 m high. Fl. white/pink, Mar. Valley slope of ironstone plateau.	Possible	Yes	18.2 km NNW	Possible	Confirmed
<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136)	P3			Erect shrub, 1-3 m high. Fl. White/pale blue. Red brown sandy clay loam. Upper slopes, gullies, gorges.	Possible	Yes	16.3 km NE	Possible	Confirmed
<i>Ipomoea racemigera</i>	P2			Creeping annual, herb or climber. Fl. white.	Possible	Yes	4.4 km NE	Possible	Possible
<i>Eremophila</i> sp. West Angelas (S. van Leeuwen 4068)	P1			Spindly shrub, 0.4-3 m high. Skeletal brown-red soil or loam. Hill slopes and summits.	Yes	Yes	26.5 km WNW	Possible	Unlikely
<i>Aristida jerichoensis</i> var. <i>subspinulifera</i>	P3			Compactly tufted perennial, grass-like or herb, 0.3-0.8 m high, lemma groove muricate. Hardpan plains.	Possible	Yes	12.7 km NE	Possible	Unlikely
<i>Eremophila magnifica</i> subsp. <i>velutina</i>	P3			Shrub, 0.5-1.5 m high. Fl. blue-purple, Aug to Sep. Skeletal soils over ironstone. Summits.	Yes	Yes	12.9 km NE	Possible	Unlikely
<i>Goodenia</i> sp. East Pilbara (A.A. Mitchell PRP 727)	P3			Open, erect annual or biennial, herb, to 0.2 m high. Fl. yellow. Red-brown clay soil, calcrete pebbles. Low undulating plain, swampy plains.	Possible	Yes	8.1 km NE	Possible	Unlikely
<i>Themeda</i> sp. Hamersley Station (M.E. Trudgen 11431)	P3			Tussocky perennial, grass-like or herb, 0.9-1.8 m high. Fl. Aug. Red clay. Clay pan, grass plain.	Possible	Yes	12.5 km E	Possible	Unlikely

Taxon	Conservation Status			Habit and Habitat	Habitat within Study Area	Within Current Known Distribution	Distance to Nearest Record	Likelihood of Occurrence	Likelihood Post-Survey
	DBCA	BC Act	EPBC Act						
<i>Triodia</i> sp. Mt Ella (M.E. Trudgen 12739)	P3			Perennial, grass-like or herb, 0.4 m high. Light orange-brown, pebbly loam. Amongst rocks & outcrops, gully slopes.	Yes	Yes	11.1 km N	Possible	Unlikely
<i>Acacia bromilowiana</i>	P4			Tree or shrub, to 12 m high, bark dark grey, fibrous; phyllodes more or less glaucous & slightly pruinose; inflorescence in spikes. Fl. yellow/pink, Jul to Aug. Red skeletal stony loam, orange-brown pebbly, gravel loam, laterite, banded ironstone, basalt. Rocky hills, breakaways, scree slopes, gorges, creek beds.	Yes	Yes	26.5 km NW	Possible	Unlikely
<i>Hibiscus campanulatus</i>	P1			Erect bushy shrub, 1-3.5 m high. Fl. White/pale pink. Brown loamy to skeletal soils. Rocky gullies, ironstone range.	Yes	No	12 km NE	Unlikely	Unlikely
<i>Vittadinia</i> sp. Coondewanna Flats (S. van Leeuwen 4684)	P1			Erect annual herb, 0.3-1 m high. Fl. cream. Red-brown sandy loam. Drainage areas, floodplains, flat and/or stony plains.	No	Yes	38.7 km E	Unlikely	Unlikely
<i>Aristida lazaridis</i>	P2			Tufted perennial, grass-like or herb, 0.4-1.5 m high. Fl. green/purple, Apr. Sand or loam.	Possible	Yes	22.9 km NNW	Unlikely	Unlikely
<i>Hibiscus</i> sp. Gurinbiddy Range (M.E. Trudgen MET 15708)	P2			Erect slender shrub, 1-3 m high. Fl. pale purple. Loamy skeletal soils. Gorge with ironstone outcropping, gullies, drainage line.	Possible	Yes	42.1 km N	Unlikely	Unlikely
<i>Oxalis</i> sp. Pilbara (M.E. Trudgen 12725)	P2			Annual herb, 0.1-0.3 m high. Fl. Yellow. Brown sandy loam or clay. Gorge, ironstone outcrops, gully, shaded areas, creeklines.	Possible	Yes	34.4 km NW	Unlikely	Unlikely
<i>Rhagodia</i> sp. Hamersley (M. Trudgen 17794)	P3			Tall spindly shrub, 1.5-4 m high. Fl. yellow. Red brown sandy loam or clay, ironstone plain. Undulating plains, floodplain.	No	Yes	20.6 km NNW	Unlikely	Unlikely
<i>Goodenia berringbinensis</i>	P4			Ascending annual, herb, 0.1-0.3 m high. Fl. yellow, Oct. Red sandy loam. Along watercourses.	No	Yes	33.8 km E	Unlikely	Unlikely
<i>Eremophila rhexos</i>	P1			Erect shrub, ca 1 m high. Fl. blue-purple-white, Sep. Skeletal stony loam over granite.	No	Yes	35.6 km S	Unlikely	Highly Unlikely
<i>Goodenia hartiana</i>	P2			Erect to spreading, multistemmed perennial, herb or shrub (sub-shrub). Fl. blue-purple. Sand. Sand dune swales, sandhills.	Possible	No	42.1 km E	Unlikely	Highly Unlikely

Taxon	Conservation Status			Habit and Habitat	Habitat within Study Area	Within Current Known Distribution	Distance to Nearest Record	Likelihood of Occurrence	Likelihood Post-Survey
	DBCA	BC Act	EPBC Act						
<i>Acacia subtiliformis</i>	P3			Spindly, slender, erect shrub, to 3.5 m high, phyllodes green, new growth slightly viscid, resinous, aromatic; inflorescence in heads to 6 mm diameter; peduncles red. Fl. yellow, Jun. On rocky calcrete plateau.	No	Yes	26.8 km N	Unlikely	Highly Unlikely
<i>Crotalaria smithiana</i>	P3			Annual, herb, to 0.4 m high. Fl. yellow, Jun. Regeneration site on floodplain.	Possible	No	36.6 km NE	Unlikely	Highly Unlikely
<i>Dampiera metallorum</i>	P3			Rounded, multistemmed perennial, herb, to 0.5 m high. Fl. blue, Apr or Jun to Oct. Skeletal red-brown gravelly soil over banded ironstone. Steep slopes, summits of hills.	Yes	No	39.8 km NW	Unlikely	Highly Unlikely
<i>Eremophila rigida</i>	P3			Bushy shrub, 0.3-4 m high. Fl. cream, Sep. Red sand alluvium. Hardpan plains, stony clay depressions.	No	Yes	19 km SE	Unlikely	Highly Unlikely
<i>Grevillea saxicola</i>	P3			Tree or shrub, to 8 m high, rough bark on trunks and stems; leaves terete, pinnately lobed and grey coloured. Fl. creamy white. Skeletal red brown sandy loam with ironstone pebble cover. Rocky gully, drainage lines, steep cliff, low rocky hills.	Possible	Yes	45.4 km NW	Unlikely	Highly Unlikely
<i>Maireana prosthecochoeta</i>	P3			Open, densely-leaved shrub, 0.3-0.6 m high. Laterite. Hills, salty places.	No	Yes	30.2 km SSW	Unlikely	Highly Unlikely
<i>Sida sp. Barlee Range (S. van Leeuwen 1642)</i>	P3			Spreading shrub, to 0.5 m high. Fl. yellow, Aug. Skeletal red soils pockets. Steep slope.	Possible	Yes	42 km N	Unlikely	Highly Unlikely
<i>Xerochrysum boreale</i>	P3			Perennial, erect shrub, 0.15-1 m high. Flowers yellow. Redbrown clay loam. Stony plain.	No	Yes	33.9 km NNW	Unlikely	Highly Unlikely
<i>Eremophila youngii</i> subsp. <i>lepidota</i>	P4			Dense, spreading shrub, (0.2-)1-3 m high. Fl. purple-red-pink, Jan or Mar or Jun or Aug to Sep. Stony red sandy loam. Flats plains, floodplains, sometimes semi-saline, clay flats.	No	Yes	27.4 km NE	Unlikely	Highly Unlikely
<i>Pityrodia augustensis</i>	T	VUL	VUL	Bushy shrub, ca 1 m high. Fl. purple/purple-red, Aug to Sep. Amongst rocks on slopes or in drainage lines.	No	No	255 km WSW	Highly Unlikely	Highly Unlikely
<i>Acacia corusca</i>	P1			Shrub, 1.5-5(-7) m high. Red brown sandy loam soils. Hill slopes, hillcrests, drainage lines.	Possible	No	43.8 km ENE	Highly Unlikely	Highly Unlikely

Taxon	Conservation Status			Habit and Habitat	Habitat within Study Area	Within Current Known Distribution	Distance to Nearest Record	Likelihood of Occurrence	Likelihood Post-Survey
	DBCA	BC Act	EPBC Act						
<i>Eremophila capricornica</i>	P1			Compact shrub, 0.2-0.5(-0.75) m high. Fl. blue-purple. Red brown loam soil. Hardpan plain over granite.	Possible	No	45.5 km ENE	Highly Unlikely	Highly Unlikely
<i>Triodia pascoeana</i>	P1			Dense, tussock-forming perennial, grass-like or herb, 1-3 m high, non-resinous, panicle long-linear, extremely scabrous, lemma 3-lobed, awnless. Fl. Jan to Apr. Limestone. Limestone ranges & gorges, floodplains.	No	No	4.8 km E	Highly Unlikely	Highly Unlikely
<i>Calytrix nematoclada</i>	P3			Shrub, 0.15-0.5(-1) m high. Fl. purple-pink, Sep or Nov to Dec or Jan. Yellow or grey sand. Sandplains.	No	No	20.4 km SSE	Highly Unlikely	Highly Unlikely

<sup>A</sup>*Triodia pascoeana* is restricted to the Kimberley region of Western Australia and the Newman record was a misidentification.

<sup>B</sup>*Calytrix nematoclada* is restricted to the southern Wheatbelt region of Western Australia and the Newman record was a misidentification.

### **Appendix I: Introduced Flora Database Results**

EPBC Act Protected Matters Search (DAWE, 2020)

NatureMap (DBCA, 2020a)

Atlas of Living Australia (ALA, 2020)

Western Australian Organism List (DPIRD, 2020)

Family	Taxon	Source					Weed of National Significance (WoNS)	Declared Plant Pests (DPP)	Ecological Impact	Invasiveness
		Nature-Map	ALA	BHP	EPBC	WAOL				
Alismataceae	<i>Sagittaria platyphylla</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
Amaranthaceae	<i>Aerva javanica</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	High	Rapid
	<i>Alternanthera pungens</i>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Low	Slow
Anacardiaceae	<i>Schinus molle</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
Apiaceae	<i>Cyclospermum leptophyllum</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
Apocynaceae	<i>Calotropis procera</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Cryptostegia madagascariensis</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
Araceae	<i>Pistia stratiotes</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Zantedeschia aethiopica</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
Araliaceae	<i>Hydrocotyle ranunculoides</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
Arecaceae	<i>Washingtonia filifera</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	High	Rapid
Asparagaceae	<i>Agave americana</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Asparagus asparagoides</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
Asteraceae	<i>Bidens bipinnata</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Unknown	Rapid
	<i>Bidens subalternans</i> var. <i>araneosa</i>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Bidens subalternans</i> var. <i>simulans</i>	●	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Chondrilla juncea</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Conyza bonariensis</i>	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Flaveria trinervia</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Lactuca saligna</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Lactuca serriola</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
<i>Lactuca serriola</i> forma <i>serriola</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed	

Family	Taxon	Source					Weed of National Significance (WoNS)	Declared Plant Pests (DPP)	Ecological Impact	Invasiveness
		Nature-Map	ALA	BHP	EPBC	WAOL				
	<i>Onopordum acaulon</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Silybum marianum</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Sonchus oleraceus</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Low	Rapid
	<i>Symphotrichum squamatum</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Xanthium spinosum</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Xanthium strumarium</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
Boraginaceae	<i>Echium plantagineum</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
Brassicaceae	<i>Sisymbrium orientale</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Low	Unknown
Cactaceae	<i>Austrocylindropuntia cylindrica</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Austrocylindropuntia subulata</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Cylindropuntia fulgida</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	High	Slow
	<i>Cylindropuntia imbricata</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Cylindropuntia kleiniae</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Cylindropuntia pallida</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Cylindropuntia tunicata</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Opuntia elata</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Opuntia elatior</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Opuntia engelmannii</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Opuntia ficus-indica</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Opuntia microdasys</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Opuntia monacantha</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
<i>Opuntia polyacantha</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed	

Family	Taxon	Source					Weed of National Significance (WoNS)	Declared Plant Pests (DPP)	Ecological Impact	Invasiveness
		Nature-Map	ALA	BHP	EPBC	WAOL				
	<i>Opuntia puberula</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Opuntia stricta</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	High	Rapid
	<i>Opuntia tomentosa</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
Cucurbitaceae	<i>Citrullus amarus</i>	●	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Citrullus colocynthis</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Unknown	Moderate
Cyperaceae	<i>Cyperus involucratus</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Cyperus tenuiflorus</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
Euphorbiaceae	<i>Euphorbia hirta</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Low	Slow
	<i>Jatropha gossypifolia</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
Fabaceae	<i>Alhagi maurorum</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Desmanthus virgatus</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Parkinsonia aculeata</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	High	Rapid
	<i>Prosopis glandulosa x velutina</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	High	Rapid
	<i>Senna alata</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Senna obtusifolia</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Senna occidentalis</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Tamarindus indica</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Low	Slow
	<i>Ulex europaeus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Vachellia farnesiana</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	High	Rapid
Iridaceae	<i>Moraea flaccida</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Moraea miniata</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
Malvaceae	<i>Malvastrum americanum</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	High	Rapid



Family	Taxon	Source					Weed of National Significance (WoNS)	Declared Plant Pests (DPP)	Ecological Impact	Invasiveness
		Nature-Map	ALA	BHP	EPBC	WAOL				
Papaveraceae	<i>Argemone ochroleuca</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Not assessed	Not assessed
	<i>Argemone ochroleuca</i> subsp. <i>ochroleuca</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Unknown	Rapid
Poaceae	<i>Cenchrus ciliaris</i>	●	●	●	●	<input type="checkbox"/>	No	No	High	Rapid
	<i>Cenchrus setiger</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	High	Rapid
	<i>Chloris barbata</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	High	Rapid
	<i>Chloris virgata</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	High	Rapid
	<i>Cynodon dactylon</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	High	Rapid
	<i>Digitaria ciliaris</i>	<input type="checkbox"/>	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Low	Slow
	<i>Echinochloa colona</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	High	Rapid
	<i>Setaria verticillata</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	High	Rapid
Polygonaceae	<i>Rumex vesicarius</i>	●	●	●	<input type="checkbox"/>	●	No	No	High	Rapid
Rhamnaceae	<i>Ziziphus mauritiana</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
Rosaceae	<i>Rubus anglocandicans</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Rubus laudatus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Rubus rugosus</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Rubus ulmifolius</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
Solanaceae	<i>Solanum elaeagnifolium</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	Yes	Yes	Not assessed	Not assessed
	<i>Solanum linnaeanum</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
	<i>Solanum nigrum</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Low	Rapid
Tamaricaceae	<i>Tamarix aphylla</i>	<input type="checkbox"/>	<input type="checkbox"/>	●	<input type="checkbox"/>	●	Yes	Yes	High	Rapid
Verbenaceae	<i>Lantana camara</i>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	●	No	Yes	Not assessed	Not assessed
Zygophyllaceae	<i>Tribulus terrestris</i>	●	●	●	<input type="checkbox"/>	<input type="checkbox"/>	No	No	Unknown	Moderate



## Appendix J: Flora Composition

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status			
					EPBC Act	BC Act	Weed	WoNS	DPP	
Acanthaceae	<i>Dicladantha forrestii</i>	•								
	<i>Dipteracanthus australasicus</i>	•								
	<i>Dipteracanthus australasicus</i> subsp. <i>australasicus</i>			•						
Aizoaceae	<i>Trianthema glossostigmum</i>	•								
	<i>Trianthema pilosum</i>	•								
	<i>Trianthema triquetrum</i>	•								
Amaranthaceae	* <i>Aerva javanica</i>	•						Y	N	N
	<i>Alternanthera nana</i>	•		•						
	<i>Alternanthera nodiflora</i>	•								
	<i>Alternanthera</i> sp. indet		•							
	<i>Amaranthus undulatus</i>	•								
	<i>Gomphrena affinis</i> subsp. <i>pilbarensis</i>			•						
	<i>Gomphrena canescens</i>	•								
	<i>Gomphrena cunninghamii</i>	•								
	<i>Gomphrena kanisii</i>	•								
	<i>Gomphrena</i> sp. indet	•		•						
	<i>Ptilotus ? calostachyus</i>	•								
	<i>Ptilotus aevroides</i>	•		•						
	<i>Ptilotus affinis</i> subsp. <i>pilbarensis</i>			•						
	<i>Ptilotus astrolasius</i>	•	•	•						
	<i>Ptilotus auriculifolius</i>	•								
	<i>Ptilotus calostachyus</i>	•	•							
	<i>Ptilotus exaltatus</i>	•	•	•						
	<i>Ptilotus fusiformis</i>	•								
	<i>Ptilotus gaudichaudii</i>	•								
	<i>Ptilotus gomphrenoides</i>			•						
	<i>Ptilotus helipteroides</i>	•								
	<i>Ptilotus obovatus</i>	•	•	•						
<i>Ptilotus polystachyus</i>	•									
<i>Ptilotus rotundifolius</i>	•	•	•							
<i>Ptilotus schwartzii</i>	•									
Apocynaceae	<i>Cynanchum floribundum</i>	•								
	<i>Cynanchum viminale</i>	•								
	<i>Cynanchum viminale</i> subsp. <i>australe</i>	•								
	<i>Gymnanthera cunninghamii</i>	•			3					

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Marsdenia australis</i>	•	•	•					
	<i>Vincetoxicum carnosum</i>	•							
Araliaceae	<i>Astrotricha hamptonii</i>	•							
	<i>Trachymene oleracea</i>	•							
	<i>Trachymene</i> sp. Indet	•							
Asteraceae	? <i>Streptoglossa</i> sp. Indet	•							
	Asteraceae sp. Indet	•							
	* <i>Bidens bipinnata</i>	•		•			Y	N	N
	<i>Bidens pilosa</i> var. <i>pilosa</i>	•							
	<i>Centipeda minima</i>	•							
	<i>Centipeda minima</i> subsp. <i>macrocephala</i>	•		•					
	<i>Chrysocephalum apiculatum</i> subsp. <i>pilbarensis</i>	•		•					
	<i>Chrysocephalum pterochaetum</i>	•							
	* <i>Flaveria trinervia</i>	•		•			Y	N	N
	<i>Olearia stuartii</i>	•							
	<i>Peripleura arida</i>	•							
	<i>Pluchea dentex</i>	•							
	<i>Pluchea dunlopii</i>		•						
	<i>Pluchea rubelliflora</i>	•		•					
	<i>Pterocaulon</i> ? <i>serrulatum</i> var. <i>velutinum</i>	•							
	<i>Pterocaulon</i> sp. indet	•		•					
	<i>Pterocaulon sphacelatum</i>	•							
	* <i>Sonchus oleraceus</i>	•					Y	N	N
	<i>Streptoglossa</i> ? <i>cylindriceps</i>	•							
	<i>Streptoglossa liatroides</i>	•		•					
<i>Streptoglossa</i> sp. Indet	•								
<i>Vittadinia arida</i>	•								
Boraginaceae	<i>Heliotropium argyreum</i>	•							
	<i>Heliotropium cunninghamii</i>	•	•	•					
	<i>Heliotropium heteranthum</i>	•							
	<i>Heliotropium inexplicitum</i>	•							
	<i>Heliotropium pachyphyllum</i>	•							
	<i>Heliotropium tenuifolium</i>	•							
	<i>Heliotropium tanythrix</i>			•					

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Trichodesma zeylanicum</i>	•	•	•					
	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>	•							
Brassicaceae	<i>Lepidium ? pholidogynum</i>	•							
	<i>Lepidium pedicellosum</i>		•						
	<i>Stenopetalum decipiens</i>		•						
Capparaceae	<i>Capparis lasiantha</i>	•	•						
	<i>Capparis spinosa</i>		•						
	<i>Capparis spinosa</i> subsp. <i>nummularia</i>	•							
Caryophyllaceae	<i>Polycarpha corymbosa</i>	•							
	<i>Polycarpha longiflora</i>	•	•	•					
Celastraceae	<i>Stackhousia</i> sp. swollen gynophore (W.R. Barker 2041)	•							
Chenopodiaceae	? <i>Enchylaena tomentosa</i>	•							
	<i>Atriplex codonocarpa</i>			•					
	<i>Chenopodium</i> sp. indet			•					
	<i>Dysphania rhadinostachya</i>	•							
	<i>Dysphania rhadinostachya</i> subsp. <i>rhadinostachya</i>	•							
	<i>Dysphania</i> sp. Indet	•							
	<i>Enchylaena tomentosa</i>	•							
	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>		•	•					
	<i>Maireana ? georgei</i>	•							
	<i>Maireana ? triptera</i>	•							
	<i>Maireana ? villosa</i>	•							
	<i>Maireana georgei</i>	•	•						
	<i>Maireana melanocoma</i>			•					
	<i>Maireana pyramidata</i>			•					
	<i>Maireana</i> sp. indet	•	•						
	<i>Maireana villosa</i>	•							
	<i>Neobassia astrocarpa</i>			•					
	<i>Rhagodia eremaea</i>	•	•	•					
	<i>Rhagodia latifolia</i>	•							
	<i>Rhagodia preissii</i>	•							
<i>Salsola australis</i>	•	•	•						

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Sclerolaena bicornis</i>		•	•					
	<i>Sclerolaena cornishiana</i>	•	•	•					
	<i>Sclerolaena cuneata</i>		•	•					
	<i>Sclerolaena</i> sp. Indet	•							
	<i>Tecticornia</i> sp. Indet		•						
Cleomaceae	<i>Cleome viscosa</i>	•		•					
Convolvulaceae	<i>Bonamia erecta</i>	•							
	<i>Bonamia pilbarensis</i>	•							
	<i>Convolvulus ? clementii</i>	•							
	<i>Convolvulus ? remotus</i>	•							
	<i>Convolvulus</i> sp. Indet	•							
	<i>Cuscuta victoriana</i>	•							
	<i>Duperreya commixta</i>	•	•	•					
	<i>Evolvulus alsinoides</i>	•							
	<i>Evolvulus alsinoides</i> var. <i>decumbens</i>	•							
	<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>	•	•	•					
	<i>Ipomoea plebeia</i>	•							
	<i>Operculina aequisejala</i>	•							
Cucurbitaceae	<i>Citrullus amarus</i>	•							
	<i>Citrullus</i> sp. indet			•					
	<i>Cucumis variabilis</i>	•	•						
Cyperaceae	<i>Bulbostylis barbata</i>	•		•					
	<i>Cyperus hesperius</i>	•							
	<i>Cyperus iria</i>	•		•					
	<i>Cyperus</i> sp. Indet	•							
	<i>Cyperus vaginatus</i>	•							
	<i>Fimbristylis ? dichotoma</i>	•							
	<i>Fimbristylis dichotoma</i>	•							
	<i>Fimbristylis simulans</i>	•							
	<i>Fimbristylis</i> sp. Indet		•						
	<i>Schoenoplectus subulatus</i>	•							
Elatinaceae	<i>Bergia pedicellaris</i>			•					
Euphorbiaceae	<i>Euphorbia ? biconvexa</i>	•							
	<i>Euphorbia ? careyi</i>	•							
	<i>Euphorbia australis</i>	•							
	<i>Euphorbia australis</i> var. <i>hispidula</i>		•						

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Euphorbia australis</i> var. <i>subtomentosa</i>	.							
	<i>Euphorbia biconvexa</i>	.							
	<i>Euphorbia boophthona</i>			.					
	<i>Euphorbia careyi</i>		.						
	<i>Euphorbia coghlanii</i>	.		.					
	<i>Euphorbia drummondii</i>	.							
	<i>Euphorbia</i> sp. Indet		.						
	<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	.							
Fabaceae	<i>Acacia ? ancistrocarpa x citrinoviridis</i>	.							
	<i>Acacia ? aptaneura</i>	.							
	<i>Acacia ? ayersiana</i> (hybrid)	.							
	<i>Acacia ? ayersiana</i> (hybrid?)	.							
	<i>Acacia ? catenulata</i> subsp. <i>occidentalis</i>	.							
	<i>Acacia ? incurvaneura</i>	.							
	<i>Acacia ? paraneura</i>	.							
	<i>Acacia ? rhodophloia</i>	.							
	<i>Acacia ? rhodophloia</i> x ?	.							
	<i>Acacia ? sibirica</i>	.							
	<i>Acacia ? sibirica</i> x ?	.							
	<i>Acacia ? synchronicia</i>	.							
	<i>Acacia ? tenuissima</i>	.							
	<i>Acacia ? victoriae</i>	.							
	<i>Acacia adoxa</i> var. <i>adoxo</i>	.							
	<i>Acacia adsurgens</i>	.	.	.					
	<i>Acacia adsurgens</i> x ?	.							
	<i>Acacia adsurgens</i> x <i>rhodophloia</i>	.	.	.					
	<i>Acacia ancistrocarpa</i>	.	.	.					
	<i>Acacia ancistrocarpa</i> x ?	.							
	<i>Acacia aneura</i>		.	.					
	<i>Acacia aptaneura</i>	.	.	.					
	<i>Acacia atkinsiana</i>			.					
	<i>Acacia ayersiana</i>		.						
	<i>Acacia bivenosa</i>	.	.	.					
	<i>Acacia catenulata</i>	.							

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Acacia citrinoviridis</i>	•	•	•					
	<i>Acacia coriacea</i> subsp. <i>pendens</i>	•							
	<i>Acacia dictyophleba</i>	•	•	•					
	<i>Acacia hamersleyensis</i>	•							
	<i>Acacia inaequilatera</i>	•	•	•					
	<i>Acacia incurvaneura</i>	•	•	•					
	<i>Acacia macraneura</i>			•					
	<i>Acacia maitlandii</i>	•	•	•					
	<i>Acacia marramamba</i>	•		•					
	<i>Acacia monticola</i>	•							
	<i>Acacia mulganeura</i>	•							
	<i>Acacia pachyacra</i>	•	•	•					
	<i>Acacia paraneura</i>		•	•					
	<i>Acacia pruinocarpa</i>	•	•	•					
	<i>Acacia pyrifolia</i>	•	•						
	<i>Acacia pyrifolia</i> var. <i>pyrifolia</i>	•							
	<i>Acacia rhodophloia</i>	•	•	•					
	<i>Acacia rhodophloia</i> x ?	•							
	<i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i>		•	•					
	<i>Acacia sibirica</i>	•							
	<i>Acacia</i> sp. (Mulga Group)	•							
	<i>Acacia</i> sp. indet	•	•	•					
	<i>Acacia spondylophylla</i>	•	•	•					
	<i>Acacia synchronicia</i>	•							
	<i>Acacia tenuissima</i>	•							
	<i>Acacia tetragonophylla</i>	•	•	•					
	<i>Acacia victoriae</i>	•	•	•					
	<i>Acacia wiseana</i>	•							
	<i>Crotalaria medicaginea</i>	•							
	<i>Crotalaria medicaginea</i> var. <i>neglecta</i>	•							
	<i>Cullen graveolens</i>			•					
	<i>Cullen leucochaites</i>	•							
	<i>Cullen pogonocarpum</i>	•							
	<i>Desmodium filiforme</i>			•					
	<i>Glycine</i> ? <i>canescens</i>	•							
	<i>Glycine canescens</i>	•							



Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Glycine</i> sp. Indet	•							
	<i>Gompholobium oreophilum</i>	•							
	<i>Indigofera boviperda</i>		•						
	<i>Indigofera colutea</i>	•		•					
	<i>Indigofera georgei</i>	•	•	•					
	<i>Indigofera gilesii</i>	•			3				
	<i>Indigofera linifolia</i>	•		•					
	<i>Indigofera linnaei</i>	•		•					
	<i>Indigofera monophylla</i>	•	•	•					
	<i>Indigofera rugosa</i>	•							
	<i>Indigofera</i> sp. indet	•	•						
	<i>Isotropis atropurpurea</i>		•						
	<i>Isotropis parviflora</i>	•			2				
	<i>Isotropis</i> sp. Arid zone (G. Byrne 2775)	•							
	<i>Mirbelia viminalis</i>	•							
	<i>Neptunia dimorphantha</i>		•	•					
	<i>Petalostylis labicheoides</i>	•	•	•					
	<i>Rhynchosia australis</i>	•	•	•					
	<i>Rhynchosia minima</i>	•							
	<i>Senna</i> ? <i>artemisioides</i> subsp. <i>oligophylla</i>	•							
	<i>Senna</i> ? <i>hamersleyensis</i>	•							
	<i>Senna artemisioides</i> subsp. <i>artemisioides</i>			•					
	<i>Senna artemisioides</i> subsp. <i>filifolia</i>	•		•					
	<i>Senna artemisioides</i> subsp. <i>helmsii</i>	•	•	•					
	<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	•	•	•					
	<i>Senna artemisioides</i> subsp. x <i>artemisioides</i>	•	•						
	<i>Senna ferraria</i> x			•					
	<i>Senna glaucifolia</i>	•							
	<i>Senna glutinosa</i>	•							
	<i>Senna glutinosa</i> subsp. <i>chatelainiana</i>			•					
	<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	•	•	•					

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Senna glutinosa</i> subsp. <i>luerssenii</i>		•	•					
	<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	•	•	•					
	<i>Senna glutinosa</i> subsp. x <i>luerssenii</i>	•							
	<i>Senna hamersleyensis</i>		•						
	<i>Senna notabilis</i>	•	•	•					
	<i>Senna</i> sp. Meekatharra (E. Bailey 1-26)		•	•					
	<i>Senna stricta</i>	•		•					
	<i>Senna venusta</i>	•							
	<i>Swainsona decurrens</i>	•							
	<i>Swainsona</i> sp. Indet	•							
	<i>Tephrosia</i> ? <i>rosea</i> var. Fortescue creeks (M.I.H. Brooker 2186)	•							
	<i>Tephrosia</i> ? sp. Newman (A. A. Mitchell PRP 29)	•							
	<i>Tephrosia</i> ? sp. NW Eremaean (S. van Leeuwen et al. PBS 0356)	•							
	<i>Tephrosia densa</i>	•							
	<i>Tephrosia rosea</i> var. Fortescue creeks (M.I.H. Brooker 2186)	•	•						
	<i>Tephrosia</i> sp. Clay Soils (S. van Leeuwen et.al. PBS0273)			•					
	<i>Tephrosia</i> sp. Newman (A.A. Mitchell PRP 29)	•		•					
	<i>Vachellia farnesiana</i>		•	•					
	<i>Vigna lanceolata</i>	•		•					
	<i>Vigna</i> sp. Hamersley Clay (A.A. Mitchell PRP 113)	•							
	<i>Zornia albiflora</i>			•					
Goodeniaceae	<i>Brunonia australis</i>	•							
	<i>Dampiera candidans</i>	•							
	<i>Goodenia</i> ? <i>stobbsiana</i>	•							
	<i>Goodenia cusackiana</i>	•	•						
	<i>Goodenia microptera</i>	•							
	<i>Goodenia muelleriana</i>	•		•					
	<i>Goodenia nuda</i>	•				4			
	<i>Goodenia stellata</i>	•							

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Goodenia stobbsiana</i>	•	•	•					
	<i>Goodenia triodiophila</i>	•	•						
	<i>Goodenia vilmoriniae</i>	•							
	<i>Scaevola ? acacioides</i>	•							
	<i>Scaevola amblyanthera</i> var. ? <i>centralis</i>	•							
	<i>Scaevola amblyanthera</i> var. <i>centralis</i>	•							
	<i>Scaevola browniana</i>	•							
	<i>Scaevola browniana</i> subsp. <i>browniana</i>	•							
	<i>Scaevola parviflora</i> subsp. <i>pilbarae</i>	•							
	<i>Scaevola spinescens</i>	•		•					
Gyrostemonaceae	<i>Codonocarpus cotinifolius</i>	•		•					
Haloragaceae	<i>Haloragis gossei</i>	•							
	<i>Haloragis gossei</i> var. <i>gossei</i>	•							
Lamiaceae	<i>Clerodendrum floribundum</i>	•							
	<i>Clerodendrum floribundum</i> var. ? <i>angustifolium</i>	•							
	<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>	•							
	<i>Clerodendrum floribundum</i> var. <i>floribundum</i>	•							
	<i>Clerodendrum tomentosum</i> var. <i>lanceolatum</i>	•							
	<i>Dicrastylis cordifolia</i>	•							
	<i>Prostanthera ? albiflora</i>	•							
Loranthaceae	<i>Amyema fitzgeraldii</i>	•	•	•					
Lythraceae	<i>Ammannia multiflora</i>	•							
Malvaceae	<i>Abutilon cryptopetalum</i>		•						
	<i>Abutilon fraseri</i>	•							
	<i>Abutilon lepidum</i>	•							
	<i>Abutilon leucopetalum</i>	•							
	<i>Abutilon macrum</i>	•							
	<i>Abutilon otocarpum</i>	•							
	<i>Abutilon oxycarpum</i> subsp. Prostrate (A.A. Mitchell PRP 1266)			•					

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Abutilon</i> sp. indet	.	.	.					
	<i>Abutilon</i> sp. Pilbara (W.R. Barker 2025)	.							
	<i>Androcalva luteiflora</i>	.	.	.					
	<i>Corchorus laniflorus</i>			.					
	<i>Corchorus lasiocarpus</i> subsp. ? <i>lasiocarpus</i>	.							
	<i>Corchorus lasiocarpus</i> subsp. ? <i>parvus</i>	.							
	<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>		.	.					
	<i>Corchorus lasiocarpus</i> subsp. <i>parvus</i>	.							
	<i>Corchorus parviflorus</i>			.					
	<i>Corchorus</i> sp. indet	.	.						
	<i>Corchorus tridens</i>	.		.					
	<i>Gossypium australe</i>	.	.	.					
	<i>Gossypium robinsonii</i>	.	.	.					
	<i>Hibiscus</i> ? <i>burtonii</i>	.							
	<i>Hibiscus burtonii</i>	.							
	<i>Hibiscus coatesii</i>	.	.						
	<i>Hibiscus</i> sp. indet			.					
	<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	.	.						
	* <i>Malvastrum americanum</i>	.	.	.			Y	N	N
	<i>Melhania oblongifolia</i>	.							
	<i>Seringia elliptica</i>	.							
	<i>Seringia nephrosperma</i>	.							
	<i>Sida</i> ? <i>ectogama</i>	.							
	<i>Sida echinocarpa</i>	.							
	<i>Sida ectogama</i>		.						
	<i>Sida fibulifera</i>	.	.	.					
	<i>Sida</i> sp. <i>Excedentifolia</i> (J.L. Egan 1925)	.							
	<i>Sida</i> sp. indet	.	.	.					
	<i>Sida</i> sp. Shovelanna Hill (S. van Leeuwen 3842)	.							

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Sida</i> sp. Spiciform panicles (E. Leyland s.n. 14/8/90)			.					
	<i>Sida</i> sp. Supplejack Station (T.S. Henshall 2345)			.					
	<i>Triumfetta clementii</i>	.							
	<i>Triumfetta maconochieana</i>	.	.	.					
	<i>Waltheria virgata</i>	.							
Marsileaceae	<i>Marsilea hirsuta</i>	.		.					
Menispermaceae	<i>Tinospora smilacina</i>	.							
Moraceae	<i>Ficus brachypoda</i>	.	.						
	<i>Ficus platypoda</i>	.							
Myrtaceae	<i>Calytrix carinata</i>	.							
	<i>Corymbia ? ferritcola</i>	.							
	<i>Corymbia candida</i>	.	.	.					
	<i>Corymbia candida</i> subsp. <i>dipsodes</i>	.							
	<i>Corymbia deserticola</i>	.							
	<i>Corymbia deserticola</i> subsp. <i>deserticola</i>	.							
	<i>Corymbia ferritcola</i>	.							
	<i>Corymbia hamersleyana</i>	.	.	.					
	<i>Eucalyptus gamophylla</i>	.	.	.					
	<i>Eucalyptus kingsmillii</i>	.							
	<i>Eucalyptus leucophloia</i>	.							
	<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	.	.	.					
	<i>Eucalyptus lucasii</i>		.						
	<i>Eucalyptus socialis</i> subsp. <i>eucentrica</i>		.						
	<i>Eucalyptus victrix</i>	.							
	<i>Eucalyptus xerothermica</i>	.	.	.					
	<i>Lamarchea sulcata</i>	.							
<i>Melaleuca eleuterostachya</i>		.							
<i>Melaleuca glomerata</i>	.								
Nyctaginaceae	<i>Boerhavia burbridgeana</i>			.					
	<i>Boerhavia coccinea</i>	.		.					
	<i>Boerhavia gardneri</i>	.							
	<i>Boerhavia paludosa</i>			.					

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
Oleaceae	? <i>Jasminum didymum</i> subsp. <i>lineare</i>	•							
	<i>Jasminum didymum</i>	•							
	<i>Jasminum didymum</i> subsp. <i>lineare</i>	•	•	•					
Phyllanthaceae	<i>Notoleptopus decaisnei</i>	•							
	<i>Notoleptopus decaisnei</i> var. <i>orbicularis</i>	•							
	<i>Phyllanthus erwinii</i>	•							
	<i>Phyllanthus maderaspatensis</i>	•		•					
Plantaginaceae	<i>Stemodia</i> ? <i>viscosa</i>	•							
	<i>Stemodia grossa</i>	•							
	<i>Stemodia</i> sp. Indet	•							
	<i>Stemodia viscosa</i>	•	•						
Plumbaginaceae	<i>Plumbago zeylanica</i>	•							
Poaceae	<i>Acrachne racemosa</i>	•							
	<i>Aristida</i> ? <i>burbidgeae</i>	•							
	<i>Aristida contorta</i>	•	•	•					
	<i>Aristida holathera</i>	•	•	•					
	<i>Aristida holathera</i> var. <i>holathera</i>	•							
	<i>Aristida inaequiglumis</i>	•	•	•					
	<i>Aristida latifolia</i>			•					
	<i>Aristida pruinosa</i>	•							
	<i>Aristida</i> sp. indet		•						
	<i>Bothriochloa ewartiana</i>	•							
	* <i>Cenchrus ciliaris</i>	•	•	•			Y	N	N
	* <i>Cenchrus setiger</i>	•					Y	N	N
	<i>Chrysopogon fallax</i>	•	•	•					
	<i>Cymbopogon ambiguus</i>	•	•	•					
	<i>Cymbopogon obtectus</i>	•							
	<i>Cymbopogon</i> sp. Indet	•							
	<i>Cynodon convergens</i>			•					
	* <i>Cynodon dactylon</i>			•			Y	N	N
	<i>Dactyloctenium radulans</i>	•	•	•					
	<i>Dichanthium sericeum</i>	•							
	<i>Digitaria brownii</i>	•							
	<i>Echinochloa colona</i>			•					
<i>Enneapogon caeruleus</i>	•								
<i>Enneapogon lindleyanus</i>	•	•							

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Enneapogon polyphyllus</i>	•		•					
	<i>Enneapogon robustissimus</i>	•							
	<i>Enneapogon</i> sp. indet		•	•					
	<i>Enteropogon ramosus</i>	•	•	•					
	<i>Eragrostis ? leptocarpa</i>	•							
	<i>Eragrostis cumingii</i>	•							
	<i>Eragrostis desertorum</i>	•							
	<i>Eragrostis dielsii</i>		•	•					
	<i>Eragrostis eriopoda</i>	•	•	•					
	<i>Eragrostis leptocarpa</i>	•							
	<i>Eragrostis setifolia</i>		•	•					
	<i>Eragrostis</i> sp. Indet	•	•						
	<i>Eragrostis tenellula</i>	•							
	<i>Eriachne ? lanata</i>	•							
	<i>Eriachne aristidea</i>	•							
	<i>Eriachne ciliata</i>	•							
	<i>Eriachne flaccida</i>			•					
	<i>Eriachne lanata</i>	•							
	<i>Eriachne mucronata</i>	•	•	•					
	<i>Eriachne pulchella</i>	•							
	<i>Eriachne pulchella</i> subsp. <i>dominii</i>	•							
	<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	•							
	<i>Eriachne</i> sp. Indet	•	•	•					
	<i>Eulalia aurea</i>	•	•						
	<i>Iseilema dolichotrichum</i>	•							
	<i>Panicum decompositum</i>	•							
	<i>Panicum effusum</i>	•							
	<i>Panicum laevinode</i>	•							
	<i>Paraneurachne muelleri</i>	•	•	•					
	<i>Paspalidium ? clementii</i>	•							
	<i>Paspalidium clementii</i>	•							
	<i>Paspalidium tabulatum</i>	•							
	<i>Perotis rara</i>	•							
	<i>Schizachyrium fragile</i>	•							
	* <i>Setaria verticillata</i>	•					Y	N	N
	<i>Sorghum plumosum</i>			•					

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Sporobolus actinocladius</i>			.					
	<i>Sporobolus australasicus</i>	.		.					
	<i>Themeda triandra</i>	.	.	.					
	<i>Tragus australianus</i>	.		.					
	<i>Triodia angusta</i>	.	.	.					
	<i>Triodia basedowii</i>	.							
	<i>Triodia brizoides</i>		.	.					
	<i>Triodia longiceps</i>		.	.					
	<i>Triodia pungens</i>	.	.	.					
	<i>Triodia</i> sp. indet		.						
	<i>Triodia vanleeuwenii</i>	.		.					
	<i>Triodia wiseana</i>	.	.	.					
Polygalaceae	<i>Polygala glaucifolia</i>	.							
	<i>Polygala isingii</i>	.							
Polygonaceae	* <i>Rumex vesicarius</i>	.					Y	N	N
Portulacaceae	<i>Portulaca cyclophylla</i>			.					
	<i>Portulaca filifolia</i>	.		.					
	* <i>Portulaca oleracea</i>	.		.			Y	N	N
	<i>Portulaca pilosa</i>	.							
	<i>Portulaca</i> sp. Indet		.						
Proteaceae	<i>Grevillea berryana</i>	.							
	<i>Grevillea stenobotrya</i>		.						
	<i>Grevillea striata</i>		.	.					
	<i>Grevillea wickhamii</i>	.	.						
	<i>Grevillea wickhamii</i> subsp. <i>wickhamii</i>	.							
	<i>Hakea chordophylla</i>	.	.	.					
	<i>Hakea lorea</i>	.							
	<i>Hakea lorea</i> subsp. <i>lorea</i>	.	.	.					
	<i>Hakea preissii</i>		.	.					
Pteridaceae	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	.							
	<i>Cheilanthes</i> sp. Indet	.	.	.					
Rhamnaceae	<i>Cryptandra monticola</i>	.							
Rubiaceae	<i>Oldenlandia crouchiana</i>	.		.					
	<i>Psydrax latifolia</i>	.	.	.					
	<i>Psydrax suaveolens</i>	.	.	.					
	<i>Spermacoce brachystema</i>	.							



Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
Santalaceae	? <i>Santalum</i> sp. Indet	•							
	<i>Anthobolus leptomerioides</i>	•	•	•					
	<i>Santalum lanceolatum</i>	•	•	•					
	<i>Santalum spicatum</i>	•							
Sapindaceae	<i>Dodonaea coriacea</i>	•	•	•					
	<i>Dodonaea lanceolata</i> var. <i>lanceolata</i>	•							
	<i>Dodonaea pachyneura</i>	•							
	<i>Dodonaea petiolaris</i>		•						
Scrophulariaceae	<i>Eremophila</i> ? <i>lachnocalyx</i>	•							
	<i>Eremophila canaliculata</i>	•							
	<i>Eremophila cuneifolia</i>	•	•	•					
	<i>Eremophila exilifolia</i>	•	•						
	<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	•	•	•					
	<i>Eremophila forrestii</i> subsp. ? <i>forrestii</i>	•							
	<i>Eremophila fraseri</i>	•							
	<i>Eremophila fraseri</i> subsp. <i>fraseri</i>	•	•	•					
	<i>Eremophila lachnocalyx</i>	•	•	•					
	<i>Eremophila lanceolata</i>	•		•					
	<i>Eremophila latrobei</i>	•							
	<i>Eremophila latrobei</i> subsp. <i>filiformis</i>	•							
	<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	•	•	•					
	<i>Eremophila longifolia</i>	•	•	•					
	<i>Eremophila platycalyx</i> subsp. ?	•							
	<i>Eremophila platycalyx</i> subsp. <i>pardalota</i>		•	•					
	<i>Eremophila</i> sp. Hamersley Range (K. Walker KW 136)	•				3			
<i>Eremophila</i> sp. Indet.	•								
Solanaceae	<i>Nicotiana benthamiana</i>	•							
	<i>Nicotiana occidentalis</i>	•							
	<i>Nicotiana occidentalis</i> subsp. <i>obliqua</i>	•							
	<i>Solanum</i> ? <i>horridum</i>	•							
	<i>Solanum cleistogamum</i>	•	•	•					
	<i>Solanum horridum</i>	•							
	<i>Solanum lasiophyllum</i>	•	•	•					
	* <i>Solanum nigrum</i>	•						Y	N

Family	Species	Western Ridge	Western Ridge Southern Tenements	Coombanbunna Well	Status		Status		
					EPBC Act	BC Act	Weed	WoNS	DPP
	<i>Solanum</i> sp. Indet	•							
Typhaceae	<i>Typha domingensis</i>	•							
Violaceae	<i>Hybanthus aurantiacus</i>	•							
Zygophyllaceae	<i>Tribulus hirsutus</i>	•							
	<i>Tribulus occidentalis</i>	•							
	<i>Tribulus platypterus</i>	•							
	<i>Tribulus</i> sp. Indet	•							
	<i>Tribulus suberosus</i>	•	•	•					
	<i>Tribulus terrestris</i>			•					



**Appendix K: Flora Matrix**





NAME	WRQ-01	WRQ-02	WRQ-03	WRQ-04	WRQ-05	WRQ-06	WRQ-07	WRQ-08	WRQ-09	WRQ-10	WRQ-11	WRQ-12	WRQ-13	WRQ-14	WRQ-15	WRQ-16	WRQ-17	WRQ-18	WRQ-19	WRQ-20	WRQ-21	WRQ-22	WRQ-23	WRQ-24	WRQ-25	WRQ-26	WRQ-27	WRQ-28	WRQ-29	WRQ-30	WRQ-31	WRQ-32	WRQ-33	WRQ-34	WRQ-35		
<i>Aristida inaequiglumis</i>				X																																	
<i>Aristida pruinosa</i>																																					
Asteraceae sp. Indet																										X											
<i>Astrotricha hamptonii</i>																																					
<i>Bidens bipinnata</i>	X			X		X		X						X	X						X	X						X							X		
<i>Boerhavia coccinea</i>						X			X				X		X									X			X	X	X			X		X		X	
<i>Boerhavia gardneri</i>																																					
<i>Bonamia erecta</i>																																					
<i>Bonamia pilbarensis</i>																																	X	X			
<i>Bothriochloa ewartiana</i>																																					
<i>Brunonia australis</i>											X											X															
<i>Bulbostylis barbata</i>		X	X				X							X		X																					
<i>Calytrix carinata</i>										X															X										X		
<i>Capparis lasiantha</i>	X						X																													X	
<i>Capparis spinosa</i> subsp. <i>nummularia</i>																																					
<i>Cenchrus ciliaris</i>												X		X	X							X						X	X			X					
<i>Cenchrus setiger</i>																																					
<i>Centipeda minima</i> subsp. <i>macrocephala</i>															X																						
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>																																					
<i>Cheilanthes</i> sp. Indet		X		X							X																										
<i>Chrysocephalum apiculatum</i> subsp. <i>pilbarensis</i>																											X	X									
<i>Chrysocephalum pterochaetum</i>																																					
<i>Chrysopogon fallax</i>														X	X												X										
<i>Citrullus amarus</i>																																					
<i>Cleome viscosa</i>		X				X	X		X			X	X	X	X	X		X					X	X		X	X	X			X		X			X	
<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>							X	X																													
<i>Clerodendrum tomentosum</i> var. <i>lanceolatum</i>								X																													
<i>Codonocarpus cotinifolius</i>					X												X																				
<i>Convolvulus</i> ? <i>clementii</i>																																					
<i>Convolvulus</i> ? <i>remotus</i>																																		X			
<i>Convolvulus</i> sp. Indet																												X									
<i>Corchorus lasiocarpus</i> subsp. ? <i>lasiocarpus</i>													X		X																						
<i>Corchorus lasiocarpus</i> subsp. ? <i>parvus</i>																						X		X				X									
<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i>									X																												
<i>Corchorus lasiocarpus</i> subsp. <i>parvus</i>																	X																	X	X		







NAME	WRQ-01	WRQ-02	WRQ-03	WRQ-04	WRQ-05	WRQ-06	WRQ-07	WRQ-08	WRQ-09	WRQ-10	WRQ-11	WRQ-12	WRQ-13	WRQ-14	WRQ-15	WRQ-16	WRQ-17	WRQ-18	WRQ-19	WRQ-20	WRQ-21	WRQ-22	WRQ-23	WRQ-24	WRQ-25	WRQ-26	WRQ-27	WRQ-28	WRQ-29	WRQ-30	WRQ-31	WRQ-32	WRQ-33	WRQ-34	WRQ-35	
Eucalyptus gamophylla																																				
Eucalyptus kingsmillii		X																																		
Eucalyptus leucophloia subsp. leucophloia	X	X			X		X	X		X							X		X						X	X			X	X		X		X	X	
Eucalyptus victrix															X									X						X						
Eucalyptus xerothermica														X													X									
Eulalia aurea														X	X												X				X					
Euphorbia ? biconvexa																							X													
Euphorbia ? careyi																																				
Euphorbia australis var. subtomentosa			X						X				X					X					X					X					X			
Euphorbia biconvexa														X	X													X			X					
Euphorbia coghlanii																											X									
Euphorbia drummondii																																				
Euphorbia tannensis subsp. eremophila												X			X									X				X								
Evolvulus alsinoides var. decumbens																					X	X						X			X				X	
Evolvulus alsinoides var. villosicalyx	X			X		X	X		X					X	X		X						X			X	X	X		X		X	X			
Ficus brachypoda																																				
Ficus platypoda								X																												
Fimbristylis ? dichotoma																		X																		
Fimbristylis dichotoma																																				
Fimbristylis simulans																X	X		X							X										
Flaveria trinervia																																				
Glycine ? canescens																																				
Glycine canescens																																				
Glycine sp. Indet														X	X																					
Gompholobium oreophilum																	X		X						X			X			X		X		X	
Gomphrena cunninghamii																								X				X		X				X		
Gomphrena kanisii		X				X			X			X																X								X
Gomphrena sp. Indet																																		X		
Goodenia ? stobbsiana																			X																	
Goodenia cusackiana																																				
Goodenia microptera				X							X									X	X	X	X			X		X					X			
Goodenia muelleriana						X			X			X	X		X	X		X					X			X		X								
Goodenia nuda																												X								
Goodenia stellata																												X								
Goodenia stobbsiana																	X								X		X	X	X			X		X		X





NAME	WRQ-01	WRQ-02	WRQ-03	WRQ-04	WRQ-05	WRQ-06	WRQ-07	WRQ-08	WRQ-09	WRQ-10	WRQ-11	WRQ-12	WRQ-13	WRQ-14	WRQ-15	WRQ-16	WRQ-17	WRQ-18	WRQ-19	WRQ-20	WRQ-21	WRQ-22	WRQ-23	WRQ-24	WRQ-25	WRQ-26	WRQ-27	WRQ-28	WRQ-29	WRQ-30	WRQ-31	WRQ-32	WRQ-33	WRQ-34	WRQ-35		
Polygala isingii																																					
Portulaca filifolia																																					
Portulaca oleracea					X	X			X			X			X								X	X		X	X	X			X		X		X		
Portulaca pilosa																																					
Prostanthera ? albiflora																																					
Prostanthera albiflora																																					
Psydrax latifolia	X																X								X			X				X			X		
Psydrax suaveolens				X																	X																
Pterocaulon ? serrulatum var. velutinum																																					
Pterocaulon serrulatum var. velutinum																																					
Pterocaulon sp. Indet									X				X																								
Pterocaulon sphacelatum																																					
Ptilotus ?calostachyus																																					
Ptilotus aevroides															X						X						X										
Ptilotus astrolasius																X			X																		
Ptilotus auriculifolius	X	X		X		X			X			X	X		X	X		X		X	X		X	X	X	X		X			X		X		X		
Ptilotus calostachyus		X		X		X											X		X	X	X				X										X	X	
Ptilotus exaltatus									X			X			X		X				X				X			X	X								
Ptilotus fusiformis																																					
Ptilotus gaudichaudii																																					X
Ptilotus helipteroides		X				X			X			X	X	X		X	X			X	X		X			X										X	
Ptilotus obovatus	X	X		X	X				X			X		X		X	X			X			X			X	X	X		X	X					X	
Ptilotus polystachyus		X		X																							X	X									X
Ptilotus rotundifolius					X							X							X					X						X			X				
Ptilotus schwartzii					X						X																										
Rhagodia eremaea						X			X				X															X									
Rhynchosia minima															X						X							X			X		X				
Rumex vesicarius																																					
Salsola australis												X	X		X														X				X				
Santalum lanceolatum	X				X		X	X						X	X		X					X						X									
Santalum spicatum																					X																
Scaevola ? acacioides																							X						X								
Scaevola amblyanthera var. ? centralis																																					
Scaevola amblyanthera var. centralis															X																						
Scaevola browniana subsp. browniana										X							X								X				X			X		X		X	



NAME	WRQ-01	WRQ-02	WRQ-03	WRQ-04	WRQ-05	WRQ-06	WRQ-07	WRQ-08	WRQ-09	WRQ-10	WRQ-11	WRQ-12	WRQ-13	WRQ-14	WRQ-15	WRQ-16	WRQ-17	WRQ-18	WRQ-19	WRQ-20	WRQ-21	WRQ-22	WRQ-23	WRQ-24	WRQ-25	WRQ-26	WRQ-27	WRQ-28	WRQ-29	WRQ-30	WRQ-31	WRQ-32	WRQ-33	WRQ-34	WRQ-35		
Solanum sp. Indet											X																				X						
Sonchus oleraceus																																					
Spermacoce brachystema				X																																	
Sporobolus australasicus	X					X	X		X			X	X		X		X	X		X	X		X	X		X	X	X		X		X		X		X	
Stackhousia sp. swollen gynophore (W.R. Barker 2041)			X							X									X					X					X					X			
Stemodia grossa																										X							X				
Stemodia sp. Indet	X	X																																			
Stemodia viscosa																																					
Streptoglossa ? cylindriceps																																					
Streptoglossa liatroides																																					
Streptoglossa sp. Indet.				X					X				X		X																						
Swainsona decurrens															X																						
Swainsona sp. Indet																																					
Tephrosia ? sp. Newman (A. A. Mitchell PRP 29)																																					
Tephrosia ? sp. NW Eremaean (S. van Leeuwen et al. PBS 0356)																																					
Tephrosia densa																																					
Tephrosia rosea var. Fortescue creeks (M.I.H. Brooker 2186)															X										X										X		
Tephrosia sp. Newman (A.A. Mitchell PRP 29)																																					
Themeda triandra	X							X						X	X								X	X			X	X					X				
Tinospora smilacina																																					
Trachymene oleracea	X	X							X	X		X		X	X										X									X	X	X	
Trachymene sp. Indet																								X													
Tragus australianus																																					
Trianthera glossostigmum										X							X		X											X						X	
Trianthera pilosum																																					
Trianthera triquetrum																																					
Tribulus hirsutus				X					X			X	X					X		X														X			
Tribulus occidentalis															X																						
Tribulus platypterus												X															X										
Tribulus sp. Indet																							X														
Tribulus suberosus		X		X		X			X	X		X	X			X	X		X	X	X				X				X		X	X	X		X	X	X
Trichodesma zeylanicum var. zeylanicum	X	X			X	X	X	X	X		X		X	X	X	X	X				X	X		X		X	X	X		X	X	X		X	X	X	X
Triodia angusta																																					
Triodia basedowii																																					
Triodia pungens	X	X			X	X		X		X	X	X		X			X		X	X	X			X	X	X	X	X	X	X	X		X		X	X	X









NAME	WRQ-36	WRQ-37	WRQ-38	WRQ-39	WRQ-40	WRQ-41	WRQ-42	WRQ-43	WRQ-44	WRQ-45	WRQ-46	WRQ-47	WRQ-48	WRQ-49	WRQ-50	WRQ-51	WRQ-52	WRQ-53	WRQ-54	WRQ-55	WRQ-56	WRQ-57	WRQ-58	WRQ-59	WRQ-60	WRQ-61	WRQ-62	WRQ-63	WRQ-64	WRQ-66	WRQ-67	WRQ-68	WRQ-69	WRQ-70	WRQ-71		
Aristida inaequiglumis																																					
Aristida pruinosa																																				X	
Asteraceae sp. Indet											X																										
Astrotricha hamptonii															X									X													
Bidens bipinnata		X	X					X	X			X			X			X		X			X				X	X		X		X		X	X		
Boerhavia coccinea		X	X	X		X		X	X			X		X	X		X			X	X					X								X			
Boerhavia gardneri																																					
Bonamia erecta											X												X													X	
Bonamia pilbarensis																			X									X									
Bothriochloa ewartiana			X																																		
Brunonia australis																																					
Bulbostylis barbata	X			X	X								X					X			X			X						X	X						
Calytrix carinata	X																																			X	
Capparis lasiantha									X																												
Capparis spinosa subsp. nummularia									X																												
Cenchrus ciliaris		X	X					X	X	X		X		X			X			X	X					X								X			
Cenchrus setiger												X																									
Centipeda minima subsp. macrocephala															X																						
Cheilanthes sieberi subsp. sieberi															X																						
Cheilanthes sp. Indet																			X											X					X		
Chrysocephalum apiculatum subsp. pilbarensis																																					
Chrysocephalum pterochaetum																		X																		X	
Chrysopogon fallax																											X									X	
Citrullus amarus																																				X	
Cleome viscosa	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X			X		X	X	X	X		X	X		X	X		X				X	
Clerodendrum floribundum var. angustifolium					X				X						X										X												
Clerodendrum tomentosum var. lanceolatum									X																												
Codonocarpus cotinifolius																																					
Convolvulus ? clementii																																					
Convolvulus ? remotus																																					
Convolvulus sp. Indet																																					
Corchorus lasiocarpus subsp. ? lasiocarpus			X											X																							
Corchorus lasiocarpus subsp. ? parvus																																					
Corchorus lasiocarpus subsp. lasiocarpus										X																											
Corchorus lasiocarpus subsp. parvus	X			X		X										X		X							X		X							X			

NAME	WRQ-36	WRQ-37	WRQ-38	WRQ-39	WRQ-40	WRQ-41	WRQ-42	WRQ-43	WRQ-44	WRQ-45	WRQ-46	WRQ-47	WRQ-48	WRQ-49	WRQ-50	WRQ-51	WRQ-52	WRQ-53	WRQ-54	WRQ-55	WRQ-56	WRQ-57	WRQ-58	WRQ-59	WRQ-60	WRQ-61	WRQ-62	WRQ-63	WRQ-64	WRQ-66	WRQ-67	WRQ-68	WRQ-69	WRQ-70	WRQ-71		
Corchorus sp. Indet																																					
Corchorus tridens												X			X																						
Corymbia candida subsp. dipsodes																																					
Corymbia deserticola subsp. deserticola																																					
Corymbia ferritcola							X		X						X	X			X																X		
Corymbia hamersleyana		X	X					X					X				X		X					X		X	X						X				
Crotalaria medicaginea var. neglecta		X						X		X				X								X															
Cryptandra monticola					X														X					X	X												
Cucumis variabilis		X	X		X			X	X	X	X	X		X	X		X	X		X	X		X					X	X			X		X	X		
Cullen leucochaites																																					
Cullen pogonocarpum																																					
Cuscuta victoriana										X																											
Cymbopogon ambiguus					X	X	X		X	X			X		X				X		X			X								X			X		
Cymbopogon obtectus																																					
Cymbopogon sp. Indet																																				X	
Cynanchum floribundum									X																												
Cynanchum viminale subsp. australe																																					
Cyperus cunninghamii subsp. cunninghamii																																					
Cyperus hesperius															X																						
Cyperus iria																																					
Cyperus vaginatus									X			X																									
Dactyloctenium radulans																	X																				
Dampiera candidans	X												X			X	X	X						X					X								
Dichanthium sericeum																																					
Dicladanthera forrestii									X																												
Dicrastylis cordifolia																																					
Digitaria brownii								X							X																						
Dipteracanthus australasicus subsp. australasicus		X																																		X	
Dodonaea coriacea	X																																				
Dodonaea lanceolata var. lanceolata																																					
Dodonaea pachyneura					X				X						X			X	X			X			X			X			X				X		
Duperreya commixta		X			X	X		X	X	X	X	X			X			X	X	X	X								X	X	X			X	X	X	
Dysphania rhadinostachya subsp. rhadinostachya					X		X						X												X												
Dysphania sp. Indet											X																										X
Enchylaena tomentosa												X									X	X	X											X			



NAME	WRQ-36	WRQ-37	WRQ-38	WRQ-39	WRQ-40	WRQ-41	WRQ-42	WRQ-43	WRQ-44	WRQ-45	WRQ-46	WRQ-47	WRQ-48	WRQ-49	WRQ-50	WRQ-51	WRQ-52	WRQ-53	WRQ-54	WRQ-55	WRQ-56	WRQ-57	WRQ-58	WRQ-59	WRQ-60	WRQ-61	WRQ-62	WRQ-63	WRQ-64	WRQ-66	WRQ-67	WRQ-68	WRQ-69	WRQ-70	WRQ-71			
<i>Eucalyptus gamophylla</i>											X					X		X											X							X		
<i>Eucalyptus kingsmillii</i>																		X							X			X										
<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	X			X	X		X					X	X		X		X	X	X	X			X	X	X		X	X		X			X	X				
<i>Eucalyptus victrix</i>		X										X																										
<i>Eucalyptus xerothermica</i>																																						
<i>Eulalia aurea</i>												X																				X						
<i>Euphorbia ? biconvexa</i>																																						
<i>Euphorbia ? careyi</i>																																						
<i>Euphorbia australis</i> var. <i>subtomentosa</i>		X	X	X		X				X				X																					X			
<i>Euphorbia biconvexa</i>			X					X	X	X	X	X			X						X	X															X	
<i>Euphorbia coghlanii</i>																																						
<i>Euphorbia drummondii</i>																															X							
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>			X			X		X		X				X																								
<i>Evolvulus alsinoides</i> var. <i>decumbens</i>		X										X									X																	
<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>		X	X		X	X		X		X			X	X	X	X					X	X			X	X		X	X				X		X	X		
<i>Ficus brachypoda</i>															X																							
<i>Ficus platypoda</i>									X																													
<i>Fimbristylis ? dichotoma</i>																																						
<i>Fimbristylis dichotoma</i>	X																	X						X				X										
<i>Fimbristylis simulans</i>	X										X			X	X			X								X						X		X				
<i>Flaveria trinervia</i>																																						
<i>Glycine ? canescens</i>																																					X	
<i>Glycine canescens</i>			X								X							X																				
<i>Glycine</i> sp. Indet									X																													
<i>Gompholobium oreophilum</i>																										X												
<i>Gomphrena cunninghamii</i>		X	X			X		X	X		X		X		X	X					X	X	X	X		X			X						X	X		
<i>Gomphrena kanisii</i>										X		X					X																					
<i>Gomphrena</i> sp. Indet		X						X					X	X																							X	
<i>Goodenia ? stobbsiana</i>																																						
<i>Goodenia cusackiana</i>								X													X																	
<i>Goodenia microptera</i>	X	X	X			X				X			X		X						X			X		X		X									X	
<i>Goodenia muelleriana</i>								X		X	X						X	X				X															X	
<i>Goodenia nuda</i>																																						
<i>Goodenia stellata</i>																																						
<i>Goodenia stobbsiana</i>	X			X	X		X				X		X		X		X	X	X						X		X	X					X					

















NAME	WRQ-72	WRQ-73	WRQ-74	WRQ-75	WRQ-76	WRQ-77	WRQ-78	WRQ-79	WRQ-80	WRQ-91	WRQ-92
Acacia dictyophleba		X					X				
Acacia hamersleyensis											
Acacia inaequilatera											
Acacia incurvaneura											
Acacia maitlandii	X				X						X
Acacia marramamba											
Acacia monticola											
Acacia mulganeura											
Acacia pachyacra											
Acacia pruinocarpa	X	X	X	X	X		X				
Acacia pyrifolia var. pyrifolia	X						X			X	X
Acacia rhodophloia											
Acacia rhodophloia x ?											
Acacia sibirica											
Acacia sp. (Mulga Group)											X
Acacia sp. Indet				X							
Acacia spondylophylla											
Acacia synchronicia											
Acacia tenuissima						X	X				
Acacia tetragonophylla	X			X			X	X	X	X	
Acacia victoriae											
Acacia wiseana											
Acrachne racemosa											
Aerva javanica											
Alternanthera nana											
Alternanthera nodiflora				X							
Amaranthus undulatus										X	X
Ammannia multiflora											
Amyema fitzgeraldii											
Androcalva luteiflora											X
Anthobolus leptomerioides				X	X						
Aristida burbidgeae											
Aristida contorta			X								
Aristida holathera											
Aristida holathera var. holathera	X					X	X		X		



NAME	WRQ-72	WRQ-73	WRQ-74	WRQ-75	WRQ-76	WRQ-77	WRQ-78	WRQ-79	WRQ-80	WRQ-91	WRQ-92
Corchorus sp. Indet											
Corchorus tridens											
Corymbia candida subsp. dipsodes											
Corymbia deserticola subsp. deserticola											
Corymbia ferritcola											
Corymbia hamersleyana			X	X						X	X
Crotalaria medicaginea var. neglecta										X	
Cryptandra monticola											
Cucumis variabilis			X	X				X	X	X	X
Cullen leucochaites											
Cullen pogonocarpum											
Cuscuta victoriana											
Cymbopogon ambiguus											X
Cymbopogon obtectus		X									
Cymbopogon sp. Indet											
Cynanchum floribundum											
Cynanchum viminale subsp. australe											
Cyperus cunninghamii subsp. cunninghamii											
Cyperus hesperius											
Cyperus iria											
Cyperus vaginatus											
Dactyloctenium radulans											
Dampiera candicans											
Dichanthium sericeum											
Dicladantha forrestii				X							
Dicrastylis cordifolia											
Digitaria brownii											
Dipteracanthus australasicus subsp. australasicus			X	X							
Dodonaea coriacea											
Dodonaea lanceolata var. lanceolata											
Dodonaea pachyneura							X				
Duperreya commixta			X	X			X	X	X	X	
Dysphania rhadinostachya subsp. rhadinostachya											
Dysphania sp. Indet			X		X			X			
Enchylaena tomentosa			X	X							















NAME	WRQ-72	WRQ-73	WRQ-74	WRQ-75	WRQ-76	WRQ-77	WRQ-78	WRQ-79	WRQ-80	WRQ-91	WRQ-92
Solanum sp. Indet											
Sonchus oleraceus											
Spermacoce brachystema											
Sporobolus australasicus	X		X	X		X	X	X	X	X	
Stackhousia sp. swollen gynophore (W.R. Barker)											
Stemodia grossa							X				
Stemodia sp. Indet											
Stemodia viscosa											
Streptoglossa ? cylindriceps											
Streptoglossa liatroides											
Streptoglossa sp. Indet.											
Swainsona decurrens											
Swainsona sp. Indet											
Tephrosia ? sp. Newman (A. A. Mitchell PRP 29)								X			
Tephrosia ? sp. NW Eremaean (S. van Leeuwen)											
Tephrosia densa											
Tephrosia rosea var. Fortescue creeks (M.I.H. Bro)										X	X
Tephrosia sp. Newman (A.A. Mitchell PRP 29)										X	X
Themeda triandra										X	X
Tinospora smilacina										X	X
Trachymene oleracea										X	X
Trachymene sp. Indet	X					X	X		X		
Tragus australianus											
Trianthera glossostigmum		X									
Trianthera pilosum				X							
Trianthera triquetrum											
Tribulus hirsutus						X			X	X	
Tribulus occidentalis											
Tribulus platypterus						X					
Tribulus sp. Indet											
Tribulus suberosus	X	X					X	X		X	
Trichodesma zeylanicum var. zeylanicum			X			X	X		X	X	X
Triodia angusta											
Triodia basedowii											
Triodia pungens	X			X	X				X		X





## Appendix L: Water Features Recorded from the Study Area



Latitude	Longitude	Water Feature ID	Date	Length (m)	Width (m)	Depth (m)	Comment
-23.3832	119.6145	WWER-01	12/03/2020	4	2.5	0.5	Seep Fed Rock Pool
-23.3835	119.6145	WWER-02	16/03/2020	5	5	2	Rock Pool
-23.3825	119.6136	WWER-04	15/03/2020	1.5	0.7	0.2	Seep Fed Rock Pool
-23.3949	119.6174	WWER-05	12/03/2020	3	1	0.5	Rock Pool
-23.394	119.6181	WWER-06	13/03/2020	0	1	0	Seep
-23.3944	119.6172	WWER-07	12/03/2020	4	1	0.5	Rock Pool
-23.3946	119.6188	WWER-09	12/03/2020	0.5	0.2	0.01	Seep
-23.3992	119.6309	WWER-10	13/03/2020	1	1	0.2	Rock Pool
-23.3943	119.6196	WWER-11	12/03/2020	13	6	1.5	Rock Pool
-23.4006	119.6402	WWER-12	14/03/2020	12	12	1	Artificial: Turkeys Nest
-23.3971	119.6122	WWER-13	14/03/2020	0.4	0.2	0.1	Rock Pool
-23.3967	119.6135	WWER-14	15/03/2020	1.5	2	1.2	Rock Pool
-23.3969	119.6135	WWER-15	15/03/2020	2	0.6	1	Rock Pool
-23.3972	119.614	WWER-16	15/03/2020	2	0.6	0.3	Rock Pool
-23.3836	119.6145	WWER-17	22/04/2020	5	5	1	Seep Fed Rock Pool
-23.3996	119.6314	WWER-18	18/04/2020	2	1	0.5	Rock Pool
-23.3979	119.6198	WWER-19	22/04/2020	1	1	0.5	Rock Pool



**Appendix M: Western Ridge Dendrogram**





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