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**TORO ENERGY LIMITED
MILLIPEDE TO LAKE MAITLAND HAUL ROAD
LEVEL 2 FLORA AND VEGETATION ASSESSMENT**

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TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	PROJECT OVERVIEW.....	1
1.2	LEGISLATIVE FRAMEWORK	1
1.3	SURVEY OBJECTIVES.....	3
2	EXISTING ENVIRONMENT.....	5
2.1	CLIMATE.....	5
2.2	BIOGEOGRAPHIC REGION	5
2.3	LAND SYSTEMS.....	7
2.4	GEOLOGY.....	10
2.5	SOILS	12
2.6	PREVIOUS FLORA AND VEGETATION SURVEYS.....	14
3	METHODOLOGY.....	22
3.1	GUIDING PRINCIPLES	23
3.2	DATABASE SEARCHES.....	23
3.3	FIELD ASSESSMENT	27
3.4	VEGETATION MAPPING AND DELINEATION	33
3.5	FLORA AND VEGETATION CONSERVATION SIGNIFICANCE ASSESSMENT.....	34
4	DATABASE RESULTS	37
4.1	SIGNIFICANT FLORA RECORDED DURING THE DATABASE SEARCHES	37
4.2	INTRODUCED FLORA RECORDED DURING THE DATABASE SEARCHES	39
4.3	SIGNIFICANT VEGETATION COMMUNITIES RECORDED DURING THE DATABASE SEARCHES	39
5	RESULTS.....	41
5.1	FLORA.....	41
5.2	VEGETATION	51
5.3	FIRE HISTORY OF THE STUDY AREA.....	51
5.4	SURVEY LIMITATIONS AND CONSTRAINTS	61
6	DISCUSSION.....	63
6.1	SAMPLING ADEQUACY.....	63
6.2	FLORA CONSERVATION SIGNIFICANCE ASSESSMENT.....	63
6.3	VEGETATION CONSERVATION SIGNIFICANCE ASSESSMENT	64
7	CONCLUSIONS	71
8	REFERENCES	73

TABLES

Table 2.1 – Land systems at the study area	8
Table 2.2 – Geology at the study area.....	10
Table 2.3 – Soils at the study area.....	12
Table 2.4 – Shepherd and Beard vegetation at the study area.....	14
Table 2.5 – Flora and vegetation surveys conducted in the region of the study area.....	16
Table 2.6 – Lake Way and Centipede vegetation units (Outback Ecology 2007).....	17
Table 2.7 – Lake Maitland vegetation units (Outback Ecology 2009)	18
Table 2.8 – Lake Way, Centipede and West Creek Borefield vegetation units (Niche 2011)	19
Table 2.9 – Millipede vegetation units (Niche Environmental 2014).....	21
Table 3.1 - Criteria used to assess likelihood of occurrence of significant flora	24
Table 3.2 – Control categories for Declared Pests	26
Table 3.3 – Rainfall data for the study area	29
Table 3.4 – Study team and licences	29
Table 3.5 – Vegetation condition scale (Trudgen 1991)	34
Table 4.1 – Significant flora recorded during the database and desktop searches	37
Table 4.2 – PECs within 50 km of the study area	39
Table 5.1 – Floristic information at the study area and regionally	41
Table 5.2 – Most commonly recorded families, genera and taxa at the study area.....	41
Table 5.3 – Priority Flora recorded during the survey	44
Table 5.4 – Other significant flora recorded at the study area	46
Table 5.5 – Introduced flora recorded at the study area	48
Table 5.6 – Locations of Introduced Flora (GDA1994 UTM Zone 51)	49
Table 5.7 – DEC environmental risk assessment status	49
Table 5.8 – Vegetation units at the study area	52
Table 5.9 – Flora and vegetation survey limitations	61
Table 6.1 – Comparing Beard vegetation mapping and vegetation units for regional significance	66
Table 6.2 – Local conservation significance of vegetation units at the study area.....	69

FIGURES

Figure 1.1 – Location of the study area	2
Figure 2.1 – IBRA subregions and the study area.....	6
Figure 2.2 – Land systems at the study area	9
Figure 2.3 – Geology at the study area	11
Figure 2.4 – Soils at the study area	13
Figure 2.5 – Beard vegetation mapped at the study area.....	15
Figure 3.1 – Rainfall and temperature data at Wiluna.....	28
Figure 3.2 – Quadrats and transects surveyed at the study area	31
Figure 4.1 – Significant flora recorded during the DPaW database searches.....	38
Figure 4.2 – PECs recorded within 50 km of study area.....	40
Figure 5.1 – SAC analysis for the study area	42
Figure 5.2 – SAC analysis for all quadrats at the study area and regionally.....	42
Figure 5.3 – Significant flora recorded at the study area	47
Figure 5.4 – Introduced flora recorded at the study area.....	50
Figure 5.5 – Vegetation units at the study area – Map 1.....	56
Figure 5.6 – Vegetation units at the study area – Map 2.....	57
Figure 5.7 – Vegetation units at the study area – Map 3.....	58
Figure 5.8 – Vegetation condition at the study area.....	59
Figure 5.9 – Fire history at the study area	60

APPENDICES

Appendix A Explanation of Conservation Codes	75
Appendix B Significant Flora Recorded During the Database Searches Likelihood of Occurrence	79
Appendix C Site Information	83
Appendix D Electronic Appendices.....	215
Appendix E Regional Dendrogram.....	219
Appendix F Flora Species List	225
Appendix G Significant Flora Coordinates and TPRFs.....	233

ACRONYMS

BAM Act	<i>Biosecurity and Agriculture Management Act 2007</i>
BOM	Bureau of Meteorology
BIF	Banded Ironstone Formation
CALM	Department of Conservation and Land Management (now DPaW and DER)
DAFWA	Department of Agriculture and Food Western Australia
DEC	Department of Environment and Conservation (now DPaW)
DER	Department of Environmental Regulation
DoE	Department of the environment (Previously DSEWPaC)
DPaW	Department of Parks and Wildlife
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DoE)
EPA	Environment Protection Authority
EP Act	<i>Environment Protection Act 1986</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for Conservation of Nature
NVIS	National Vegetation Information System
PEC	Priority Ecological Community
SAC	Species accumulation curve
TEC	Threatened Ecological Community
TPFL	Threatened and Priority Flora database
TPFR	Threatened and Priority Flora Report form
TP List	Threatened and Priority Flora List
WA	Western Australia
WAHERB	Western Australian Herbarium Specimen Database
WAOL	Western Australian Organism List
WC Act	<i>Wildlife Conservation Act 1950</i>
WONS	Weeds of National Significance

EXECUTIVE SUMMARY

Introduction

Toro Energy Limited (Toro) has recently been granted approval of the Wiluna Uranium Project which is based on mining Uranium at two locations, the Centipede and Lake Way deposits. Toro have recently acquired a further two more deposits, Millipede and Lake Maitland, and plans to seek environmental approvals for these, as well as a haul road that connects the two. This is known as the Extension to the Wiluna Uranium Project. Toro commissioned *ecologia* Environment (*ecologia*) to undertake a Level 2 flora and vegetation assessment of a proposed haul road alignment connecting the Millipede and Lake Maitland deposits (the study area). The study area is approximately 76 km long and 320 m wide (2,108 ha), and is located on Barwidgee and Lake Way Stations, with the northern end (Millipede) located approximately 25 km south-east of Wiluna and the southern end (Lake Maitland), located approximately 100 km south-east of Wiluna.

Methods

A four-phase, Level 2 flora and vegetation assessment was conducted at the study area. The study area was surveyed over 42 person field days from the 6 to 10 June 2014 (phase 1), the 7 to 16 October 2014 (phase 2), the 9 to 3 January 2015 (phase 3) and the 21 to 26 March 2015 (phase 4). A total of 130 quadrats were established and surveyed at both the study area and in the regional area of which 55 quadrats were surveyed within the study area and the remaining 75 were surveyed in the regional area. In addition, transects were walked to target flora of conservation significance, introduced flora and to provide opportunistic collections of taxa not recorded within the quadrats.

Database and Desktop Searches

The Department of Parks and Wildlife (DPaW) database and desktop searches returned 42 conservation significant taxa as occurring within 50 km of the study area. Of these, five were considered likely or highly likely to occur at the study area; *Tecticornia* sp. Lake Way (P. Armstrong 05/961) (Priority 1), *Cratystylis centralis* (Priority 3), *Eremophila arachnoides* subsp. *arachnoides* (Priority 3), *Paspalidium distans* (Priority 3) and *Eremophila pungens* (Priority 4).

No Commonwealth or State listed Threatened Ecological Communities (TEC) were recorded as occurring within 50 km of the study area. Eleven Priority Ecological Communities (PEC) were recorded as occurring within 50 km of the study area, of which two occur within. These, however are underground invertebrate assemblages and are not relevant to the flora and vegetation of the study area.

Flora Results

A total of 223 vascular plant taxa, from 34 families and 93 genera were recorded from the study area. Of these, 36 (16%) were annuals or short lived perennials.

The families with the greatest number of taxa were the Fabaceae (34 taxa), Poaceae (31 taxa) and Chenopodiaceae (27 taxa) the genera with the greatest number of taxa were *Acacia* (22 taxa), *Eremophila* (22 taxa) and *Senna* (9 taxa) and the most frequently recorded taxa were *Solanum lasiophyllum*, *Monachather paradoxus* and *Aristida contorta*.

Species richness within quadrats at the study area varied from seven to 37 taxa, with a mean species richness of 18.2 ± 6.1 (n= 55).

No EPBC Act listed or WC Act listed Threatened Flora taxa were recorded at the study area. Two Priority Flora taxa; *Tecticornia cymbiformis* (Priority 3) and *Eremophila pungens* (Priority 4), were recorded at the study area and four additional Priority Flora taxa; *Cratystylis centralis* (Priority 3), *Frankenia confusa* (Priority 4), *Stackhousia clementii* (Priority 3) and *Tecticornia* sp. Sunshine Lake

(K.A. Shepherd et al. KS 867) were recorded outside of the study area in the regional quadrats or opportunistically.

No Weeds of National Significance (WONS) or Declared Pests (weeds) were recorded at the study area. Three environmental weeds were; **Bidens bipinnata*, **Cucumis ?lanatus* and **Tribulus terrestris*. None of these species are considered to have a high environmental risk at the study area.

Vegetation Results

A total of 12 floristic-based vegetation units, were described and delineated within the study area.

The most widespread vegetation unit was M: *Acacia aneura/aptaneura* (+/-*Acacia ayersiana/caesaneura*) open low woodland, over *Eremophila forrestii*, *Eremophila spectabilis* subsp. *brevis* open mid shrubland, over *Triodia basedowii* open hummock grassland and *Eragrostis eriopoda* and *Monachather paradoxus* sparse tussock grassland mapped as 59.4% of the study area, followed by P: +/- *Acacia ayersiana/caesaneura* (+/-*Eucalyptus eremicola* subsp. *peeneri* and *Eucalyptus kingsmillii*) sparse low woodland, over *Acacia ligulata* and *Acacia jamesiana* sparse mid shrubland, over *Halgania cyanea* sparse low shrubs, over *Triodia basedowii* open hummock grassland mapped as 17.7% of the study area. The remaining 10 units were all mapped as under 5% of the study area.

There has been very low disturbance to the condition of the vegetation in the study area which is reflected in the assessment of vegetation condition in the surveyed quadrats. Thirty-eight percent of the surveyed quadrats were in excellent condition and 58 percent were in very good condition. The majority of disturbances were from grazing by cattle and other non-native animals. Weeds were present, but in low densities and numbers.

The majority of the study area has not been recently burnt, with 94% of quadrats assessed as having no evidence of fire or estimated to have been burnt more than five years before the field survey. Four quadrats were estimated to have been burnt two to five years ago and no quadrats showed signs of fire more recent than that.

Flora Conservation Significance Assessment

No flora of National, State or regional conservation significance were recorded at the study area.

The Priority three Flora species, *Tecticornia cymbiformis* is considered to have high local conservation significance at the study area. *Tecticornia cymbiformis* is mostly limited to the S vegetation unit, which is very restricted and is only mapped as 2.2 ha or 0.1% of the study area. It was also recorded on unit BA, which is a more widespread unit at the study area (64 ha, 3%), but is unlikely to occur all through this unit, rather only where unit S occurs adjacent to it. Vegetation unit S is also likely to be restricted locally, as it only recorded on the edges of salt lakes or saline flats. *Tecticornia cymbiformis* is also not known from the local area, with the nearest location on florabase 100 km to the north-east of the study area.

Eremophila pungens (Priority 4) is commonly recorded on sandy loam, clayey sand over laterite, plains, ridges and breakaways which are landforms and habitat types that are widespread through the study area and regionally. In addition, *E. pungens* has previously been recorded at four widespread locations surrounding the study area, and it is therefore considered to have a low local conservation significance at the study area.

Vegetation Conservation Assessment

No TECs, or vegetation units likely to be TECs, were located at the study area and therefore no vegetation units of national significance were recorded. No State listed TECs, or vegetation units likely to be state listed TECs were recorded at the study area. Eleven PECs were recorded as occurring within 50 km of the study area, of which two occur within. These, however are

underground invertebrate assemblages and are not relevant to the flora and vegetation of the study area. Therefore no vegetation units of state significance occur at the study area.

Two vegetation units; V and S mapped during the current study are associated with restricted Beard vegetation units and therefore likely to have a restricted regional distribution and are regionally significant.

Two vegetation units are considered to have a high local significance:

S: *Tecticornia* sp. Burnerbinmah (D. Edinger et al. 101), *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552) and/or *Tecticornia peltata* sparse low shrubland, with *Frankenia cinerea*, *Maireana villosa* and *Atriplex amnicola* sparse shrubs; and

V: *Tecticornia indica* and *Tecticornia laevigata* (+/-*Tecticornia disarticulata* and *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552), *Cratystylis subspinescens*, *Maireana amoena* and *Sclerolaena diacantha* sparse mid shrubland, over *Eragrostis falcata* sparse tussock grassland.

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1 INTRODUCTION

1.1 PROJECT OVERVIEW

Toro Energy Limited (Toro) has recently been granted approval of the Wiluna Uranium Project which is based on mining Uranium at two locations, the Centipede and Lake Way deposits. Toro have recently acquired a further two more deposits, Millipede and Lake Maitland, and plans to seek environmental approvals for these, as well as a haul road that connects the two. This is known as the Extension to the Wiluna Uranium Project.

Toro commissioned *ecologia* Environment (*ecologia*) to undertake a two phase, Level 2 flora and vegetation assessment of a proposed haul road alignment connecting the Millipede and Lake Maitland deposits (the study area). The study area is approximately 80 km long and 320 m wide (2,108 ha), and is located on Barwidgee and Lake Way Stations, with the northern end (Millipede) located approximately 25 km south-east of Wiluna and the southern end (Lake Maitland), located approximately 100 km south-east of Wiluna (Figure 1.1).

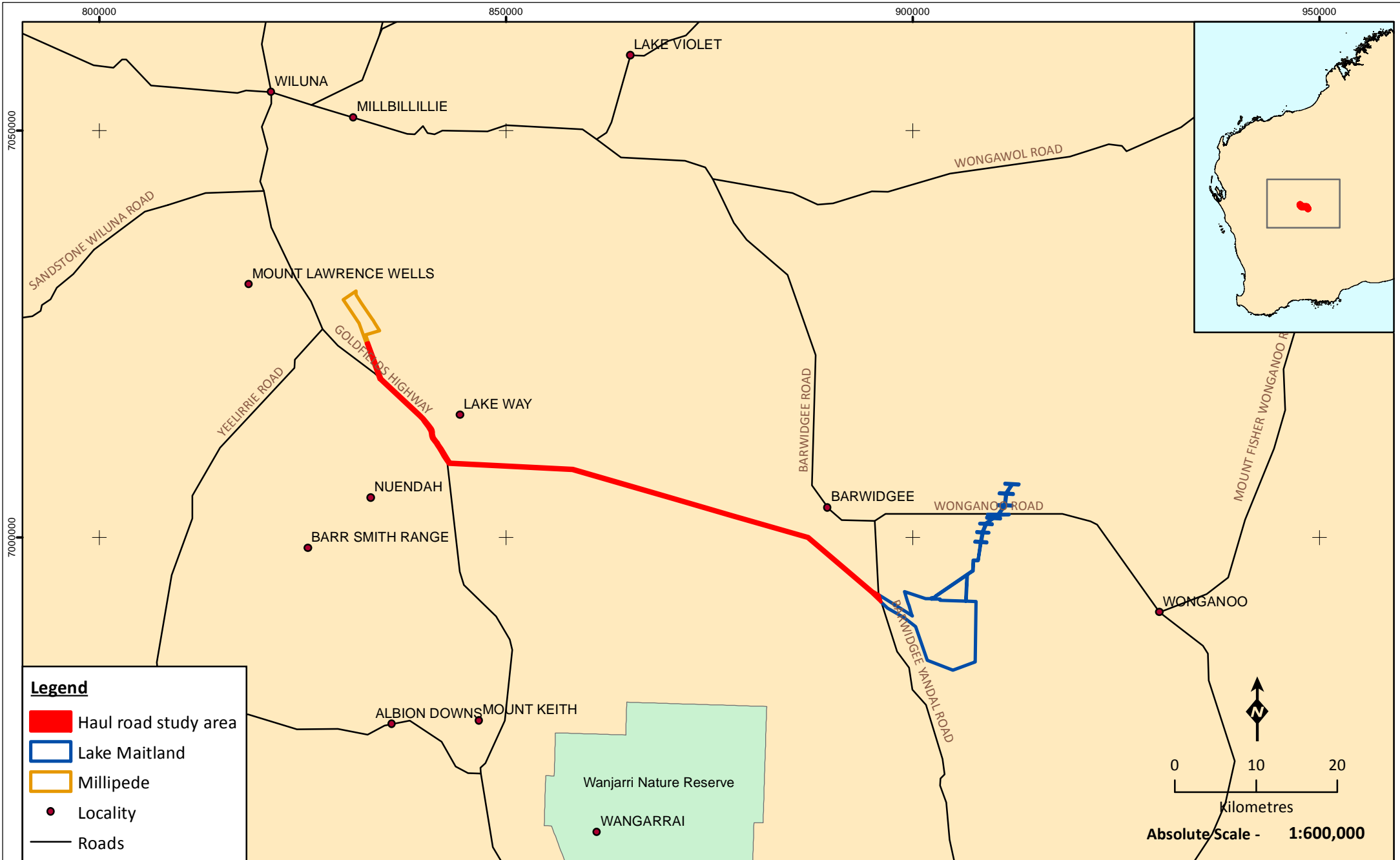
1.2 LEGISLATIVE FRAMEWORK

Commonwealth and State legislation applicable to the conservation of native flora and fauna in Western Australia includes, but is not limited to, the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), the Western Australian *Wildlife Conservation Act 1950* (WC Act) and the *Environment Protection Act 1986* (EP Act). Section 4a of the EP Act requires that developments take into account the following principles applicable to native flora:

- **The Precautionary Principle:** Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation;
- **The Principles of Intergenerational Equity:** The present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations; and
- **The Principle of the Conservation of Biological Diversity and Ecological Integrity:** Conservation of biological diversity and ecological integrity should be a fundamental consideration of development projects.

The EPBC Act was developed to provide for the protection of the environment, especially those aspects of the environment that are matters of National environmental significance, to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources; and to promote the conservation of biodiversity. The EPBC Act includes provisions to protect native species (in particular to prevent the extinction and promote the recovery of threatened species) and to ensure the conservation of migratory species. In addition to the principles outlined in Section 4a of the EP Act, Section 3a of the EPBC Act includes the principle of ecologically sustainable development; that decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equity considerations.

The WC Act was developed to provide for the conservation and protection of wildlife in Western Australia (WA). Under Section 14 of this Act, all flora within WA are protected; however, the Minister may, via a notice published in the Government Gazette, declare a list of flora taxa identified as likely to become extinct, or as rare, or otherwise in need of special protection. The current listing was gazetted on 2 December 2014.



Legend

- █ Haul road study area
- █ Lake Maitland
- █ Millipede
- Locality
- Roads

0 10 20
Kilometres
Absolute Scale - 1:600,000



Location of the study area

Figure: 1.1
Project ID: 1600

Drawn: BG
Date: 09/03/2015

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

Unique Map ID: BG

1.3 SURVEY OBJECTIVES

The Environmental Protection Authority's (EPA) objectives with regard to the management of native flora and vegetation are to:

- Avoid adverse impacts on biological diversity comprising the different plants and animals and the ecosystems they form, at the levels of genetic, species and ecosystem diversity;
- Maintain the abundance, species diversity, geographic distribution and productivity of vegetation communities;
- Protect Threatened Flora consistent with the provisions of the WC Act; and
- Protect other flora species of conservation significance.

The primary objective of this flora and vegetation assessment is to provide sufficient information to the EPA to assess the impact of the proposed development on the vegetation and flora of the study and area, thereby ensuring that the EPA objectives will be upheld.

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2 EXISTING ENVIRONMENT

2.1 CLIMATE

The study area is located in the Mid-West region of Western Australia. The Mid-West experiences an arid climate with two distinct seasons; a hot summer from October to April and a mild winter from May to September. Temperatures are generally high, with summer temperatures frequently exceeding 40°C. Light frosts occasionally occur inland during July and August. Rainfall is generally localised and unpredictable (some years have recorded zero rainfall), and temperatures are high, resulting in significant annual evaporation. The majority of the Mid-West has a bimodal rainfall distribution where from December to March rains result from tropical storms producing sporadic thunderstorms and from May to August, extensive cold fronts move eastwards across the state, reaching the Murchison producing light rains (BOM 2014).

The nearest Bureau of Meteorology (BoM) station for which long term and current rainfall data is available is Wiluna (Site No. 013012), 25 km to the north-west of the northern part of the study area and 100 km north-west of the southern part of the study area. The Wiluna station receives a mean annual rainfall of 257.4 mm with the majority of rain falling between January and March. This location demonstrates a typical Mid-West climate of hot summers with sporadic summer storms and warm dry winters (BOM 2014).

2.2 BIOGEOGRAPHIC REGION

The Interim Biogeographic Regionalisation for Australia (IBRA) classifies the Australian continent into regions or bioregions of similar geology, landform, vegetation, fauna and climate characteristics (Department of Sustainability, Environment, Water, Population and Communities, DSEWPaC (2012a). According to IBRA, version 7, the study area lies within the Murchison Bioregion. The Murchison bioregion is described as having low hills and mesas separated by flat colluvium and alluvial plains.

The Murchison Bioregion is further subdivided into the Eastern Murchison and Western Murchison subregions. The study area lies entirely within the Eastern Murchison subregion (Figure 2.1). The Eastern Murchison subregion comprises the northern section of the Yilgarn Craton. Extensive areas of red sandplains and breakaway complexes consist of minor dune development. Vegetation is dominated by Mulga woodlands often rich in ephemerals: hummock grasslands, saltbush shrublands and *Halosarcia* shrublands. The climate is arid and receives 200 mm of rainfall annually, with mainly winter rainfall. The subregion is characterised by its internal drainage, with salt lake systems associated with the occluded Palaeodrainage system. Calcrete aquifers in the northern part of subregion are known to support a wide range of subterranean aquatic fauna that are short range endemics, but our understanding of the biogeography of these groups is very limited. The subregional area for the Eastern Murchison is 7,847,996 ha (Cowan 2001).

2.3 LAND SYSTEMS

Land systems are defined as areas or groups of areas for which there are recurring patterns of topography, soil and vegetation (Curry *et al.* 1994). The land systems of the study area were mapped by Mabbutt *et al.* (1963), for the Wiluna - Meekatharra area at the northern end of the study area and Pringle *et al.* (1994), for the North-eastern Goldfields at the southern end of the study area.

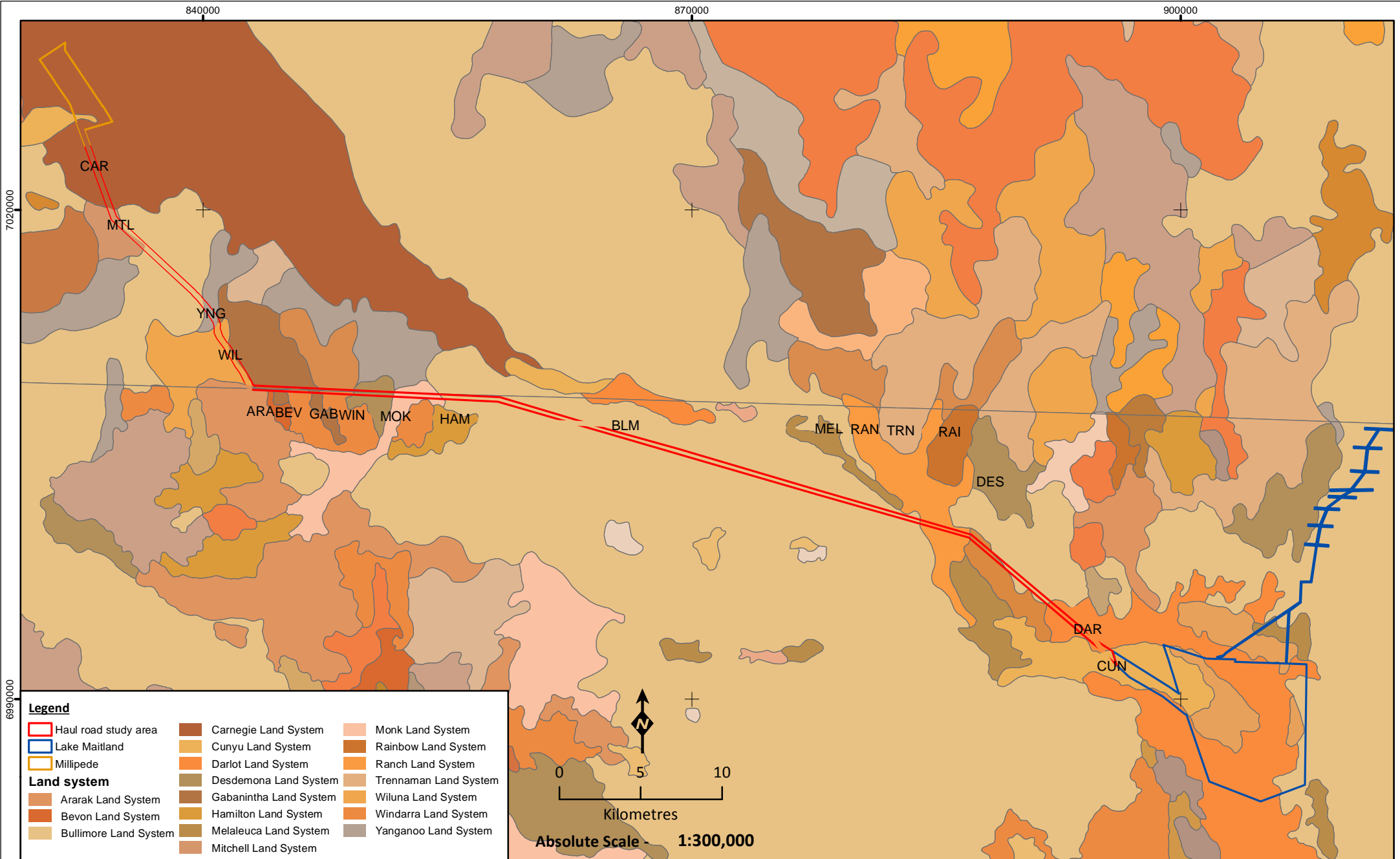
All of the land systems mapped in Western Australia have been digitised and over 500 have been described. For the purpose of this report, the Murchison IBRA region is used for regional context.

The study area incorporates 16 land systems, as listed in Table 2.1 and mapped in Figure 2.2. The Bullimore land system has the greatest extent within the study area, making up 52.5% of the area. This is a large and widespread land system with a 4,418,645 ha area mapped in Western Australia. Each of the 16 other land systems are well represented outside the study area, with the total extent of each land system ranging from 0.001 to 0.23%. One land system; Mitchell, is restricted in the Murchison IBRA region, with only 26,622 ha mapped.

Table 2.1 – Land systems at the study area

Land system	Description	Area in study area (ha)	Proportion of study area (%)	Total area mapped in WA (ha)	Total area mapped in Murchison IBRA (ha)	Proportion of land system in the Murchison IBRA (%)	Proportion of land system extent at the study area* (%)
Ararak	Broad plains with mantles of ironstone gravel supporting Mulga shrublands with wanderrie grasses	12.00	0.57	208,348	149,890	71.9	0.01
Bevon	Irregular low ironstone hills with stony lower slopes supporting Mulga shrublands	0.67	0.03	240,185	224,793	93.6	0.0003
Bullimore	Extensive sand plains supporting spinifex hummock grasslands	1,106.83	52.49	4,435,165	3,564,992	80.4	0.03
Carnegie	Salt lakes with extensively fringing saline plains, dunes and sandy banks, supporting low halophytic shrublands and scattered tall <i>Acacia</i> shrublands; lake beds are highly saline; gypsiferous and mainly unvegetated	121.89	5.78	1,873,112	1,185,945	63.3	0.01
Cunyu	Calcrete platforms and intervening alluvial floors and minor areas of alluvial plains, including channels with <i>Acacia</i> shrublands and minor halophytic shrublands	29.91	1.42	330,078	290,394	88.0	0.01
Cyclops	Saline alluvial plains with numerous drainage foci and sandy banks, supporting halophytic shrublands	59.18	2.81	25,534	25,534	100	0.23
Darlot	Salt lakes and fringing saline alluvial plains, with extensive, regularly arranged sandy banks and numerous claypans and swamps, supporting halophytic shrublands and spinifex and wanderrie grasslands	133.46	6.33	135,546	133,509	98.5	0.10
Desdemona	Extensive plains with deep sandy or loamy soils supporting Mulga and wanderrie grasses	68.25	3.24	257,119	255,706	99.5	0.03
Gabanintha	Ridges, hills and footslopes of various metamorphosed volcanic rocks (greenstones), supporting sparse <i>Acacia</i> and other mainly non-halophytic shrublands	100.22	4.75	251,486	165,108	65.7	0.06
Mitchell	Sandplains, wanderrie banks and salt flats, supporting Mulga and mallee shrublands with wanderrie grasses and spinifex, chenopod shrublands on saline plains	63.28	3.00	44,597	26,622	59.7	0.24
Monk	Hardpan plains with occasional sandy banks supporting Mulga tall shrublands and wanderrie grasses	82.01	3.89	1,000,711	996,800	99.6	0.01
Ranch	Hardpan plains and prominent broad drainage tracts supporting dense Mulga shrublands	69.70	3.31	95,781	86,989	90.8	0.08
Wiluna	Low greenstone hills with occasional lateritic breakaways and broad stony slopes, lower saline stony plains and broad drainage tracts; supporting sparse Mulga and other <i>Acacia</i> shrublands with patches of halophytic shrubs	126.82	6.01	258,989	252,597	97.5	0.05
Windarra	Gently undulating stony plains and low rises with quartz mantles on granite, supporting acacia- <i>eremophila</i> shrublands	78.32	3.71	230,716	227,972	98.8	0.03
Yandil	Flat hardpan wash plains with mantles of small pebbles and gravels; supporting groved mulga shrublands and occasional wanderrie grasses	5.85	0.28	494,339	465,955	94.3	0.001
Yanganoo	Almost flat hardpan wash plains, with or without small wanderrie banks and weak growing; supporting Mulga shrublands and Wanderrie grasses on banks	50.25	2.38	2,020,435	1,967,110	97.4	0.003

* = For the Murchison IBRA region



2.4 GEOLOGY

The Murchison Province, which incorporates Beard’s (1976) Murchison region, is described by Tille (2006) as an area of “hardpan wash plains and sandplains (with some stony plains, hills, mesas and salt lakes) on the granitic rocks and greenstone of the Yilgarn Craton”. While the soils are described as “red loamy earths, red sandy earths, red shallow loams, red deep sands and red-brown hardpan shallow loams (with some red shallow sands and red shallow sandy duplexes)” (Tille 2006).

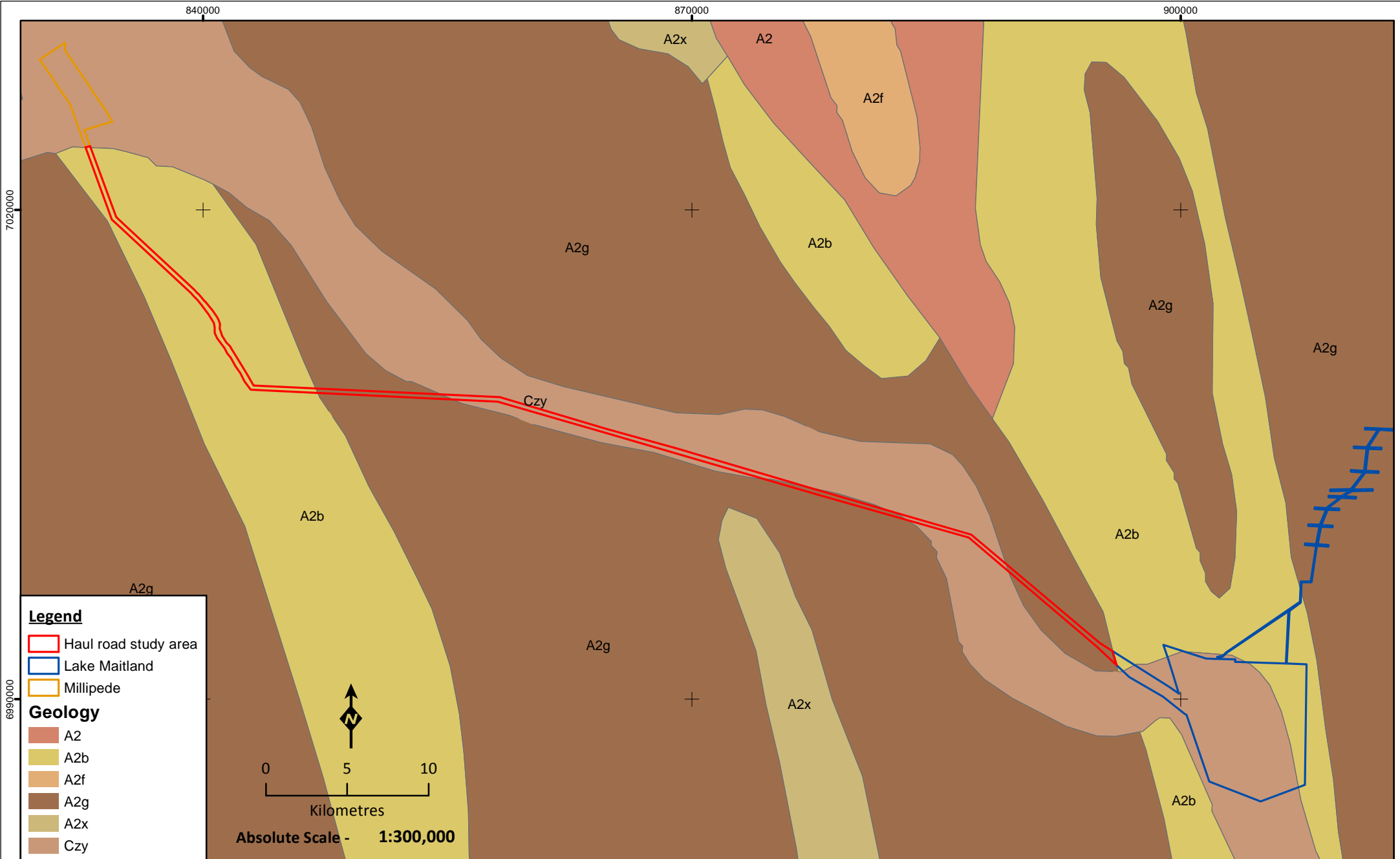
The geology of Beard’s (1976) Murchison region is dominated by the Archaean Yilgarn Block (also known as the Yilgarn Craton), which forms the nucleus of the Western Australian Shield. Gneisses and granites are the major components of the Yilgarn Block, with minor infolded belts of metamorphic sedimentary and igneous rocks. Metamorphic rocks are composed of various volcanic and sedimentary materials including: ultramafic and mafic rocks (essentially basalts), acid lavas and tuffs, chemical sedimentary rocks such as banded ironstone, jaspilite and chert, and clastic sedimentary rocks comprising shale, siltstone, sandstone, greywacke and conglomerate. Metamorphic belts are mineralized and tend to form ranges of hills, as they are harder and more resistant than gneiss and granite - the latter generally underlie plains, particularly sandplains (Beard 1976).

Three geological units have been mapped at the study area as part of the Geological Series of Western Australia. These are presented in Table 2.2 and mapped in Figure 2.3. All of these units are very widespread and common across the Murchison and have under 0.1% of their total extents at the study area.

Table 2.2 – Geology at the study area

Geological code	Lithology association	Area in study area (ha) & proportion (%)	Area mapped in the Murchison (ha)	% total extent at the study area*
A2g	Granite	669.86 (31.8%)	15,673,829	0.004
A2b	Mafic volcanics	679.90 (32.2%)	3,183,003	0.021
Czy	Sedimentary rocks	759.0 (36.0%)	2,572,515	0.029

* = For the Murchison IBRA region



Geology at the study area

Figure: 2.3
Project ID: 1600

Drawn: MH
Date: 03/12/2014

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

Unique Map ID: MH030

2.5 SOILS

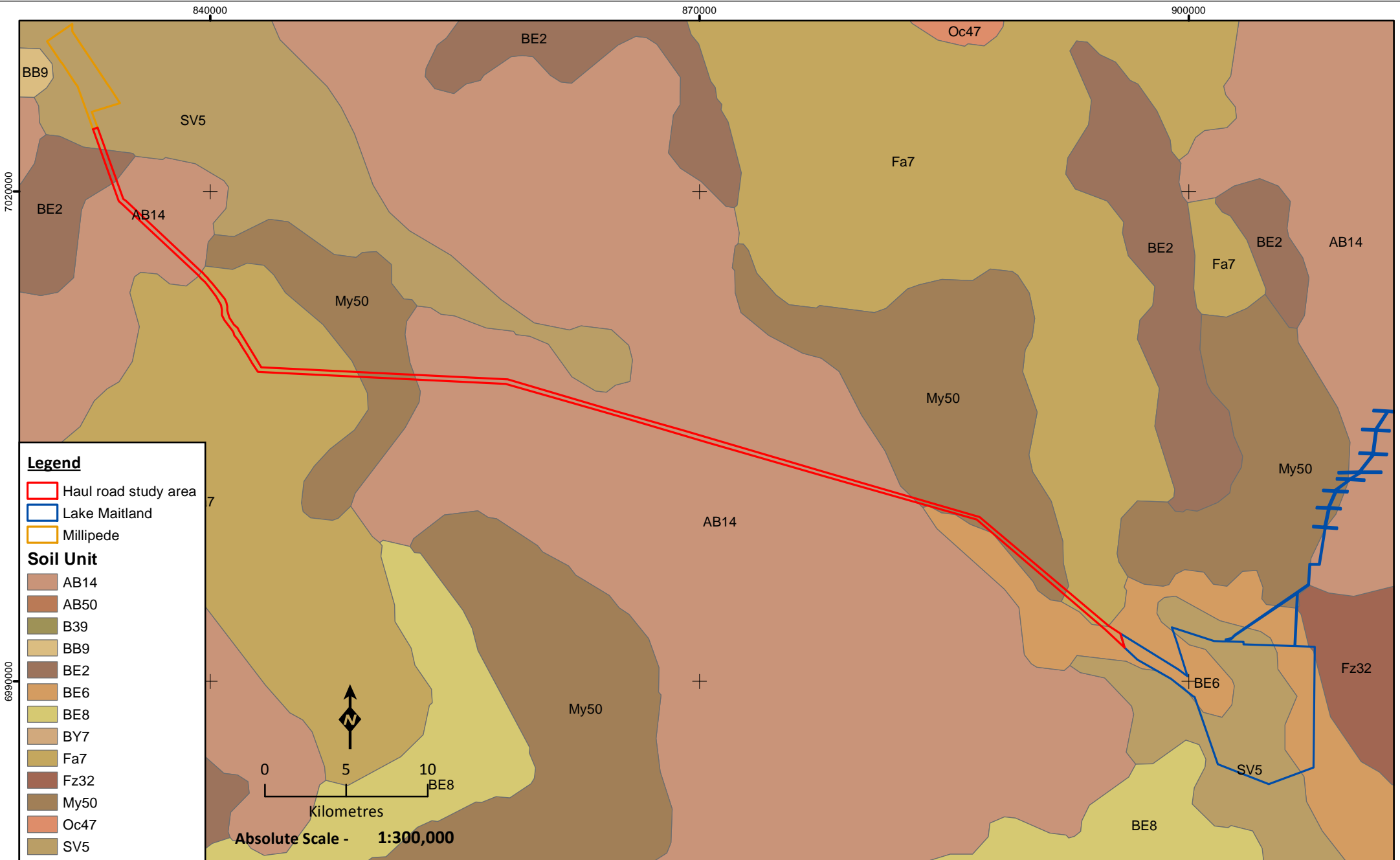
Dominant soils in the Murchison are red loamy earths and red-brown hardpan shallow loams, with some red shallow loams on outwash plains. Sandplains in the Murchison have red sandy earths, red deep sands, some red loamy earths and deep yellow sands in the south west (Tille 2006).

Within the study area six soils have been mapped with the most widespread type the; red, sandy soils of unit AB14 (Bettenay *et al.* 1967). All these soils are widespread across the Murchison and all have under 0.1% of their total extent in the study area. These are described in Table 2.3 and mapped in Figure 2.4.

Table 2.3 – Soils at the study area

Soil code	Description	Area in study area (ha) & proportion (%)	Area mapped in the Murchison (ha)	% total extent at the study area*
AB14	Upland sand plains with occasional dunes, and minor inclusions of associated plains units: chief soils are red	1,094.90 (51.92%)	1,722,738	0.063
BE2	Generally undulating terrain on granites with rocky granitic hills, bosses, and tors, some breakaways, and a surface stone mantle: chief soils seem to be shallow earthy loams underlain by a red-brown hardpan	63.99 (3.03%)	3,521,991	0.002
BE6	Extensive flat and gently sloping plains, which sometimes have a surface cover of gravels and on which red-brown hardpan frequently outcrops, chief soils are shallow earthy loams	55.08 (2.61%)	1,893,637	0.003
Fa7	Greenstone hills and low ranges with some slate and basalt: dominant soils are shallow stony earthy loams	488.73 (23.18)	1,062,028	0.046
My50	Broad plains with a scatter of surface gravels: chief soils are shallow neutral red earths and shallow earthy loams. They are underlain by a red-brown hardpan	365.31 (17.32)	1,788,444	0.02
SV5	Saline soils associated with salt lakes; sand and kopi gypsum dunes, and intervening plains: soils are mixed but chief soils are probably shallow, which sometimes overlie red-brown hardpan	40.83 (1.94)	664,767	0.006

* = For the Murchison IBRA region



2.6 PREVIOUS FLORA AND VEGETATION SURVEYS

2.6.1 Beard Vegetation

The vegetation of Western Australia was originally mapped at the 1:1,000,000 scale by Beard (1976), and was subsequently reinterpreted and updated to reflect the National Vegetation Information System (NVIS) standards (Shepherd *et al.* 2001).

Seven vegetation units have been mapped at the study area which are described in Table 2.4 and shown in Figure 2.5. Of these, unit 107: hummock grasslands, shrub steppe; Mulga and *Eucalyptus kingsmillii* over hard spinifex, was the most common at the study area (39.9%), followed by unit 18: low woodland; Mulga (32.8%). Both of these vegetation units have large distributions throughout the Murchison with unit 18, the most widespread vegetation unit in the region. Unit 560: Bowgada scrub, over a succulent Samphire steppe is the most regionally restricted of those mapped at the study area with 85,002 ha mapped within the Murchison region (Table 2.4).

Table 2.4 – Shepherd and Beard vegetation at the study area

Unit (Shepherd <i>et al.</i> 2001)	Vegetation (Beard 1976)	Area in study area (ha) & proportion (%)	Area mapped in the Murchison (ha)	% total extent at the study area*
18	Low woodland; Mulga (<i>Acacia aneura</i>)	690.1 (32.8%)	12,420,005	0.56
29	Sparse low woodland; Mulga, discontinuous in scattered groups	154.1 (7.3%)	2,956,524	0.52
39	Shrublands; Mulga scrub	83.4 (3.9%)	1,149,610	0.72
107	Hummock grasslands, shrub steppe; Mulga and <i>Eucalyptus kingsmillii</i> over hard spinifex	841.6 (39.9%)	2,801,011	3.01
204	Succulent steppe with open scrub; scattered Mulga & <i>Acacia sclerosperma</i> over saltbush & bluebush	67.1 (3.2%)	185,622	3.60
560	Mosaic: Shrublands; Bowgada scrub / succulent steppe; Samphire	13.8 (0.7%)	85,002	1.63
676	Succulent steppe; Samphire	257.9 (12.2%)	383,880	6.73

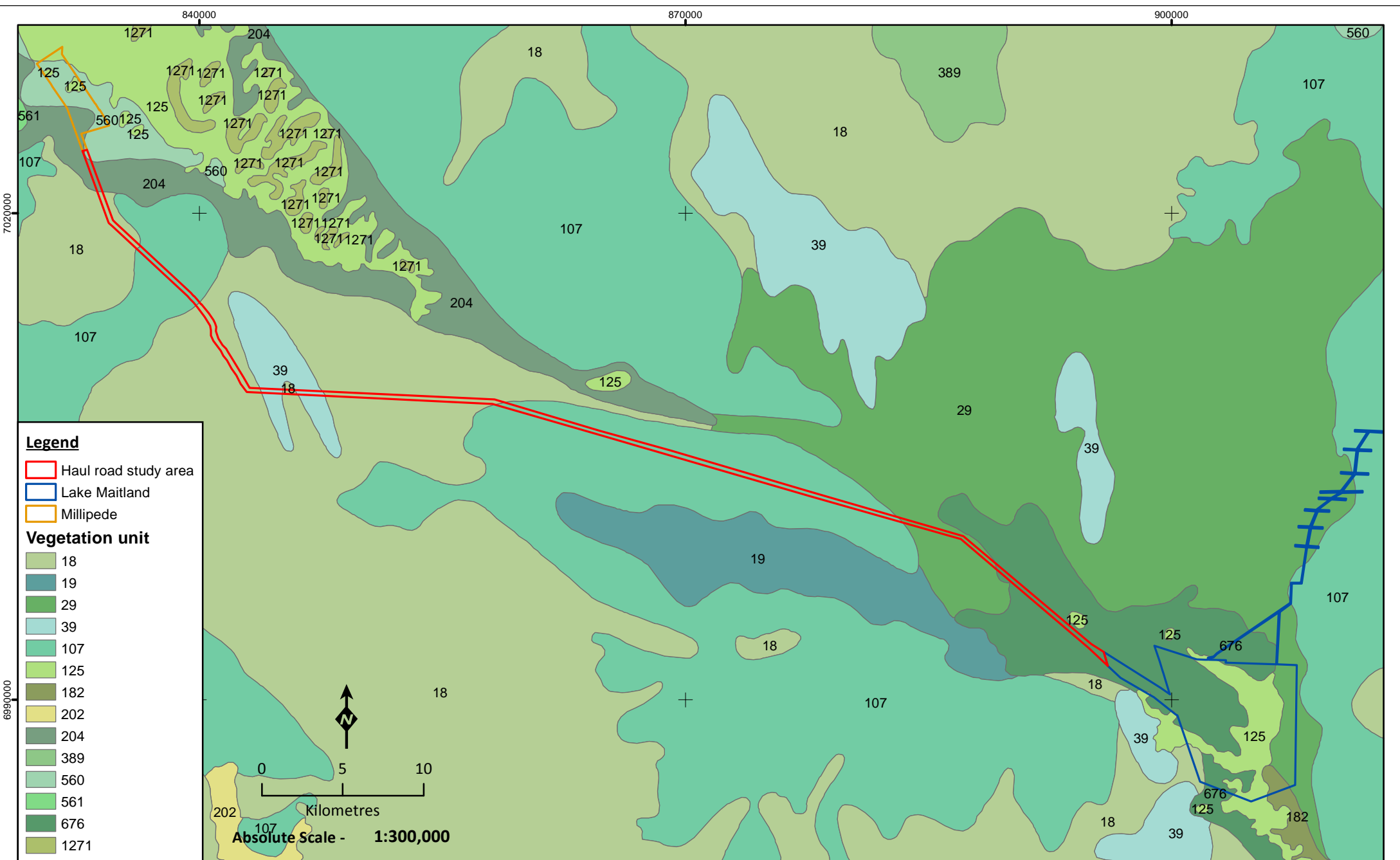
* = For the Murchison IBRA region

2.6.2 Fine Scale Surveys Conducted in the Area

A number of finer scale projects have been conducted in the vicinity of the study area. These include:

- Outback Ecology (2007): Lake Way and Centipede baseline vegetation and flora survey;
- Outback Ecology (2009): Lake Maitland: baseline vegetation and flora surveys;
- Niche Environmental (2011): Assessment of the flora and vegetation of: Lake Way, Centipede and West Creek Borefield; and
- Niche Environmental (2014): Assessment of the flora and vegetation of: Millipede.

These are described in Table 2.5 overleaf.



Beard vegetation mapped at the study area

Figure: 2.4
Project ID: 1600
 Coordinate System
 Name: GDA 1994 MGA Zone 50
 Projection: Transverse Mercator
 Datum: GDA 1994

Drawn: MH
Date: 03/12/2014
 Unique Map ID: MH030

Table 2.5 – Flora and vegetation surveys conducted in the region of the study area

Project area, hectares surveyed and reference	Level of survey, number of quadrats, phases and dates	Location to study area	Number of taxa, families and genera	Number of taxa per ha	Priority Flora	Weeds	Vegetation communities	Conservation significant vegetation communities
Lake Way and Centipede Baseline Vegetation and Flora Survey (3,500 ha) [⊖] (Outback Ecology 2007)	Lvl 2 (108 quadrats) 1: October 2007	Directly on the northern boundary	Taxa: 132 Families: 65 Genera: 32	0.04	None recorded	* <i>Anagallis arvensis</i>	22 (Table 2.6)	- Me1: likely to be restricted - <i>Halophytic</i> vegetation assemblages: poorly understood taxonomy and restricted in distribution
Lake Maitland: Baseline Vegetation and Flora Surveys (7,327 ha) (Outback Ecology 2009)	Lvl 2 (91 quadrats) 1: May 2007 2: October 2009	Directly south of the southern boundary	Taxa: 244 Families: 78 Genera: 36	0.03	<i>Maireana ?prosthocochaeta</i> (P3)	* <i>Tribulus terrestris</i>	31 (Table 2.7)	- KRE: likely to be restricted in distribution
Assessment of the Flora and Vegetation of: Lake Way, Centipede and West Creek Borefield (15,508 ha) ⁺ (Niche 2011)	Lvl 2 (264 quadrats) 1: April-June 2010 2: Sept-Oct 2010	Directly north and to the north-east of the northern end and regional areas	Taxa: 428 Families: 57 Genera: 161	0.03	<i>Eremophila arachnoides</i> subsp. <i>arachnoides</i> (P3) <i>Eremophila congesta</i> (P1) <i>Stackhousia clementii</i> (P3) <i>Tecticornia</i> sp. Lake Way (P1) <i>Homalocalyx echinulatus</i> (P3) <i>Mirbelia stipitata</i> (P3)	* <i>Acetosa vesicaria</i>	34 (Table 2.8) [#]	- Fr1: at risk vegetation - Ca1: habitat for Priority Flora - Ca2: habitat for Priority Flora - SI1: potentially unique assemblage of species - BIF: habitat for Priority Flora - Sh complex: habitat for Priority Flora - Cr: restricted in distribution
Assessment of the Flora and Vegetation of: Millipede (1,177 ha) (Niche 2014)	Lvl 2 (30 quadrats) 1: April-June 2010 [^] 2: Sept-Oct 2010 [^] 3: October 2013	Directly on the northern boundary	Taxa: 185* Families: 40 Genera: 100	0.16	<i>Eremophila arachnoides</i> subsp. <i>arachnoides</i> (P3) <i>Stackhousia clementii</i> (P3)	None	10 (Table 2.9)	- Ca1: habitat for Priority Flora - <i>Tecticornia</i> vegetation units: poorly understood taxonomy and restricted and habitat for Priority Flora

* Not including *Tecticornia* spp. as taxonomy is still on going, ^ = Quadrats conducted by Niche Environmental, 2011, + = Not including the regional study, # = some of these vegetation units are duplicates as they are separated by survey area, ⊖ = number calculated from maps as not provided in report.

Table 2.6 – Lake Way and Centipede vegetation units (Outback Ecology 2007)

Association	Unit	Description	Conservation significant
Salt Lake	Ha1	<i>Halosarcia indica</i> subsp. <i>leiostachya</i> and <i>Halosarcia auriculata</i> dense low heath over <i>Eragrostis</i> spp. very sparse grass	Yes
	Ha2	<i>Halosarcia indica</i> subsp. <i>bidens</i> , <i>Atriplex bunburyana</i> and <i>Frankenia</i> sp. 1 mid density low heath	Yes
	Ha3	<i>Halosarcia</i> spp., <i>Frankenia</i> spp. mid density low heath over <i>Eragrostis</i> spp. and <i>Aristida contorta</i> sparse open grass	Yes
	Te1	<i>Tecticornia tenuis</i> and <i>Halosarcia auriculata</i> mid density low heath over <i>Eragrostis</i> spp. very sparse grass	Yes
	Fr1	<i>Frankenia</i> spp. and <i>Muellerolimon salicorniaceum</i> and mixed species low density heath over <i>Aristida contorta</i> sparse grass	No
	La1	<i>Lawrencia helmsii</i> and <i>Halosarcia indica</i> subsp. <i>leiostachya</i> very sparse dwarf scrub over <i>Ptilotus obovatus</i> var. <i>obovatus</i> very sparse herbs over <i>Eragrostis</i> spp. very open grass	No
Claypan	Fr2	<i>Frankenia</i> spp. and <i>Halosarcia calyptata</i> mid density low heath over <i>Eragrostis</i> spp. very sparse grass	No
	Te2	<i>Tecticornia arbuscula</i> , <i>Maireana amoena</i> and mixed species sparse dwarf scrub over <i>Triodia melvillei</i> sparse hummock grass and <i>Eragrostis</i> spp. sparse grass	Yes
	Ly1	<i>Lycium australe</i> , <i>Cratystylis spinescens</i> and mixed species mid density heath over <i>Eragrostis</i> spp. mid density grass	No
Fringing	Me1	<i>Melaleuca xerophila</i> mid density low forest	Yes
Calcrete	Ac1	<i>Acacia</i> spp., <i>Eucalyptus striatocalyx</i> subsp. <i>striatocalyx</i> and <i>Casuarina pauper</i> mid density low forest over <i>Maireana villosa</i> mid density low heath and <i>Ptilotus obovatus</i> var. <i>obovatus</i> , <i>Aristida contorta</i> and <i>Eragrostis</i> spp. mid density herbs and grasses	No
	Ac2	<i>Acacia ramulosa</i> var. <i>linophylla</i> and <i>Acacia victoriae</i> sparse low woodland over mixed species very sparse open dwarf scrub over <i>Neurachne munroi</i> and <i>Eragrostis dielsii</i> mid density grass	No
Plains and dunes	Hu1	Mixed species sparse scrub over <i>Triodia melvillei</i> mid density hummock grass over <i>Eragrostis</i> spp. and <i>Aristida contorta</i> open grass	No
	Ca1	<i>Callitris preissii</i> and <i>Acacia jennerae</i> sparse low Woodland over <i>Halgania</i> aff. <i>cyanea</i> very sparse open dwarf scrub over <i>Triodia basedowii</i> mid density hummock grass	No
	Ca2	<i>Callitris preissii</i> woodland over <i>Triodia basedowii</i> mid density hummock grass	No
	Ac3	<i>Acacia</i> spp., <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> and <i>Grevillea sarissa</i> subsp. <i>succincta</i> sparse low woodland over <i>Eremophila</i> spp. and <i>Dodonaea viscosa</i> subsp. <i>angustissima</i> very sparse open dwarf scrub and <i>Triodia melvillei</i> mid density hummock grass	No
	Ac4	<i>Acacia ayersiana</i> var. <i>latifolia</i> , <i>Acacia aneura</i> var. <i>aneura</i> and <i>Acacia aneura</i> var. <i>major</i> sparse low woodland over mixed species sparse low scrub and <i>Triodia</i> spp. mid density hummock grass	No
	Ac5	<i>Acacia</i> spp. very sparse open low woodland over <i>Eremophila</i> spp., <i>Senna</i> spp. and <i>Maireana pyramidata</i> sparse low scrub and <i>Ptilotus obovatus</i> var. <i>obovatus</i> and <i>Eragrostis</i> spp. very sparse herbs and grasses	No
	Ac6	<i>Acacia</i> spp. sparse low woodland over mixed species very sparse to very open dwarf scrub	No
	Ac7	<i>Acacia jennerae</i> and <i>Grevillea sarissa</i> subsp. <i>succincta</i> sparse low woodland over <i>Cratystylis spinescens</i> mid density low heath and <i>Triodia melvillei</i> dense hummock grass	No
	Ac8	<i>Acacia</i> spp. sparse low woodland over <i>Senna artemisioides</i> subsp. <i>filifolia</i> and <i>Eremophila</i> spp. mid density heath over <i>Eragrostis dielsii</i> and <i>Neurachne munroi</i> sparse grass	No
	Eu1	<i>Eucalyptus striatocalyx</i> subsp. <i>striatocalyx</i> and <i>Acacia</i> spp. mid density forest over <i>Senna artemisioides</i> subsp. <i>filifolia</i> and <i>Eremophila</i> spp. sparse low scrub	No

Table 2.7 – Lake Maitland vegetation units (Outback Ecology 2009)

Association	Unit	Description	Conservation significant
Salt lake	SLT	Low heath of <i>Frankenia cinerea</i> , <i>Maireana amoena</i> , <i>Tecticornia</i> aff. <i>undulata</i> , <i>Tecticornia halocnemoides</i> subsp. <i>halocnemoides</i> , and <i>Tecticornia indica</i> subsp. aff. <i>bidens</i> , over very open herbs of <i>Scaevola collaris</i> and open low grass of <i>Eragrostis lanipes</i>	No
	SLL	Low scrubland/heath of <i>Atriplex nana</i> , <i>Lawrenzia helmsii</i> and <i>Tecticornia</i> aff. <i>undulata</i> over very open herb of <i>Sclerolaena fimbriolata</i> , <i>Zygophyllum compressum</i> and open low grass of <i>Eragrostis lanipes</i>	No
Kopi ridge	KRE	Low woodland of <i>Eucalyptus striatocalyx</i> and <i>Grevillea sarissa</i> subsp. <i>bicolor</i> over low scrub of <i>Lawrenzia helmsii</i> , <i>Sclerolaena fimbriolata</i> and <i>Tecticornia</i> aff. <i>undulata</i>	Yes
Plains	PAF	Low forest of <i>Acacia aneura</i> , <i>A. aneura</i> var. <i>fuliginea</i> , <i>A. ayersiana</i> and <i>Melaleuca interioris</i> over <i>Cratystylis subspinescens</i> , <i>Rhagodia eremaea</i> , <i>Scaevola spinescens</i> and open low grasses <i>Aristida contorta</i> and <i>Enteropogon ramosus</i>	No
	PAF2	Low forest of <i>Acacia aneura</i> over <i>Atriplex bunburyana</i> , <i>Eremophila jucunda</i> subsp. <i>jucunda</i> , <i>Maireana pyramidata</i> , Malvaceae spp. and <i>Ptilotus obovatus</i> over low grasses <i>Aristida contorta</i> , <i>Enneapogon caerulescens</i> and <i>Enteropogon ramosus</i>	No
	PAH	Dense low heath of <i>Acacia ?duriuscula</i> , <i>Atriplex amnicola</i> , <i>Atriplex</i> sp. and <i>Sclerolaena fimbriolata</i> over open herbs <i>Scaevola spinescens</i> , <i>Sida fibulifera</i> and open low grasses <i>Enneapogon caerulescens</i> and <i>Panicum effusum</i>	No
	PALW	Open low woodland of <i>Acacia aneura</i> , <i>Acacia tetragonophylla</i> , and <i>Lycium australe</i> over <i>Cratystylis subspinescens</i> , <i>Ptilotus obovatus</i> , <i>Sclerolaena fimbriolata</i> open low grass of <i>Aristida contorta</i> , <i>Enneapogon caerulescens</i> and <i>Eragrostis setifolia</i>	No
	PALW2	Open low woodland of <i>Acacia aneura</i> , <i>Acacia aneura</i> var. <i>aneura</i> and <i>Acacia rhodophloia</i> over <i>Atriplex bunburyana</i> , <i>Cratystylis subspinescens</i> , <i>Eremophila falcata</i> , <i>Maireana pyramidata</i> and <i>Melaleuca interioris</i> over hummock grassland <i>Triodia basedowii</i> and low grassland <i>Aristida contorta</i> and <i>Enteropogon ramosus</i>	No
	PAOW	Open low woodland of <i>Acacia aneura</i> , <i>A. aneura</i> var. <i>aneura</i> and <i>A. aneura</i> var. <i>argentea</i> over <i>Senna artemisioides</i> subsp. <i>filifolia</i> , <i>Cratystylis subspinescens</i> , <i>Eremophila forrestii</i> subsp. <i>?forrestii</i> , <i>Maireana georgei</i> , <i>Triodia basedowii</i> and open low grasses <i>Aristida contorta</i> , <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i>	No
	PAOW2	Open low woodland of <i>Acacia aneura</i> var. <i>aneura</i> , <i>A. ayersiana</i> and <i>A. ramulosa</i> var. <i>linophylla</i> over <i>Atriplex bunburyana</i> , <i>Triodia basedowii</i> and open low grasses <i>Aristida contorta</i> and <i>Eragrostis eriopoda</i>	No
	PAS	Open shrubland of <i>Acacia heteroneura</i> var. <i>prolix</i> , <i>A. tetragonophylla</i> , <i>Hakea preissii</i> and <i>Lawrenzia squamata</i> over open low grass <i>Enneapogon caerulescens</i>	No
	PAS2	Open shrubland of <i>Acacia aneura</i> over <i>Atriplex bunburyana</i> , <i>Frankenia fecunda</i> and <i>Rhagodia drummondii</i>	No
	PAW	Low woodland of <i>Acacia aneura</i> , <i>A. aneura</i> var. <i>aneura</i> , over <i>Atriplex</i> aff. <i>lindleyi</i> subsp. <i>inflata</i> , <i>Cratystylis subspinescens</i> , <i>Eremophila jucunda</i> subsp. <i>jucunda</i> , <i>E. forrestii</i> subsp. <i>?forrestii</i> and <i>Hakea preissii</i> over hummock grassland <i>Triodia basedowii</i> and very open low grasses <i>Enneapogon caerulescens</i> and <i>Aristida contorta</i>	No
	PAW2	Low woodland of <i>Acacia aneura</i> over <i>A. ayersiana</i> , <i>A. cuthbertsonii</i> var. <i>linearis</i> , <i>Eremophila oldfieldii</i> subsp. <i>oldfieldii</i> and <i>Senna artemisioides</i> subsp. <i>filifolia</i> , very open herbs <i>Ptilotus obovatus</i> , hummock grassland <i>Triodia basedowii</i> and low grass <i>Aristida contorta</i> and <i>Eragrostis eriopoda</i>	No
	PCL	Open low heath of <i>Cratystylis subspinescens</i> , <i>Grevillea sarissa</i> subsp. <i>succinct</i> , <i>Lycium australe</i> , <i>Prostanthera</i> sp. and <i>Rhagodia drummondii</i> over low grass <i>Aristida contorta</i>	No
	PCAW	Open woodland of <i>Casuarina</i> aff. <i>obese</i> and <i>Acacia nyssophylla</i> over <i>Lycium australe</i>	No
	PELW	Open low woodland of <i>Acacia aneura</i> and <i>Eremophila oldfieldii</i> subsp. <i>oldfieldii</i> over <i>Atriplex bunburyana</i> , <i>Eremophila maculata</i> , <i>Cratystylis subspinescens</i> , <i>Maireana pyramidata</i> and <i>Scaevola spinescens</i> scrub, <i>Triodia basedowii</i> hummock grassland and open low grass of <i>Aristida contorta</i> and <i>Enteropogon ramosus</i>	No
	PES	<i>Eremophila miniata</i> and <i>Acacia ayersiana</i> over <i>Aristida contorta</i> and <i>Triodia basedowii</i> hummock grassland and open low grass of <i>Eragrostis eriopoda</i>	No
	PEW	Open low woodland of <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> , <i>Acacia aneura</i> , <i>A. aneura</i> var. <i>aneura</i> , <i>Acacia? duriuscula</i> , <i>Acacia ayersiana</i> and <i>Grevillea nematophylla</i> and <i>Hakea preissii</i> over open herbs of <i>Ptilotus exaltatus</i> var. <i>exaltatus</i> and <i>Scaevola spinescens</i> , very over <i>Triodia basedowii</i> hummock grassland and open low grass of <i>Enneapogon caerulescens</i> and <i>Aristida contorta</i>	No
	PLH	Open low heath of <i>Atriplex bunburyana</i> , <i>Lawrenzia squamata</i> , <i>Maireana amoena</i> and <i>Maireana triptera</i> over open low grass <i>Aristida contorta</i>	No
PLH2	Open low heath of <i>Frankenia fecunda</i> , <i>Lawrenzia squamata</i> , <i>Lycium australe</i> and <i>Rhagodia drummondii</i> over very open low grass <i>Eragrostis lanipes</i>	No	

Association	Unit	Description	Conservation significant
	PML	Low woodland of <i>Acacia nyssophylla</i> , <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> , <i>Grevillea sarissa</i> subsp. <i>succincta</i> and <i>Senna artemisioides</i> subsp. <i>filifolia</i> over open herbs of <i>Scaevola spinescens</i> , <i>Triodia basedowii</i> hummock grassland and open low grass of <i>Aristida contorta</i> and <i>Eragrostis eriopoda</i>	No
	PMW	Open low woodland of <i>Melaleuca interioris</i> and <i>Acacia ayersiana</i> over <i>A. tetragonophylla</i> , <i>Cratystylis subspinescens</i> , <i>Eremophila margarethae</i> , <i>Exocarpos aphyllus</i> , <i>Frankenia cordata</i> , <i>Scaevola spinescens</i> over <i>Triodia basedowii</i> hummock grassland over open low grass of <i>Enteropogon ramosus</i> and <i>Eragrostis eriopoda</i>	No
	PTG	Open low scrub of <i>Hakea lorea</i> subsp. <i>lorea</i> and <i>Hakea preissii</i> over <i>Ptilotus obovatus</i> , <i>Sclerolaena parviflora</i> , over <i>Triodia basedowii</i> and <i>Triodia desertorum</i> hummock grassland and open low grass <i>Aristida contorta</i>	No
	PTH	Open low heath of <i>Tecticornia halocnemoides</i> , <i>Tecticornia indica</i> subsp. aff. <i>bidens</i> , <i>Tecticornia ?undulata</i> and <i>Maireana oppositifolia</i> over open low grass <i>Eragrostis lanipes</i>	No
	FRE	Open low woodland of <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> over <i>Acacia sibina</i> , <i>Alyogyne pinoniana</i> , <i>Kennedia prorepens</i> and <i>Leptosema chambersii</i> , over very dense <i>Triodia basedowii</i> hummock grassland	No
Calcrete	PCW	Open low woodland of <i>Casuarina pauper</i> over <i>Acacia cuthbertsonii</i> var. <i>linearis</i> , <i>Acacia nyssophylla</i> , <i>Hakea preissii</i> , <i>Rhagodia eremaea</i> , <i>Salsola tragus</i> and <i>Sclerolaena cornishiana</i> over open low grass <i>Enneapogon caeruleus</i>	No
	PCW2	Low woodland of <i>Casuarina pauper</i> over <i>Acacia burkittii</i> , <i>Atriplex bunburyana</i> , <i>Eremophila oldfieldii</i> subsp. <i>oldfieldii</i> , <i>Maireana eriosphaera</i> , <i>Ptilotus obovatus</i> , <i>Salsola tragus</i> , <i>Senna artemisioides</i> subsp. <i>filifolia</i> and <i>Sclerolaena deserticola</i> , and open low grass <i>Enneapogon caeruleus</i>	No
	PCW3	Low woodland of <i>Casuarina pauper</i> over <i>Atriplex bunburyana</i> , <i>Grevillea sarissa</i> subsp. <i>bicolor</i> , <i>Lycium australe</i> , <i>Senna artemisioides</i> subsp. <i>filifolia</i> , over very open low grass <i>Eragrostis lanipes</i>	No
	PEG	Open dwarf scrub of <i>Lawrenia squamata</i> and <i>Lycium australe</i> over <i>Salsola tragus</i> and <i>Sclerolaena cornishiana</i> herbs, <i>Triodia basedowii</i> hummock grassland and low grasses <i>Enneapogon caeruleus</i> and <i>Eragrostis setifolia</i>	No

Table 2.8 – Lake Way, Centipede and West Creek Borefield vegetation units (Niche 2011)

Area	Association	Unit	Description	Conservation significant
Centipede	Playa	Sl1	Low heath of <i>Tecticornia</i> species	Yes
	Fringing	fr	Fringing closed low forest of <i>Melaleuca xerophila</i>	Yes
	Foredune	Fd1	Open Low Woodland of <i>Callitris columellaris</i> and <i>Acacia ayersiana</i> , with occasional records of <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i>	No
			Open Low Woodland of <i>Acacia ayersiana</i> , over sparse midstorey of <i>Triodia melvillei</i>	No
	Dune	D1	Low Woodland of <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> and <i>Acacia ayersiana</i> , over <i>A. aneura</i> var. <i>aneura</i> and <i>Grevillea sarissa</i> subsp. <i>succincta</i> mid storey, over a mid-dense hummock of <i>Triodia melvillei</i>	No
Calcrete platform	Ca1	Low Woodland of <i>Acacia ayersiana</i> , <i>A. tetragonophylla</i> , <i>A. burkittii</i> and <i>Acacia aneura</i> var. <i>aneura</i> , over <i>Rhagodia drummondii</i> , <i>Eremophila longifolia</i> and <i>E. arachnoides</i> subsp. <i>arachnoides</i>	Yes	
Lake Way	Playa	Sl1	Low heath of <i>Tecticornia</i> species	Yes
	Fringing	Fr1	Fringing closed low forest of <i>Melaleuca xerophila</i>	Yes
		Fr2	Fringing closed low forest of <i>Melaleuca interioris</i>	No
	Dune	D1	Low Woodland of <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> and <i>Acacia ayersiana</i> , over <i>A. aneura</i> var. <i>aneura</i> and <i>Grevillea sarissa</i> subsp. <i>succincta</i> mid storey, over a mid-dense hummock of <i>Triodia melvillei</i>	No
Calcrete platform	Cp1	Low heath of <i>Tecticornia</i> species, with scattered shrubs	No	

Area	Association	Unit	Description	Conservation significant
		Cp2	Dwarf scrub <i>Cratystylis subspinescens</i>	No
		Ca1	Open low woodland of <i>Eucalyptus gypsophila</i> , over a complex midstorey of <i>Acacia</i> and <i>Eremophila</i> species	Yes
		Ca2	Open low woodland of <i>Acacia burkittii</i> , <i>A. aneura</i> var. <i>aneura</i> , <i>A. victoriae</i> and <i>A. tetragonophylla</i>	Yes
West Creek Borefield	Calcrete platform	Ca1	Open Low Woodland of <i>Acacia aneura</i> var. <i>aneura</i> , with <i>A. burkittii</i> , <i>A. tetragonophylla</i> and <i>Senna artemisioides</i>	Yes
		Ca2	Open low woodland of <i>Acacia aneura</i> var. <i>aneura</i> , <i>A. tetragonophylla</i> , <i>A. burkittii</i> and <i>A. aneura</i> var. <i>microcarpa</i> , over an open mid story of <i>Eremophila</i> spp. and <i>Senna artemisioides</i>	Yes
	Creekline	Cr	Woodland of <i>Eucalyptus camaldulensis</i> subsp. <i>obtusa</i> , with <i>Casuarina pauper</i> , over <i>Acacia aneura</i> var. <i>aneura</i> , <i>Hakea francisiana</i> , <i>Melaleuca xerophila</i> and <i>M. interioris</i>	Yes
	Drainage line	DI1	Woodland of <i>Eucalyptus camaldulensis</i> subsp. <i>obtusa</i> , with <i>Casuarina pauper</i> , over <i>Acacia aneura</i> var. <i>aneura</i> , <i>Hakea francisiana</i> , <i>Melaleuca xerophila</i> and <i>M. interioris</i>	No
	BIF	Bif	Open low woodland of <i>Acacia aneura</i> var. <i>aneura</i> and <i>Acacia pruinocarpa</i> , over a midstorey of <i>Eremophila</i> species over sparse <i>Triodia melvillei</i>	Yes
	Sandstone hills	Sh1	Open low woodland of <i>Acacia aneura</i> var. <i>aneura</i> , <i>A. aneura</i> var. <i>microcarpa</i> , <i>A. rhodophloia</i> and <i>A. ayersiana</i>	Yes
		Sh2	Low Woodland of <i>Acacia aneura</i> var. <i>aneura</i> and <i>Acacia rhodophloia</i>	Yes
		Sh3	Low Forest of <i>Acacia rhodophloia</i> and <i>Acacia aneura</i> var. <i>aneura</i>	Yes
		Sh4	Low woodland of <i>Acacia ayersiana</i> , with <i>A. pruinocarpa</i>	Yes
		Sh5	Open low woodland of <i>Acacia aneura</i> var. <i>aneura</i> , over <i>Eremophila compacta</i> subsp. <i>compacta</i> and <i>E. galeata</i>	Yes
		shdl	Low Woodland of <i>Acacia aneura</i> var. <i>aneura</i> , with <i>Acacia pruinocarpa</i> and <i>A. rhodophloia</i>	No
	Plains	PI1	Open Low Woodland of <i>Grevillea nematophylla</i> subsp. <i>supraplana</i> with <i>Acacia aneura</i> var. <i>aneura</i> and occasional emergent <i>Eucalyptus camaldulensis</i> subsp. <i>obtusa</i>	No
		PI2	Heath of <i>Cratystylis subspinescens</i>	No
		PI3	Thicket of <i>Melaleuca interioris</i> with occasional <i>Acacia tetragonophylla</i> and <i>A. aneura</i> var. <i>aneura</i>	No
		PI4	Low woodland of <i>Acacia aneura</i> var. <i>aneura</i> and <i>A. ayersiana</i> with occasional stands of <i>Eucalyptus kingsmillii</i> subsp. <i>kingsmillii</i> over Hummock of <i>Triodia melvillei</i>	No
		PI5	Low woodland of <i>Acacia aneura</i> var. <i>aneura</i> , with <i>A. ramulosa</i> var. <i>ramulosa</i>	No
		PI6	Open low woodland of <i>Acacia aneura</i> var. <i>aneura</i> with <i>A. craspedocarpa</i> , <i>A. ramulosa</i> var. <i>ramulosa</i> , <i>A. ayersiana</i> and <i>A. tetragonophylla</i>	No
		PI7	Open low woodland of <i>Acacia ayersiana</i> , <i>A. aneura</i> var. <i>aneura</i> and <i>A. ramulosa</i> var. <i>ramulosa</i>	No
		PI8	Low woodland of <i>Acacia aneura</i> var. <i>aneura</i> with <i>A. ayersiana</i> , <i>A. ramulosa</i> var. <i>ramulosa</i> , over open hummock of <i>Triodia melvillei</i>	No
PI9		Open woodland of <i>Eucalyptus camaldulensis</i> subsp. <i>obtusa</i> , over an open low woodland of <i>Acacia ayersiana</i> , <i>A. aneura</i> var. <i>aneura</i> and <i>A. tetragonophylla</i>	No	

Table 2.9 – Millipede vegetation units (Niche Environmental 2014)

Association	Unit	Description	Conservation significant
Playa	Sl1	Low Heath of <i>Tecticornia</i> species	Yes
	fr	<i>Melaleuca xerophila</i> closed forest	No
Dune	Fd	Open low woodland of <i>Acacia ayersiana</i> with a sparse midstorey over a hummock of <i>Triodia melvillei</i>	No
	d	Low woodland of <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> and <i>Acacia ayersiana</i> over <i>A. aneura</i> var. <i>aneura</i> and <i>Grevillea sarissa</i> subsp. <i>succincta</i> midstorey over mid dense hummock of <i>Triodia melvillei</i>	No
Calcrete	Ca1	Low Woodland of <i>Acacia ayersiana</i> , <i>A. tetragonophylla</i> , <i>A. burkittii</i> and <i>Acacia aneura</i> var. <i>aneura</i> over <i>Rhagodia ?drummondii</i> , <i>Eremophila longifolia</i> and <i>E. arachnoides</i> subsp. <i>arachnoides</i>	Yes
	Ca2	<i>Eremophea spinosa</i> , <i>Sclerolaena</i> and <i>Maireana</i> species understorey with occasional <i>Acacia victoriae</i> , <i>Cratystylis spinescens</i> , <i>Maireana pyramidata</i> sparse upper storey	No
	Ca3	<i>Acacia aneura</i> and <i>A. ayersiana</i> over a midstorey dominated by <i>A. tetragonophylla</i> , <i>Senna artemisioides</i> and <i>Eremophila arachnoides</i> subsp. <i>arachnoides</i>	No
	dl	<i>Pittosporum phylliraeoides</i> , <i>Acacia macraneura</i> and <i>A. tetragonophylla</i> overstorey over a comparatively dense mid and understorey	No
Clay pan	cp1	<i>Tecticornia halocnemoides</i> subsp. <i>halocnemoides</i> , <i>T. indica</i> subsp. <i>leiostachya</i> and <i>T. pterygosperma</i> understorey, with very occasional <i>Senna artemisioides</i>	Yes
	cp2	<i>Tecticornia indica</i> subsp. <i>bidens</i> and <i>T. indica</i> subsp. <i>leiostachya</i> understorey	Yes

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3 METHODOLOGY

3.1 GUIDING PRINCIPLES

This survey was undertaken as part of the Environmental Impact Assessment process in WA and is required to address the following government legislation:

- EPAs Position Statement No. 3: Terrestrial Biological Surveys as an Element of Biodiversity Protection (EPA 2002); and
- Guidance Statement No. 51: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (EPA 2004).

Specifically providing:

- A review of background information (including literature and database searches);
- An inventory of species observed at the study area;
- An inventory and a map of species of biological and conservation significance recorded or likely to occur within the study area and surrounds;
- An inventory and a map of introduced species recorded at the study area;
- An inventory of vegetation types and flora species occurring at the study area, incorporating recent published and unpublished records;
- A map and detailed description of vegetation types (to NVIS Level V: Association) occurring in the study area and an assessment of which vegetation units represent Threatened or Priority Ecological Communities;
- A map of the vegetation condition and discussion on the type of disturbances encountered;
- An appraisal of the current knowledge base for the area, including a review of previous surveys conducted in the area relevant to the current study; and
- A review of regional and biogeographical significance, including the conservation status of species recorded at the study area.

3.2 DATABASE SEARCHES

Using the shapefile of the study area a search of the following databases was undertaken in September 2014, to determine species and communities of significance previously recorded in the vicinity of the study area:

- Department of Environment (DoE) EPBC Act Protected Matters Database (buffer 100 km);
- Department of Parks and Wildlife (DPaW), Threatened and Priority Flora Database (TPFL) (Search reference 32-0514FL) (buffer 50 km);
- DPaW Threatened and Priority Flora List (TP List) (Search reference 32-0514FL) (buffer 50 km);
- DPaW Western Australian Herbarium Specimen Database (WAHERB) (Search reference 32-0514FL) (buffer 50 km); and
- DPaW Threatened and Priority Ecological Communities Database (Search reference 25-0514EC) (buffer 50 km).

3.2.1 Significant Flora

Significant flora as described in EPA Guidance Statement 51 (EPA 2004) includes Threatened and Priority Flora as well as range extensions, keystone species, relic species, potential new species,

restricted subspecies, varieties or naturally occurring hybrids, local endemics or poorly reserved species. A Threatened and Priority Flora Report (TPFR) Form will be completed for each population of significant flora recorded within the study area.

Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth of Australia)

At a Commonwealth level, Threatened Flora are protected under the EPBC Act, which lists species that are considered Critically Endangered, Endangered, Vulnerable, Conservation Dependant, Extinct, or Extinct in the Wild (see Appendix A for more detail).

Wildlife Conservation Act 1950 (Western Australia)

At State level, Threatened Flora are protected under the WC Act. These are taxa which have been adequately searched for and are deemed to either rare, in danger of extinction, or otherwise in need of special protection in the wild, and are gazetted as Threatened (Declared Rare) Flora. Threatened Flora are further categorised by DPaW according to their level of threat using the International Union for Conservation of Nature (IUCN) red list criteria (IUCN 2001):

- Critically Endangered: considered to be facing an extremely high risk of extinction in the wild;
- Endangered: considered to be facing a very high risk of extinction in the wild; and
- Vulnerable: considered to be facing a high risk of extinction in the wild.

These taxa are legally protected and their removal or impact to their surroundings cannot be conducted without Ministerial approval, obtained specifically on each occasion for each population (refer to Appendix A for conservation category definitions).

Priority Flora

DPaW maintains a list of Priority Flora, which are considered poorly known, uncommon or under threat but for which there is insufficient justification to be listed as Threatened, based on known distribution and population sizes. A Priority Flora taxon is assigned to one of five priority categories (Appendix A).

A likelihood of occurrence of the significant flora recorded during the database searches was assessed based on distribution and known habitat preference using the criteria shown in Table 3.1.

Further information on the likelihood of occurrence assessment for each taxon is provided in Appendix B.

Table 3.1 - Criteria used to assess likelihood of occurrence of significant flora

Likelihood	Criteria
Recorded	The taxon has been recorded within the study area
Highly likely	Due to the proximity of previous records (<2 km) and the presence of suitable habitat, the taxon is considered highly likely to occur within the study area
Likely	Given the presence of suitable habitat and moderate proximity (2-10 km) of previous records, the taxon is considered likely to occur within the study area
Possible	The habitat specificity of the taxon is broadly defined or undefined and there are records within 50 km of the study area. There is insufficient information available to exclude the possibility of occurrence within the study area
Unlikely	The habitat specificity of the taxon is well defined from previous records and the habitat is considered unlikely to be present within the study area; or there are no records within 50 km of the study area

Other Significant Flora

In addition, flora species can have ecological significance without being listed as a Threatened or Priority Flora species. In Guidance Statement 51 (EPA 2004) the following characteristics are listed as reasons for flora to be considered of significance:

- Having a keystone role in a particular habitat for threatened species, or supporting large populations representing a significant proportion of the local regional population of a species;
- Being of relic status;
- Possessing anomalous features that indicate a potential new discovery;
- Being a range extension (> 100 km) or at the extremes of the distribution range of a species, or an isolated outlier;
- Being a restricted subspecies, variety or naturally occurring hybrid;
- Being locally endemic or of restricted distribution; or
- Being poorly reserved.

3.2.2 Introduced Flora

Weeds of National Significance

At a national level, there are 32 weed species listed as Weeds of National Significance (WONS). The Commonwealth National Weeds Strategy: A Strategic Approach to Weed Problems of National Significance (DSEWPaC 2012b) describes broad goals and objectives to manage these species.

A search of the EPBC Act Protected Matters Database was conducted using a 100 km buffer for WONS previously recorded at the study area.

Declared Pests

The purpose of the *Biosecurity and Agriculture Management Act 2007* (BAM Act) is to prevent serious animal and plant pests and diseases from entering WA and becoming established, and to minimise the spread and impact of those that are already present. The BAM Act (and associated regulations) replaces the *Agriculture and Related Resources Protection Act 1976* (and associated regulations). The BAM regulations were enacted on 1 May 2013, placing organisms into one of four categories:

- Permitted organism (listed under Section 11) permitted in Western Australia subject to regulations;
- Prohibited organism (listed under Section 12) prohibited in Western Australia subject to regulations (i.e. is a Declared Pest for the whole of State);
- Permitted organism: permit required (under Regulation 73) must not be imported unless in accordance with an import permit; and
- Permitted organism: Declared Pests (under Section 22) can apply to part of or the whole of the State.

The current Western Australian Organism List (WAOL) was published on 1 May 2013 (Department of Agriculture and Food Western Australia, DAFWA (2013)) and lists organisms in each of these categories. Unlisted organisms must not be imported (unless in accordance with an import permit and regulations). The BAM Act further categorises Declared Pests in one of three control categories in Table 3.2.

Table 3.2 – Control categories for Declared Pests

Category	Description
C1 - Exclusion	Pests assigned to this category 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 assigned to this category are present in WA in low enough numbers or in sufficiently limited areas that their eradication is still a possibility
C3 - Management	Pests assigned to this category are established in WA 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

*Source: BAM Act 2007 and WAOL (DAFWA 2013)

Environmental Weeds

A third and much more extensive categorisation of weeds was developed by the Department of Conservation and Land Management (CALM, now DPaW) in an Environmental Weed Strategy (CALM 1999). Species are evaluated and rated based on the following criteria:

- Invasiveness: Ability to invade bushland in good to excellent condition or ability to invade waterways;
- Distribution: Wide current or potential distribution including consideration of known history of widespread distribution elsewhere in the world; and
- Environmental impacts: Ability to change the structure, composition and function of ecosystems. In particular an ability to form single-species stands.

To advance the above categorisation, the Invasive Plant Prioritization Process was developed in 2011 by the Department of Environment and Conservation, DEC (2011). The new criteria for weed species categorisation are summarised as follows:

- Potential distribution: Area of potential habitat in the region that could be occupied or the area at risk of invasion by the weed (limited, moderate, high, extensive, unknown);
- Current distribution: Area of habitat in the region currently occupied by the weed (limited, moderate, high, extensive, unknown);
- Survey effort: Survey effort of the IBRA region (nil 0%, some 0-25%, patchy 25-50%, extensive 50-75%, complete 75-100%);
- Abundance: Density class across one or more IBRA regions in the DEC region (occasional, common, abundant);
- Ecological impact: Impact of species within the region (low, medium, high, unknown);
- Impact attributes: List of known ecological impact attributes;
- Invasiveness: Rate of spread of a weed in native vegetation (slow, moderate, rapid, unknown);
- Feasibility of control: The longer a coordinated program takes to achieve its desired goal, the more expensive and less feasible it become (low, medium, high, unknown);
- General trend: General trend in distribution and abundance across the region (decreasing, increasing, stable, unknown); and
- Status: Define whether the species is outside the regions, emerging, established, or unknown.

A review of surveys conducted in the area was undertaken for previous environmental weed records.

3.2.3 Significant Vegetation

Nationally Listed Threatened Ecological Communities

Ecological communities are naturally occurring biological assemblages associated with a particular type of habitat (DEC 2010). At a national level, flora and Threatened Ecological Communities (TECs) are protected under the Commonwealth EPBC Act. An ecological community may be categorised into one of three sub-categories:

- Critically Endangered: if it is facing an extremely high risk of extinction in the wild in the immediate future;
- Endangered: if it is not critically endangered and is facing a very high risk of extinction in the wild in the near future and
- Vulnerable: if it is not critically endangered or endangered, and is facing a high risk of extinction in the wild in the medium-term future.

A search of the DPaW nationally listed TEC database for the study area was conducted using a 50 km buffer.

State Listed Threatened Ecological Communities

DPaW also maintains a list of state listed TECs which are further categorised into three subcategories, much like those of the EPBC Act. Within the Western Australian classification, an ecological community will be listed as Vulnerable "when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction or significant modification in the medium to long-term future".

A search of the DPaW state listed TEC Database for the study area was conducted using a 50 km buffer.

State Listed Priority Ecological Communities

DPaW maintains a list of Priority Ecological Communities (PEC). PECs include potential TECs that do not meet survey criteria, or that are not adequately defined.

A search of the DPaW Threatened and Priority Ecological Communities Database for the study area was conducted using a 50 km buffer.

3.3 FIELD ASSESSMENT

A four phase, Level 2 flora and vegetation assessment was conducted at the study area. Methodologies were formulated based on the legislative framework listed in Section 3.1.

The survey was conducted by sampling within bounded quadrats, supplemented by a series of linked field and grid-based transects. Opportunistic collections during traverses are a more time efficient method of maximising the floristic inventory and thus increasing the probability of locating taxa of potential significance. However, standardised quadrats allow the vegetation to be consistently characterised and facilitate multivariate analysis of vegetation associations. Both methods contributed to the delineation of fine scale vegetation units and a comprehensive floristic inventory of the study area.

3.3.1 Survey Timing

The study area was surveyed over four phases and 42 person field days:

- Phase 1: 6 to 10 June 2014 by one botanist (4 person days);
- Phase 2: 7 to 16 October 2014 by two botanists (20 person days);
- Phase 3: 9 to 13 January 2015 by two botanists (8 person days); and
- Phase 4: 21 to 26 March 2015 by one botanist (6 person days).

3.3.2 Rainfall Prior to the Field Surveys

Rainfall data for Wiluna (Site No. 013012), 25 km to the north-west of the northern part of the study area and 100 km north-west of the southern part of the study area is listed in Table 3.3 and shown in Figure 3.1 (BOM 2014). Rainfall prior to the two phases of survey is described below:

- Rainfall recorded in the three months prior to phase one (47.2 mm from March to May) was 38 mm less than the long-term average of 91.2 mm (1899-2015) for the same period;
- Rainfall recorded in the three months prior to phase two (0.8 mm from July to September) was 29.1 mm less than the long-term average of 29.9 mm (1899-2015) for the same period;
- Rainfall recorded in the three months prior to phase three (66.9 mm from October to December) was 26.1 mm higher than the long-term average of 40.8 mm (1899-2015) for the same period; and
- Rainfall recorded in the three months prior to phase four (92.6 mm from December to February) was 4.5 mm less than the long-term average of 97.1 mm (1899-2015) for the same period.

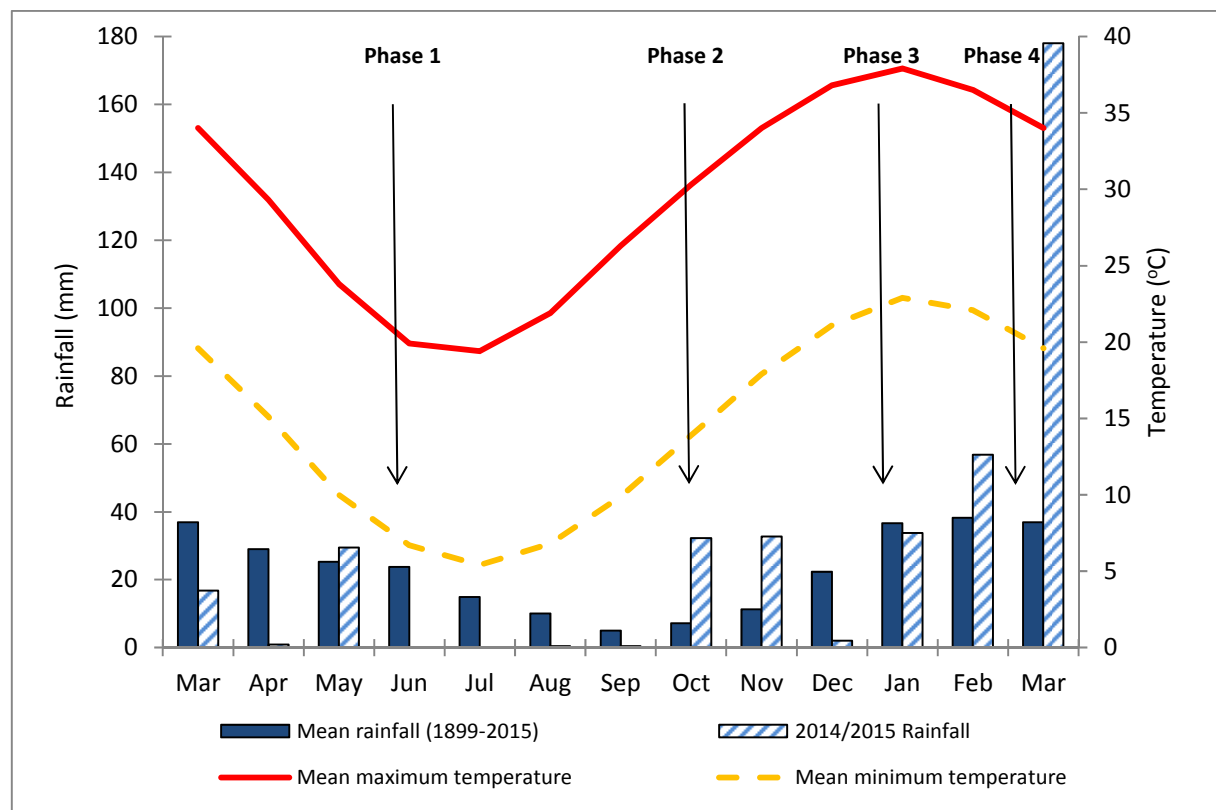


Figure 3.1 – Rainfall and temperature data at Wiluna

Rainfall totals for other localities in the vicinity of the study area which do not have quality controlled data are included in Table 3.3. This shows that more rainfall was recorded closer to the southern end of the study area. At Albion Downs (57 km from the southern part of the study area) prior to phase one, 60.5 mm fell from March to May which was only 14.5 mm less than the long term average for the same period and prior to phase two, 12.6 mm fell from July to September which was 19.2 mm less than the long term average for the same period.

In addition a large rainfall event in January (four months prior to phase one) occurred, where 203.9 mm of rain fell which positively influenced the growing conditions for flora for this phase of the survey. This large rainfall event was recorded also at Albion Downs and Wonganoo stations, where 138.6 mm and 79.8 mm fell respectively.

Table 3.3 – Rainfall data for the study area

Month and year	Wiluna mean (1899-2015) rainfall (mm)	Wiluna rainfall (mm)	Albion Downs rainfall (mm)	Wonganoo rainfall (mm)
Distance from study area	25 km from northern end of study area	25 km from northern end of study area	57 km from southern end of study area	57 km from southern end of study area
March 2014	36.9	16.8	n/a	18.5
April 2014	29	0.9	4	11.1
May 2014	25.3	29.5	56.5	34.3
June 2014	23.8	0	0.8	0
July 2014	14.9	0	1	7.4
August 2014	10	0.4	9.6	0.6
September 2014	5	0.4	2	0
October 2014	7.2	32.2	34.6	51.7
November 2014	11.3	32.7	17.0	11.4
December 2014	22.3	2	3.9	25.0
January 2015	36.6	33.8	6.6	n/a
February 2015	38.2	56.8	31.8	n/a

3.3.3 Study Team and Licences

The flora and vegetation assessment conducted by *ecologia* was planned, coordinated, executed and reported by those summarised below in Table 3.4. The DPaW licence numbers to take flora for scientific purposes are also provided.

Table 3.4 – Study team and licences

Project Staff			
Name	Qualification	Role	Project role
Renee Young	PhD (Botany)	Botany Team Leader/Senior Botanist	Reporting, quality assurance, project management, field survey phase 3
Andrew Craigie	PhD (Botany)	Taxonomist	Field survey phase 1, 2 and 3, plant identification, reporting
Melissa Hay	B.Sc. (Hons)	Senior Botanist	Reporting, field survey phase 3 and 4
Jordan Voss	-	Botanist	Field survey phase 2
Chris Parker	B.Sc.	Botanist	Field survey phase 3
Palitha Jayasekera	PhD (Botany)	Taxonomist	Plant identification
Licences - "Licence to Take Flora for Scientific Purposes"			
The flora and vegetation assessment described in this report was conducted under the authorisation of the following licences issued by DPaW:			
Name	Licence Number		Valid until
Andrew Craigie	SL010972		30/04/2015
Jordan Vos	SL011155		30/04/2015
Melissa Hay	SL011068		30/04/2015
Renee Young	SL010977		30/04/2015
Chris Parker	SL010973		30/04/2015

3.3.4 Quadrat Based Sampling

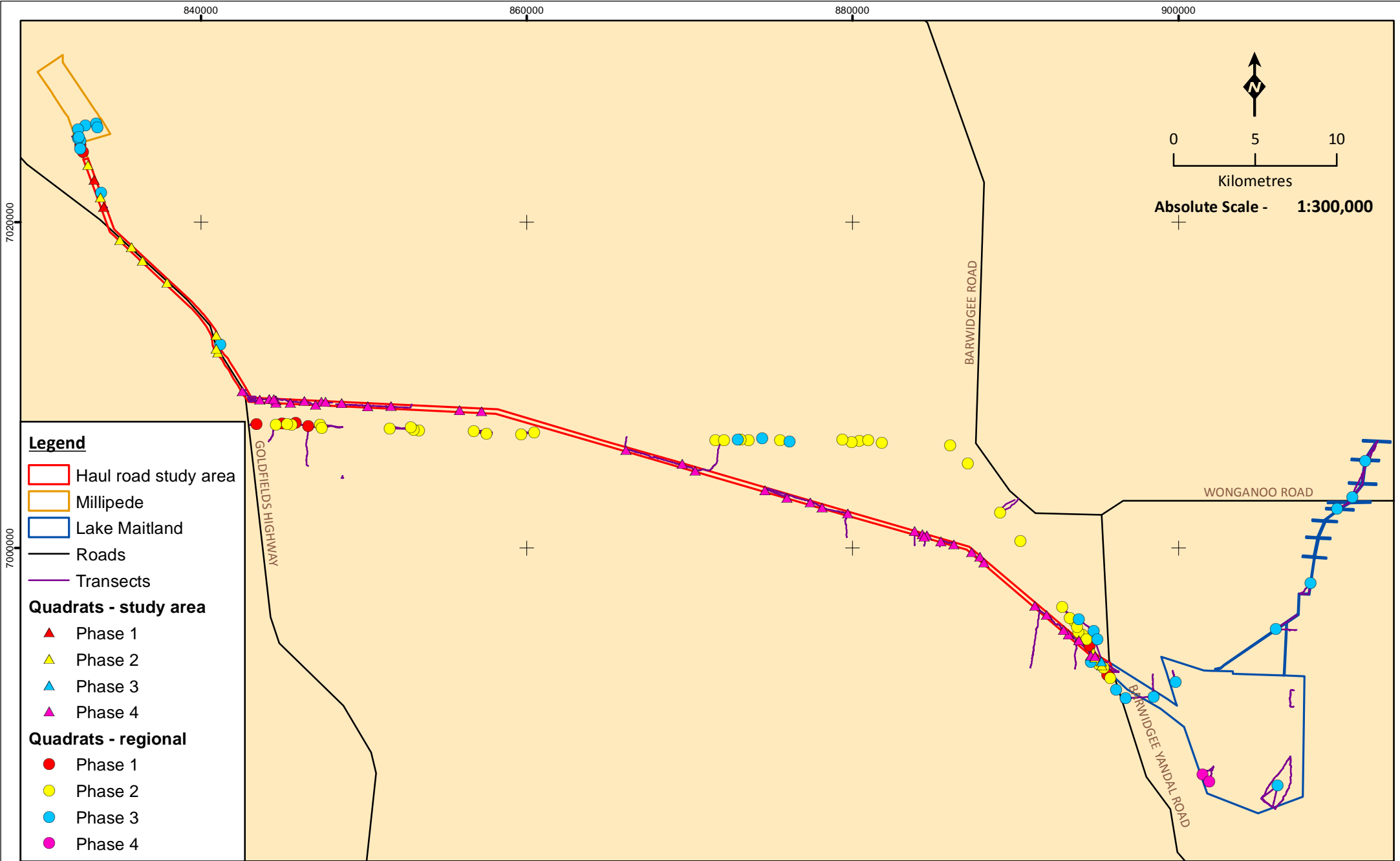
A total of 130 quadrats were established and surveyed at both the study area and in the regional area. Of these, 55 quadrats were surveyed within the study area and the remaining 75 were surveyed regionally, these are mapped in Figure 3.2. Quadrat locations were selected using a combination of aerial photography, topographic features, land systems and field observations to represent the diversity of vegetation and habitats present. All quadrats were 30 x 30 m (900 m²) and at each quadrat, to allow consistency and comparison of data collected during other surveys and the following was recorded:

- All observed flora species and the average height, percentage cover (using the ranges cited by NVIS) and observable presence/absence of fruit/flowers for each;
- Vegetation structure (National Vegetation Information System (NVIS) Level V, Section 3.4);
- Vegetation condition scale of Trudgen (1991), which is based on the criteria in Table 3.5;
- Estimated time since fire;
- GPS co-ordinate for the north-west corner;
- Digital image of the quadrat vegetation, taken from the north-west corner facing south-east;
- The landform element (morphological type, position and element type);
- The presence of rock outcrops (type and abundance);
- Soil type (colour, profile, field texture and surface type); and
- Slope and aspect.

Site information for each quadrat is presented in Appendix C.

3.3.5 Targeted Significant and Additional Flora Searches

Priority Flora identified during the database searches were targeted by using aerial imagery to identify suitable habitat (listed for each taxon in Appendix B) as well as the locations of previous records. The targeted flora searches involved a series of transects which were traversed on foot to target flora of conservation significance, introduced flora and to provide opportunistic collections of taxa not recorded within the quadrats. Known locations of Priority Flora taxa were also visited where possible. Transects walked at the study area and regionally are mapped on Figure 3.2.



Quadrats and transects surveyed at the study area and regionally



3.3.6 Species Accumulation Curve Analysis and Sampling Adequacy

Sampling adequacy was determined by conducting a species accumulation curve (SAC) analysis. This provides a theoretical basis for understanding the relationship between sampling effort and the accumulation of species, and therefore provides a means of estimating the survey adequacy. As sampling effort increases, the rate at which new species are recorded is reduced until ultimately the number of species recorded reaches the number present. At the point where there is a minimal increase in species inventory with continued sampling effort, the sample size is considered adequate. Using this analysis, the incidence-based coverage estimators of species richness; ICE Mean and Chao 2 Mean are compared to the species accumulation curve for the study area. SAC analysis was conducted on the site by species matrix using EstimateS v. 8 (Colwell 2009).

3.3.7 Taxonomy

Scientific names used in this report follow species concepts currently adopted by the Western Australian Herbarium, unless otherwise indicated. Specimens that were believed to differ significantly from typical material were indicated with 'affinity' (aff.), or were annotated after the scientific name (e.g. *Frankenia fecunda* (glabrous leaf variant)). Specimens that could not be adequately identified to genus or species level due to the absence of sufficient material were indicated with a question mark. Specimens that could not be identified past genus level, but were believed to belong to the same species, were given an informal tag (e.g. *Calandrinia* sp. 1).

Very few Mulga taxa (*Acacia aneura* and close relatives) were observed with fruit during the surveys, and in the absence of pods these species can be difficult or impossible to distinguish and as such, most specimens could not be unambiguously identified. In particular, *A. aneura*, *A. aptaneura* and *A. macraneura*; *A. ayersiana* and *A. caesaneura*; and *A. macraneura* and *A. pteraneura*, can be difficult or impossible to distinguish based on vegetative material alone. Additionally, hybrids may occur among these species, further complicating identification. For the purposes of this report, the following Mulga identifications were made based on vegetative characters, when no pods were available, following information given in Maslin and Reid (2012):

- *Acacia ?aneura*: specimens with translucent branchlet resin; phyllodes terete to flat, generally > 2 mm wide, straight to curved, without resinous margins or margins sometimes lightly resinous; branchlets often sparsely to densely sericeous at extremities.
- *Acacia ?aptaneura*: specimens with translucent branchlet resin; phyllodes flat, generally < 2 mm wide, without resinous margins; branchlets more or less glabrous at extremities.
- *Acacia ?macraneura*: specimens with translucent branchlet resin; phyllodes terete, sinuous, the gland 0-3 mm above the pulvinus.
- *Acacia pteraneura*: specimens with translucent branchlet resin; phyllodes terete, sinuous, the gland ca. 4-10 mm above the pulvinus.
- *Acacia ayersiana*: specimens with translucent branchlet resin, with dense white hairs between the branchlet ribs; phyllodes flat, broad, grey-green, with a distinct resinous margin.
- *Acacia ?caesaneura*: specimens with opaque branchlet resin, or both opaque and translucent resin present, with dense white hairs between the branchlet ribs; phyllodes flat, broad, grey-green, with a resinous margin.
- *Acacia caesaneura* (narrow phyllode variant): specimens as above, but the phyllodes more or less linear, ca. 2-6 mm wide. Vegetatively similar to *A. incurvaneura* but the phyllodes with a well-developed resinous margin and dense white appressed hairs between the branchlet ribs.
- *Acacia caesaneura* x *incurvaneura*: specimens with opaque branchlet resin, with dense white hairs between the ribs; phyllodes ca. 1 mm wide, flat, linear, straight to incurved, with a well-developed resinous margin.

- *Acacia incurvaneura*: specimens with opaque branchlet resin, lacking dense hairs between the resinous ribs; phyllodes flat, narrow linear, incurved, usually < 2 mm wide, without resinous margins.
- *Acacia minyura*: specimens with opaque branchlet resin; phyllodes small (to ca. 25 x 4 mm), elliptic to oblong-elliptic, or oblong-ovate, flat, mucronate, the youngest with a thick layer of bluish-white or brown resin in the upper portion.
- *Acacia craspedocarpa*: specimens with opaque branchlet resin; phyllodes relatively short and broad, more or less obovate to almost orbicular, with nerves forming a dense reticulum.
- *Acacia craspedocarpa* (hybrid): specimens as above but the phyllodes comparatively longer and narrower, and with the reticulum less distinct.

All *Tecticornia* specimens were identified by Senior Research Scientist at the Western Australian Herbarium, Dr. Kelly Shepard.

3.4 VEGETATION MAPPING AND DELINEATION

Vegetation mapping is the delineation of plant communities or vegetation units based on distinctive characteristics that these communities share such as the vegetation structure, dominant species and species composition. A combination of aerial photography, the vegetation unit grouping during statistical analysis (Section 3.4.1) and ground truthing was used to interpret the vegetation patterns of the study area and allow for the vegetation mapping.

Vegetation units are described based on the National Vegetation Information System (NVIS) methodology (ESCAVI 2003) and are described to two hierarchical levels:

- Broad floristic formation level (level III) where the dominant growth form, crown cover, height and dominant land cover genus are described for the upper or most ecologically or structurally dominant stratum; and
- Association level (level V) where the dominant growth form, height and crown cover for three species are described for three strata levels (upper, middle and ground).

3.4.1 Statistical Analysis

Statistical analysis provides an objective means of defining vegetation units and provides insight into the hierarchical relationship between communities based on the degree of similarity in species composition and abundance.

Multivariate analysis was conducted using the site by species matrix from the 130 quadrats completed during the four phases of field survey as well as 376 quadrats conducted for the projects listed in Section 2.6.2. In order to best align the vegetation analysis, the data from the species by site matrix was treated in that:

- Data was transformed to presence/absence, as this was all that was available for some data sets;
- Taxa were removed from the data or grouped together if they could not be confidently identified to species level and there was a possibility of confusion with other similar taxa;
- *Tecticornia* taxa were grouped into one '*Tecticornia*' entity as the identifications were not finalised. The *Tecticornia* communities in the study area are reviewed in *ecologia's* (2015) *Tecticornia* assessment.
- Annual taxa were removed; and
- Subspecies and varieties were combined to the species level only.

This site by species matrix was then used to perform a cluster analysis to produce a dendrogram of dissimilarity between the quadrats. This was achieved using an association matrix of the Bray-Curtis coefficient with the multivariate program SYSTAT (SYSTAT Software, Inc. 2007 Version 12.0.8). The resultant dendrogram was divided into groups which were used to delineate the vegetation units. The site by species matrix used for the analysis is provided electronically in Appendix D and the dendrogram is presented in Appendix E.

3.4.2 Vegetation Condition Mapping

Vegetation condition is based on the scale developed by Trudgen (1991) as listed in Table 3.5. The average vegetation condition based on the rating for each quadrat in each vegetation unit is used to map the vegetation condition of the study area.

The vegetation condition has been mapped at the study area based on the average score of each quadrat within each vegetation unit.

Table 3.5 – Vegetation condition scale (Trudgen 1991)

Vegetation Condition	Criteria
Excellent	Pristine or nearly so, no obvious sign of damage caused by European man
Very good	Some relatively slight signs of damage caused by the activities of European man e.g. damage to tree trunks by repeated fires, the presence of some relatively non-aggressive weeds or occasional vehicle tracks
Good	More obvious signs of damage caused by the activities of European man, including some obvious impact to vegetation structure such as caused by low levels of grazing or by selective logging. Weeds as above, possibly plus some more aggressive species
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of European man such as grazing or partial clearing or very frequent fires. Presence of some more aggressive weeds
Very poor	Severely impacted by grazing, fire, 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 weeds species including aggressive species
Completely degraded	Areas that are completely or almost completely without native vegetation e.g. areas that are cleared or parkland cleared with their flora comprising weed or crop species with isolated native trees or shrubs

3.5 FLORA AND VEGETATION CONSERVATION SIGNIFICANCE ASSESSMENT

Any significant flora and vegetation communities recorded at the study area will be assessed for National, State, regional and local significance.

National significance refers to those features of the environment which are recognised under legislation as being of importance to the Australian community; in particular, species & TECs listed under the *EPBC Act* are regarded as nationally significant.

State significance refers to those features of the environment that are recognised under State legislation as being of importance to the Western Australian community, in particular, species listed as Threatened and communities as TECs or PECs under the *WC Act* are of state significance.

Regional significance addresses the representation of species and habitats at a biogeographic regional level. Species or vegetation communities that are restricted to the Murchison bioregion and whose distributions are limited or unknown are considered regionally significant. Regional significance of vegetation was assessed using Beard vegetation mapping at the study area and in the Murchison. As the Beard mapping was conducted at a large scale it does not always accurately represent the mapped communities at the study area, especially the minor details including drainage channels, creeklines and low hill slopes. If a vegetation unit mapped at the study area can be

attributed to a Beard vegetation unit, it can be used to loosely determine the potential extent of this community in the region.

Local significance is when a species or vegetation unit is confined to a specialised habitat type that is not common and potentially restricted to the local area and whose disturbance or removal may lead to local extinction. A local vegetation conservation assessment will be conducted based on regional distribution, presence of significant flora, vegetation condition, average species richness as well as whether or not it is part of a known significant community (i.e. TEC, PEC etc.) and significant flora taxa will be assessed based on if it is restricted locally.

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4 DATABASE RESULTS

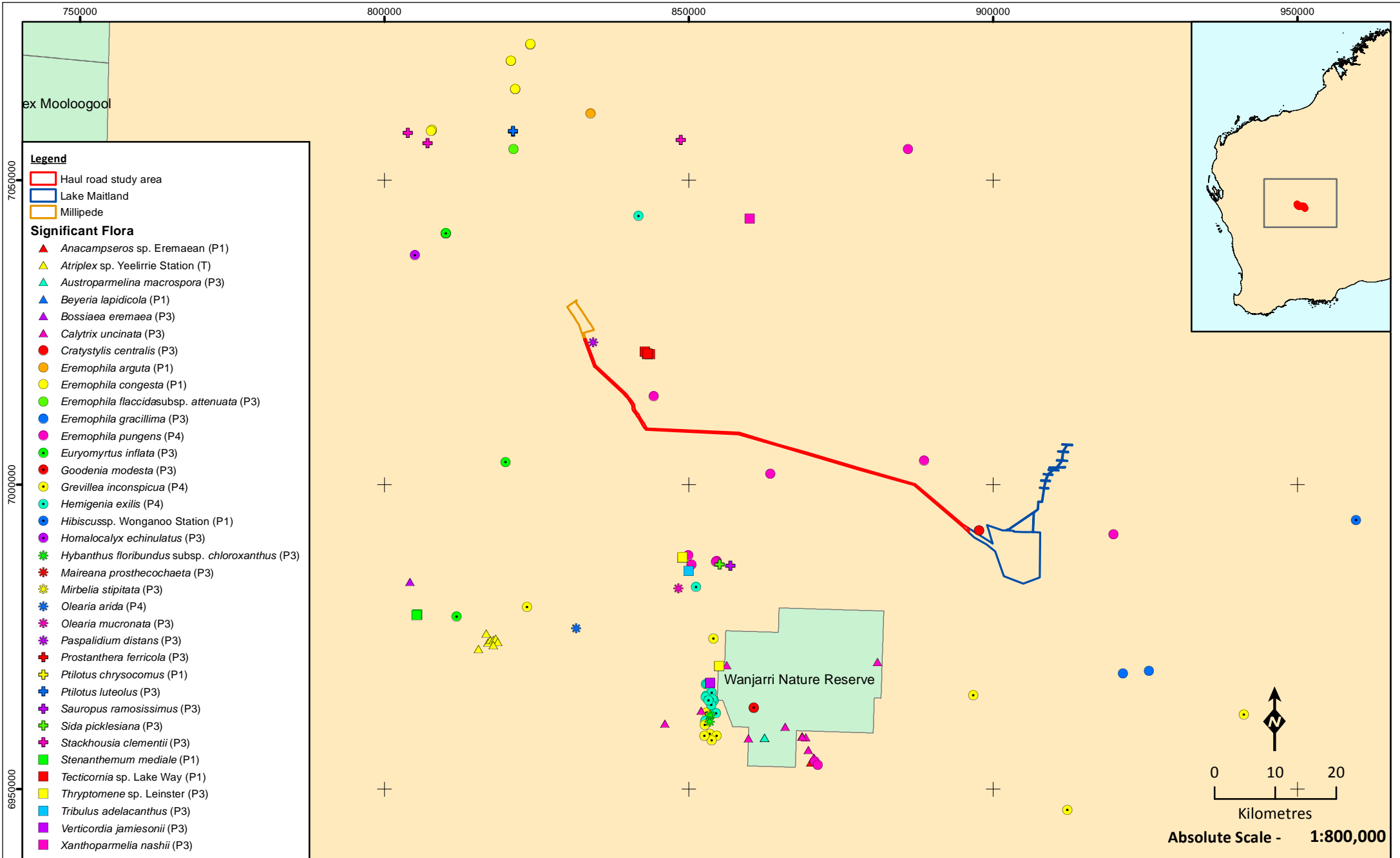
4.1 SIGNIFICANT FLORA RECORDED DURING THE DATABASE SEARCHES

The DPaW database searches returned 36 conservation significant taxa within 50 km of the study area, including one Threatened species (Figure 4.1), but none were recorded within the study area. An additional five are listed on the TP List and one was recorded during the surveys conducted nearby (although no specific location information is available) totalling 42 significant flora taxa (Table 4.1). Five of these taxa were considered likely or highly likely to occur at the study area (shaded Table 4.1). A list of these species, their characteristics and likelihood of occurrence in the study area is presented in Appendix B.

One Threatened flora taxon; *Atriplex* sp. Yeelirrie occurs 40 km south-west of the study area. This is listed as Threatened (Vulnerable) under the EPBC Act and the WC Act. There are six records of this taxon on Florabase all of which are restricted to self-mulching red clay. This habitat type was not present at the study area and it is therefore unlikely to occur.

Table 4.1 – Significant flora recorded during the database and desktop searches

Status	Taxa	Source
Threatened	<i>Atriplex</i> sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	TPList, TPFL
Priority 1	<i>Anacampseros</i> sp. Eremaean (F. Hort, J. Hort & J. Shanks 3248)	TPFL, WAHerb
	<i>Beyeria lapidicola</i>	TPList, TPFL, WAHerb
	<i>Eremophila arguta</i>	TPList, WAHerb
	<i>Eremophila congesta</i>	TPList, TPFL, WAHerb, Reports
	<i>Hibiscus</i> sp. Wonganoo Station (K. Boladeras 125)	TPList, WAHerb
	<i>Neurachne lanigera</i>	TPList
	<i>Ptilotus chrysocomus</i>	WAHerb
	<i>Sauropus</i> sp. Woolgorong (M. Officer s.n. 10/8/94)	TPList
	<i>Stenanthemum mediale</i>	TPFL, WAHerb
	<i>Tecticornia</i> sp. Lake Way (P. Armstrong 05/961)	NM, TPList, TPFL, WAHerb, Reports
Priority 3	<i>Austroparmelina macrospora</i>	TPList, TPFL, WAHerb
	<i>Baeckea</i> sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963)	TPList
	<i>Bossiaea eremaea</i>	WAHerb
	<i>Calytrix praecipua</i>	TPList
	<i>Calytrix uncinata</i>	NM, TPList, WAHerb
	<i>Calytrix verruculosa</i>	TPList
	<i>Cratystylis centralis</i>	NM, TPList, WAHerb
	<i>Eremophila arachnoides</i> subsp. <i>arachnoides</i>	Reports
	<i>Eremophila flaccida</i> subsp. <i>attenuata</i>	TPList, WAHerb
	<i>Eremophila gracillima</i>	TPList, TPFL, WAHerb
	<i>Euryomyrtus inflata</i>	TPList, WAHerb
	<i>Goodenia modesta</i>	TPFL, WAHerb
	<i>Homalocalyx echinulatus</i>	TPList, WAHerb, Reports
	<i>Hybanthus floribundus</i> subsp. <i>chloroxanthus</i>	WAHerb
	<i>Maireana prosthocochaeta</i>	TPList, TPFL, WAHerb
	<i>Mirbelia stipitata</i>	WAHerb, Reports
	<i>Olearia mucronata</i>	NM, TPList, TPFL, WAHerb
	<i>Paspalidium distans</i>	NM, WAHerb
	<i>Prostanthera ferricola</i>	TPList, WAHerb
	<i>Ptilotus luteolus</i>	TPList, TPFL, WAHerb
	<i>Sauropus ramosissimus</i>	NM, WAHerb
	<i>Sida picklesiana</i>	NM, TPList, WAHerb
	<i>Stackhousia clementii</i>	TPList, TPFL, WAHerb, Reports
	<i>Thryptomene</i> sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	NM, TPFL, WAHerb
	<i>Tribulus adelacanthus</i>	NM, TPList, WAHerb
	<i>Verticordia jamiesonii</i>	WAHerb
	<i>Xanthoparmelia nashii</i>	NM, TPList, WAHerb
Priority 4	<i>Eremophila pungens</i>	NM, TPList, WAHerb
	<i>Grevillea inconspicua</i>	NM, TPFL, WAHerb
	<i>Hemigenia exilis</i>	NM, TPList, TPFL, WAHerb
	<i>Olearia arida</i>	WAHerb



Significant flora recorded during the DPaW database searches

(Search Reference: 32-0514FL)

Figure: 4.1
 Project ID: 1600

Drawn: MH
 Date: 5/12/2014

Coordinate System
 Name: GDA 1994 MGA Zone 51
 Projection: Transverse Mercator
 Datum: GDA 1994

Unique Map ID: MH030

4.2 INTRODUCED FLORA RECORDED DURING THE DATABASE SEARCHES

No weeds of National significance or Declared Pests (weeds) were recorded during the database searches.

Eleven environmental weeds were recorded during the database and desktop searches; **Acetosa vesicaria*, **Carrichtera annua*, **Cenchrus ciliaris*, **Chenopodium murale*, **Cuscuta planiflora*, **Cylindropuntia spp.*, **Eragrostis curvula*, **Malvastrum americanum*, **Rostraria pumila*, **Solanum nigrum* and **Tribulus terrestris*. Locations are not available for these taxa.

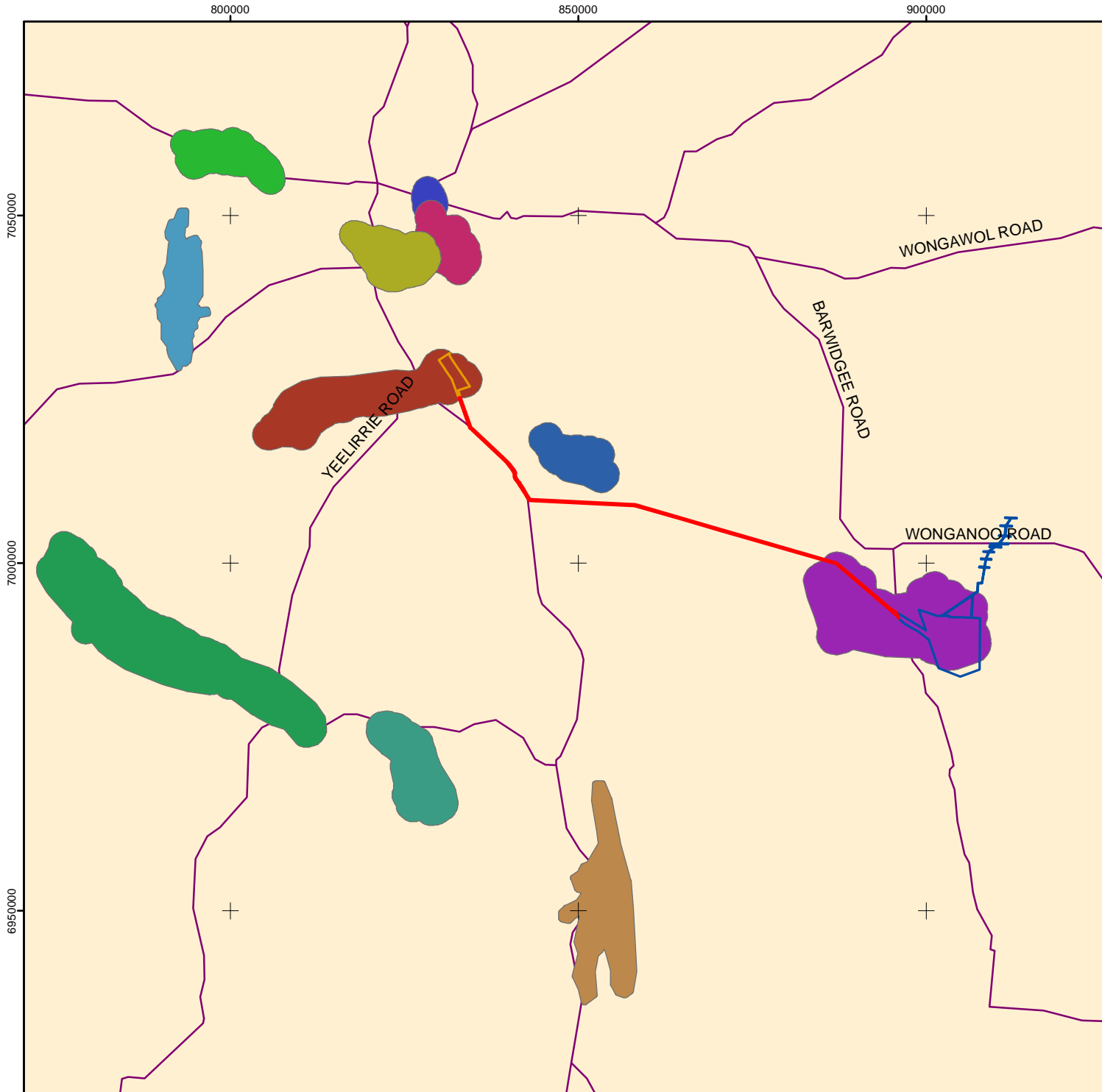
4.3 SIGNIFICANT VEGETATION COMMUNITIES RECORDED DURING THE DATABASE SEARCHES

No Commonwealth or State listed TECs were recorded as occurring within 50 km of the study area. Eleven PECs were recorded as occurring within 50 km of the study area, of which two occur within the study area (Table 4.2, Figure 4.2).

The two PECs that occur are underground invertebrate assemblages and are not pertinent to the flora and vegetation of the study area. The closest PECs that are relevant to the flora and vegetation are the Wiluna West vegetation complexes on Banded Ironstone Formation (BIF), 35 km west and the Violet Range vegetation complexes on BIF, 40 km south. There is no BIF habitat at the study area and therefore these PECs do not occur at the study area.

Table 4.2 – PECs within 50 km of the study area

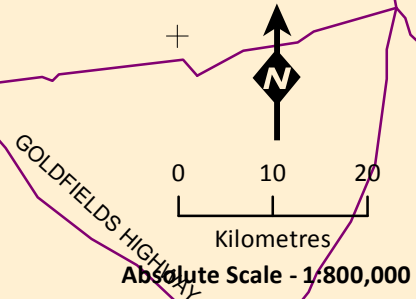
Community	Category	Distance from study area
Albion Downs calcrete groundwater assemblage type on Carey palaeodrainage on Albion Downs Station	Priority 1	35 km south
Barwidgee calcrete groundwater assemblage type on Carey palaeodrainage on Barwidgee Station	Priority 1	Within study area
Hinkler Well calcrete groundwater assemblage type on Carey palaeodrainage on Lake Way Station	Priority 1	Within study area
Lake Violet south and Lake Violet calcrete groundwater assemblage types on Carey palaeodrainage on Millbillillie Station	Priority 1	11 km north
Lake Way South calcrete groundwater assemblage type on Carey palaeodrainage on Lake Way Station	Priority 1	3 km north
Millbillillie Bubble Well groundwater calcrete assemblage type on Carey palaeodrainage on Millbillillie Station	Priority 1	33 km north-west
Uramurdah Lake calcrete groundwater assemblage type on Carey palaeodrainage on Millbillillie Station	Priority 1	10 km north
Violet Range (Perseverance Greenstone Belt) vegetation complexes (banded ironstone formation)	Priority 1	40 km south
Wiluna BF calcrete groundwater assemblage type on Carey palaeodrainage on Millbillillie Station	Priority 1	20 km north
Wiluna West vegetation complexes (banded ironstone formation)	Priority 1	35 km west
Yeelirrie calcrete groundwater assemblage type on Carey palaeodrainage on Yeelirrie Station	Priority 1	46 km south-west



Legend

- Haul road study area
- Lake Maitland
- Millipede
- Road

- PEC**
- Albion Downs calcrete groundwater assemblage type on Carey palaeodrainage on Albion Downs Station
 - Barwidgee calcrete groundwater assemblage type on Carey palaeodrainage on Barwidgee Station
 - Hinkler Well calcrete groundwater assemblage type on Carey palaeodrainage on Lake Way Station
 - Lake Violet south and Lake Violet calcrete groundwater assemblage types on Carey palaeodrainage on Millbillillie Station
 - Lake Way South calcrete groundwater assemblage type on Carey palaeodrainage on Lake Way Station
 - Millbillillie Bubble Well groundwater calcrete assemblage type on Carey palaeodrainage on Millbillillie Station
 - Uramurdah Lake calcrete groundwater assemblage type on Carey palaeodrainage on Millbillillie Station
 - Violet Range (Perseverance Greenstone Belt) vegetation complexes (banded ironstone formation)
 - Wiluna BF calcrete groundwater assemblage type on Carey palaeodrainage on Millbillillie Station
 - Wiluna West vegetation complexes (banded ironstone formation)
 - Yeelirrie calcrete groundwater assemblage type on Carey palaeodrainage on Yeelirrie Station



**PECs recorded within 50 km
of the study area**
(Search Reference: 25-0514EC)

Figure: 4.2
Project ID: 1600

Drawn: MH
Date: 05/12/2014

Coordinate System
Name: GDA 1994 MGA Zone 51
Projection: Transverse Mercator
Datum: GDA 1994

Unique Map ID: MH030

5 RESULTS

5.1 FLORA

5.1.1 Species Composition

A total of 223 vascular plant taxa (including species, infraspecific taxa, and phrase name taxa) were recorded at the study area. Of these, 36 (16%) were annuals or short-lived perennials, two were Priority Flora species and three were introduced species. When including the regional information, 328 vascular plant taxa were recorded and of these, 62 (19%) were annuals or short-lived perennials.

Of all the individuals recorded, both opportunistically and in the quadrats, the following percentage of plants were flowering and or fruiting for each phase:

- Phase 1: 61% (from 215 records);
- Phase 2: 51% (from 1,102 records);
- Phase 3: 46% (from 434 records); and
- Phase 4: 44% (from 851 records).

The composition of the flora of the study area and regionally is summarised in Table 5.1. A complete list of taxa recorded, including opportunistic collections and partially identified specimens, is included in Appendix F.

Table 5.1 – Floristic information at the study area and regionally

Location	Number of taxa recorded	Number of families	Number of genera	Number of families represented by a single taxon	Number of genera represented by a single taxon
The study area	223	34	93	14	63
Total (including regional quadrats)	328	39	120	14	78

The families and genera represented by the greatest number of taxa and the most frequently recorded species in the study area are listed in Table 5.2. The most speciose families were Fabaceae and Chenopodiaceae and *Acacia* and *Eremophila* were the most speciose genera. *Solanum lasiophyllum* was the most frequently occurring taxon, recorded within 78% of all quadrats surveyed.

Table 5.2 – Most commonly recorded families, genera and taxa at the study area

Highest taxa per family	Highest taxa per genus	Most frequently recorded taxa
Fabaceae (34 taxa)	<i>Acacia</i> (22 taxa)	<i>Solanum lasiophyllum</i> (43 records; 78% of quadrats)
Poaceae (31 taxa)	<i>Eremophila</i> (22 taxa)	<i>Monochanter paradoxus</i> (33 records; 60% of quadrats)
Chenopodiaceae (27 taxa)	<i>Senna</i> (9 taxa)	<i>Aristida contorta</i> (31 records; 56% of quadrats)
Scrophulariaceae (22 taxa)	<i>Sclerolaena</i> (9 taxa)	<i>Eragrostis eripoda</i> (31 records; 56% of quadrats)
Malvaceae (16 taxa)	<i>Maireana</i> (8 taxa)	<i>Acacia tetragonophylla</i> (30 records; 55% of quadrats)
Protoaceae (10 taxa)	<i>Ptilotus</i> (7 taxa)	<i>Ptilotus obovatus</i> (24 records; 44% of quadrats)
Amaranthaceae (8 taxa)	<i>Sida</i> (7 taxa)	<i>Acacia aneura</i> (29 records; 53% of quadrats)

Species richness within quadrats at the study area varied from seven to 37 taxa, with a mean species richness of 18.2 ± 6.1 (n= 55). When including all quadrats, the mean species richness was 16.7 ± 6 (n= 130). The two quadrats with the highest species richness of 37 taxa were quadrats 108 and 109, both located on a minor drainage line and the lowest species richness of seven taxa was recorded in quadrat 216, on a flat plain.

5.1.2 SAC analysis

For the 55 quadrats completed at the study area, the predicted taxa richness within the study area, as calculated by ICE Mean and Chao 2 Mean, is 291 and 284 taxa respectively. The total number of taxa recorded from quadrats was 218 (excluding opportunistic collections and potential duplicates), which respectively represents between 74.9% and 76.7% of the predicted taxa richness recorded at the study area (Figure 5.1).

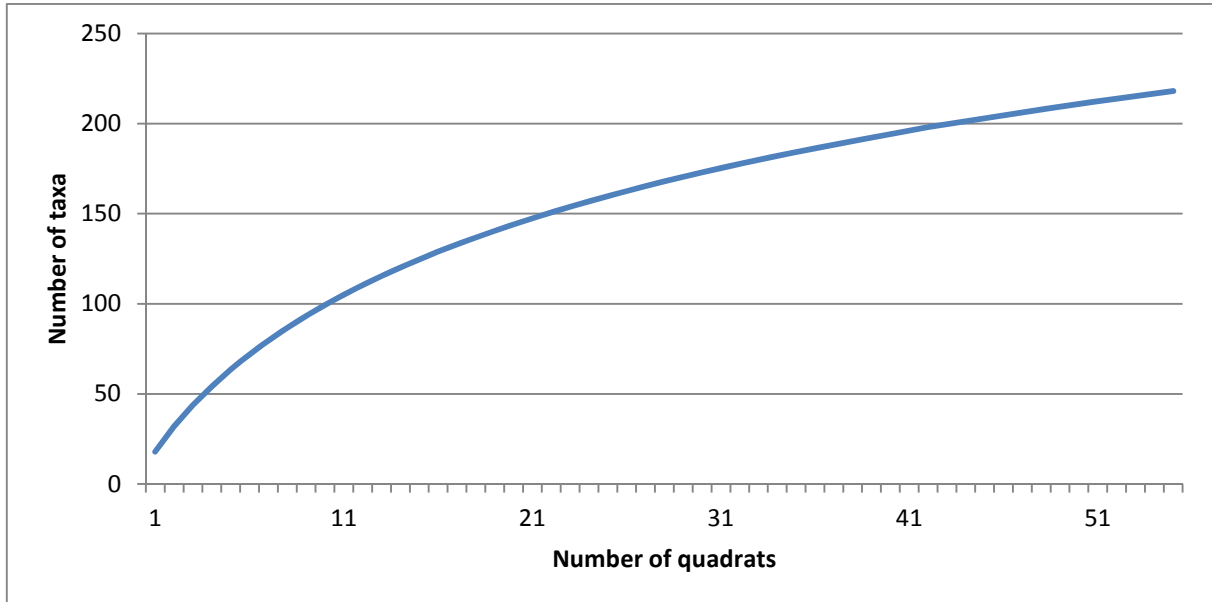


Figure 5.1 – SAC analysis for the study area

When using the 130 quadrats completed at the study and regional areas, the predicted taxa richness within the study area, as calculated by ICE Mean and Chao 2 Mean, is 414 and 415 taxa respectively. The total number of taxa recorded from quadrats was 327 (excluding opportunistic collections and potential duplicates), which respectively represents between 78.9% and 78.7% of the predicted taxa richness was recorded at the study area (Figure 5.1).

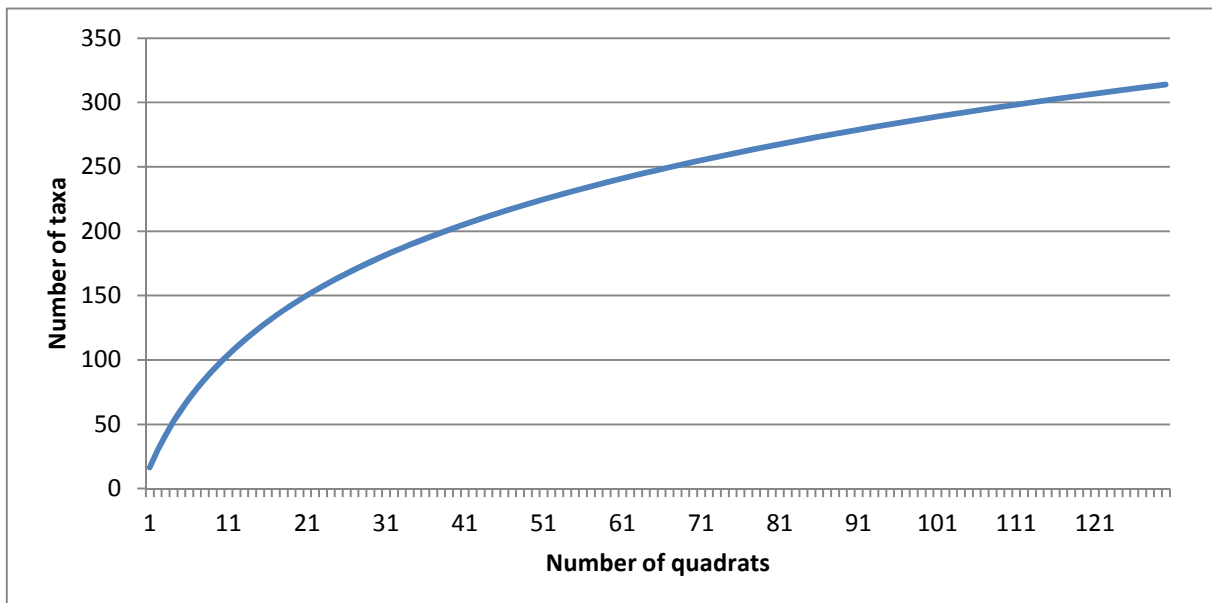


Figure 5.2 – SAC analysis for all quadrats at the study area and regionally

5.1.3 Significant Flora

Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth of Australia)

No EPBC Act listed Threatened Flora taxa were recorded at the study area.




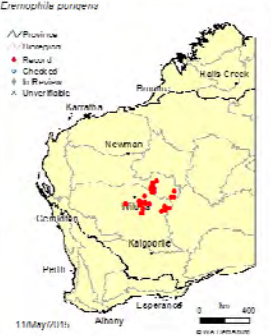


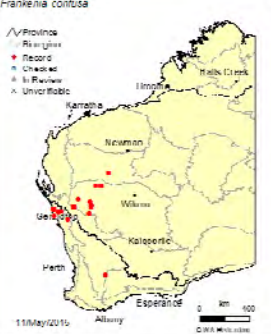


Wildlife Conservation Act 1950 (Western Australia)

No WC Act listed Threatened Flora taxa were recorded at the study area.

Priority Flora

Two Priority Flora taxa; *Tecticornia cymbiformis* (Priority 3) and *Eremophila pungens* (Priority 4) were recorded at the study area. Four additional Priority Flora taxa; *Cratystylis centralis* (Priority 3), *Frankenia confusa* (Priority 4), *Stackhousia clementii* (Priority 3) and *Tecticornia* sp. Sunshine Lake (K.A. Shepherd et al. KS 867) were recorded outside of the study area in the regional quadrats or opportunistically. They are described, and their numbers and habitats detailed at the study area are presented in Table 5.3. They are mapped on Figure 4.1 and a DPaW TPRF for each taxon where indicated and their locations are provided in Appendix G.

Table 5.3 – Priority Flora recorded during the survey

Taxa (Status)	Number & description of habitat at the study area	Description and known habitat	Known Distribution	Photograph	
<p><i>Cratystylis centralis</i>[^] (Priority 3)</p>	<p><i>C. centralis</i> was recorded as scattered individuals on calcrete plains that are associated with Lake Maitland.</p> <p>Number in study area: 0 Number regionally: 2</p>	<p><i>C. centralis</i> is a much-branched, brittle, greyish shrub, growing to 1 m high. Commonly recorded on red sandy loam with ironstone gravel and on flat plains and breakaway country. It has only been recorded within the Murchison IBRA region and has been recorded from the vicinity of the study area before.</p>			
<p><i>Eremophila pungens</i> (Priority 4)</p>	<p>A large population of <i>E. pungens</i> was recorded on an ironstone plain, at the base of a low footslope approximately 19 km from the northern end of the study area.</p> <p>Number in study area: 1,981 Number regionally: 310</p>	<p><i>E. pungens</i> is an erect, viscid shrub, growing from 0.5 to 1.5 m in height. Flowers are purple-violet, occurring from June to August. Commonly recorded on sandy loam, clayey sand over laterite, plains, ridges and breakaways. Has been recorded in the vicinity of the study area before and is commonly recorded in the Gascoyne and Murchison IBRA regions.</p>			
<p><i>Frankenia confusa</i>[^] (Priority 4)</p>	<p><i>F. confusa</i> was recorded as scattered individuals on the edges of Lake Way and Lake Maitland.</p> <p>Number in study area: 0 Number regionally: 48</p>	<p><i>F. confusa</i> is a low, diffuse shrub, growing to 0.75 m high. Flowers are pink, occurring in September. It is known to occur on wet pale brown sand, brown clay, grey soil on rivers banks, waterholes and floodplains. Has been recorded in the Avon Wheatbelt, Gascoyne, Geraldton Sandplains, Murchison and Yalgoo IBRA regions and has not been recorded from the vicinity before.</p>			

Taxa (Status)	Number & description of habitat at the study area	Description and known habitat	Known Distribution	Photograph
<i>Stackhousia clementii</i> [^] (Priority 3)	<i>S. clementii</i> was recorded as scattered individuals on the edges of Lake Way and Lake Maitland. Number in study area: 0 Number regionally: 5	<i>S. clementii</i> is a dense broom-like perennial, herb, to 0.45 m high. Flowers are green/yellow/brown. It is known to occur on skeletal soils and sandstone hills. Has been recorded from the Carnarvon, Central Ranges, Great Victoria Desert, Murchison and Pilbara regions and has is known from the local area being recorded near Wiluna previously.	<i>Stackhousia clementii</i> 	
<i>Tecticornia cymbiformis</i> (Priority 3)	<i>T. cymbiformis</i> was locally common at the study area and surrounding areas where it was recorded fringing the edge of Lake Maitland and one smaller salt lake to the west. Number in study area: 2,063 Number regionally: 3,426	<i>T. cymbiformis</i> is an erect, perennial shrub to 0.5 m in height. It is comonly recorded on saline soils and the edges of creeklines. It has a large range of over 1,000 km and is known to occur in the Gascoyne, Murchison and Yalgoo IBRA regions.	<i>Tecticornia cymbiformis</i> 	
<i>Tecticornia</i> sp. Sunshine Lake (Priority 3)	<i>T. sp. Sunshine Lake</i> was locally common at Lake Maitland, where it was recorded on the edge of the salt lake to the south of the lake. Number in study area: 0 Number regionally: 50	<i>T. sp. Sunshine Lake</i> is an erect, perennial shrub to 0.3 m in height. It is comonly recorded on saline soils. It is not a well known species with two records only recorded from the Little Sandy Desert IBRA region. Note: TPRF not submitted for this species in this report, will be submitted for another project.	<i>Tecticornia</i> sp. Sunshine Lake (K.A. Shephard et al. KS 867) 	

Note: ^ = not recorded within the study area

Other Significant Flora

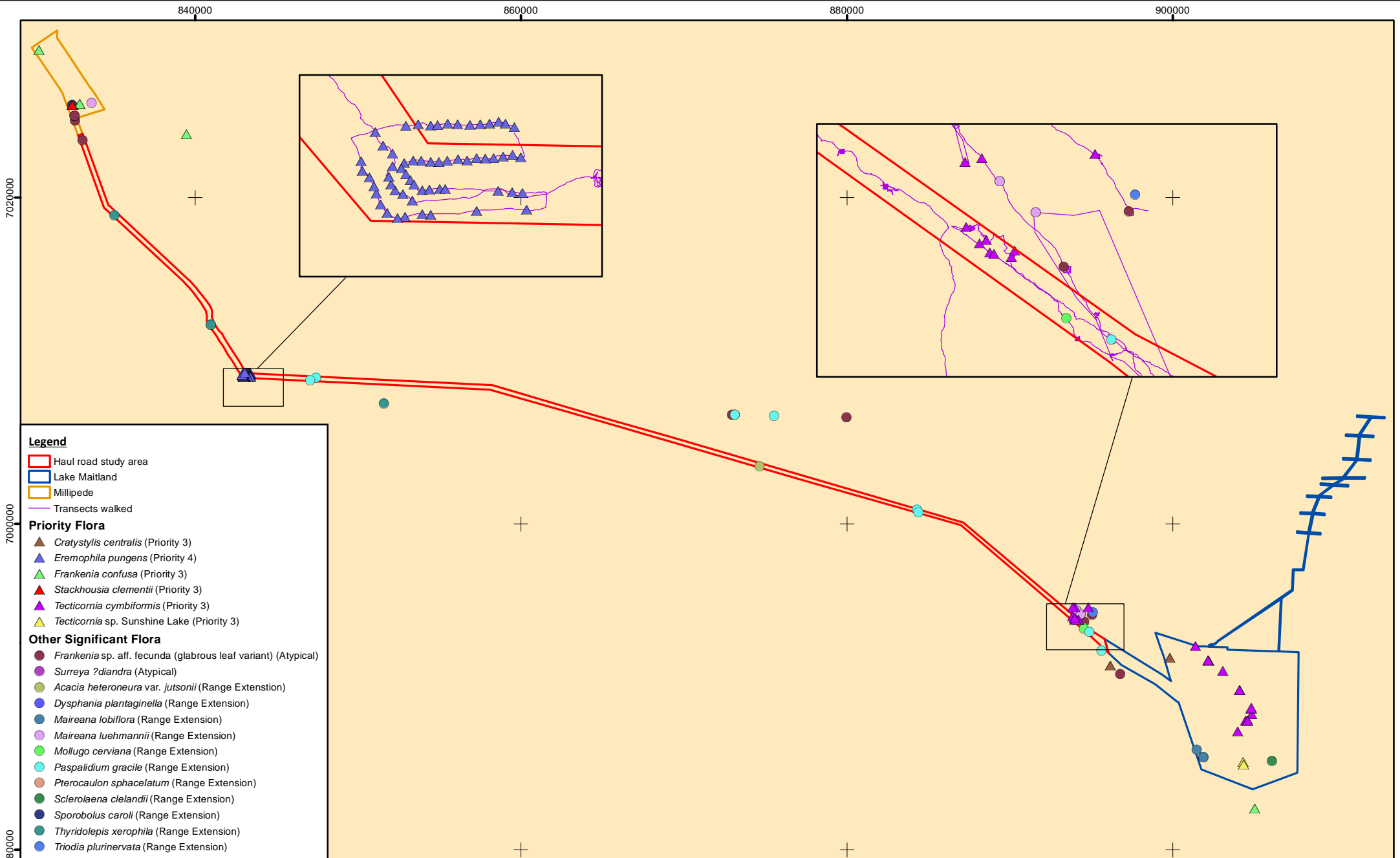
Six range extensions were recorded at the study area and an additional five were recorded regionally. They are described and their numbers and habitats recorded during the survey are presented in Table 5.4. They are mapped on Figure 5.3 and their locations are provided in Appendix G.

One atypical taxon was recorded at the study area; *Frankenia* sp. aff. *fecunda* and an additional atypical taxon was recorded regionally; *Surreya* ?*diandra*. These both have described in Table 5.4, are mapped on Figure 5.3 and their locations provided in Appendix G. The taxa indicated in the table below have been submitted to the Western Australian Herbarium.

Table 5.4 – Other significant flora recorded at the study area

Status	Species	Closest record on Florabase from the study area	New record to the Murchison on Florabase?	Description at the study area	# Plants in study area	# Plants regionally
Range extension	<i>Acacia heteroneura</i> var. <i>jutsonii</i>	150 km west	No	One location on a sand plain.	5	-
Range extension	<i>Dysphania plantaginella</i> [^]	200 km north-west	No	Scattered on a dry salt pan west of Lake Maitland.	-	2
Range extension	<i>Maireana lobiflora</i> [^]	300 km west and east	No	Scattered on floodplain south of Lake Maitland.	-	2
Range extension	<i>Maireana luehmannii</i> [^]	250 km south	No	Scattered on a dry salt pan near Lake Maitland and Lake Way.	-	4
Range extension	<i>Mollugo cerviana</i>	300 km east	Yes	One large population on a floodplain between salt pans, west of Lake Maitland.	1,000	-
Range extension	<i>Paspalidium gracile</i>	150 km south-west	No	Widespread across study area, uncommonly recorded along drainage lines, on floodplains and salt pans.	1,002	-
Range extension	<i>Pterocaulon sphacelatum</i>	200 km south-west	No	Uncommon along a minor drainage line.	1	-
Range extension	<i>Sclerolaena clelandii</i> [^]	200 km west	No	One location on Lake Maitland.	-	1
Range extension	<i>Sporobolus caroli</i> [^]	200 km west	No	One location on a salt pan, west of Lake Maitland.	-	1
Range extension	<i>Thyridolepis xerophila</i> [*]	200 km north-east	Yes	Scattered at the northern end of the study area along drainage lines.	1	2
Range extension	<i>Triodia plurinervata</i> [^]	600 km north-west	Yes	One location, locally common on the sandy banks, surrounding a salt pan, west of Lake Maitland.	-	1,000
Atypical form	<i>Frankenia</i> sp. aff. <i>fecunda</i>	n/a	n/a	Scattered on floodplains and salt pans from Lake Way to the small salt pans west of Lake Maitland.	1	148
Atypical form	<i>Surreya</i> ? <i>diandra</i> [^]	n/a	n/a	One location on a floodplain south of Lake Maitland.	-	1

[^] = not within study area, ^{*} = not submitted to the Western Australian Herbarium



Legend

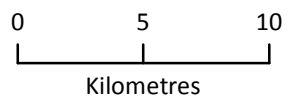
- Haul road study area
- Lake Maitland
- Millipede
- Transects walked

Priority Flora

- ▲ *Cratystylis centralis* (Priority 3)
- ▲ *Eremophila pungens* (Priority 4)
- ▲ *Frankenia confusa* (Priority 3)
- ▲ *Stackhousia clementii* (Priority 3)
- ▲ *Tecticornia cymbiformis* (Priority 3)
- ▲ *Tecticornia* sp. Sunshine Lake (Priority 3)

Other Significant Flora

- *Frankenia* sp. aff. *fecunda* (glabrous leaf variant) (Atypical)
- *Surreya ?diandra* (Atypical)
- *Acacia heteroneura* var. *jutsonii* (Range Extension)
- *Dysphania plantaginella* (Range Extension)
- *Maireana lobiflora* (Range Extension)
- *Maireana luehmannii* (Range Extension)
- *Mollugo cerviana* (Range Extension)
- *Paspalidium gracile* (Range Extension)
- *Pterocaulon sphacelatum* (Range Extension)
- *Sclerolaena clelandii* (Range Extension)
- *Sporobolus caroli* (Range Extension)
- *Thyridolepis xerophila* (Range Extension)
- *Triodia plurinervata* (Range Extension)



Absolute Scale - 1:300,000

Significant flora recorded at the study area and regionally

<p>Figure: 5.3 Project ID: 1600</p>	<p>Drawn: MH Date: 03/12/2014</p>
<p><small>Coordinate System Name: GDA 1994 MGA Zone 51 Projection: Transverse Mercator Datum: GDA 1994</small></p>	<p><small>Unique Map ID: MH030</small></p>

5.1.4 Introduced Flora

Weeds of National Significance (WONS)

No Weeds of National Significance were recorded at the study area.

Declared Pests (WAOL)




No Declared Pests (Plants) were recorded at the study area.

Environmental Weeds

Three environmental weed species were recorded at the study area: **Bidens bipinnata*, **Citrullus ?lanatus* and **Tribulus terrestris*. They are described, and their numbers and habitats detailed at the study area are presented in Table 5.5. They are mapped on Figure 5.4 and their locations are listed in Table 5.6.

The DEC environmental risk assessment status for each of these weeds is presented in Table 5.7 and based on these rankings, as well as the low abundance recorded during the survey, none of these species have a high environmental risk at the study area.

Table 5.5 – Introduced flora recorded at the study area

Taxa	Description & habitat	Number & description of habitat at the study area	Photograph
<i>*Bidens bipinnata</i>	<p><i>* B. bipinnata</i> is an erect annual, herb to 1.5 m. Flowers are yellow and occur from March to September.</p> <p>Commonly recorded on alluvium, clay, loam over sandstone and limestone, along rivers and creeks, along coastal areas and rocky hillsides (Western Australian Herbarium 1998-2014).</p>	<p><i>B. bipinnata</i> was recorded as scattered individuals across the study area. It was recorded on drainage lines and depression areas.</p> <p>Number in study area: 1,300 Number regionally: 1</p>	
<i>Citrullus ?lanatus</i>	<p><i>C. ?lanatus</i> is a trailing annual, herb or climber. Flowers are yellow, occurring from January to December. Commonly recorded on sandy gravelly soil, loam, clay on plains, river banks, centres of dry lakes, drainage areas and disturbed areas (Western Australian Herbarium 1998-2014).</p>	<p><i>C. ?lanatus</i> was recorded at one location at the study area. It was recorded along a minor drainage line towards the northern end of the study area.</p> <p>Number in study area: 2 Number regionally: 0</p>	
<i>*Tribulus terrestris</i>	<p><i>*T. terrestris</i> is a prostrate annual, herb. Flowers are yellow and occur from January to December.</p> <p>Commonly recorded on sandy soils and disturbed places (Western Australian Herbarium 1998-2014).</p>	<p><i>T. terrestris</i> was recorded at one location at the study area. It was recorded on the edge of a salt lake near Lake Maitland.</p> <p>Number in study area: 1 Number regionally: 0</p>	

Photography by S.M. Armstrong, J. Dodd & R. Knox. Image used with the permission of the Western Australian Herbarium, Department of Parks and Wildlife (<https://florabase.dpaw.wa.gov.au/help/copyright>). Accessed on Monday, 8 December 2014.

Table 5.6 – Locations of Introduced Flora (GDA1994 UTM Zone 51)

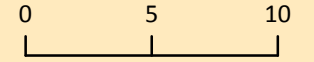
Taxa	Easting	Northing	Number of plants
* <i>Bidens bipinnata</i>	293587	7002832	1,000
* <i>Bidens bipinnata</i>	251918	7011312	100
* <i>Bidens bipinnata</i>	251578	7011118	200
* <i>Bidens bipinnata</i>	285525	7010572	1
* <i>Citrullus ?lanatus</i>	251578	7011118	2
* <i>Tribulus terrestris</i>	300030	6997905	1

Table 5.7 – DEC environmental risk assessment status

DEC environmental threat assessment for the Midwest	Taxa		
	* <i>Bidens bipinnata</i>	<i>Citrullus ?lanatus</i>	* <i>Tribulus terrestris</i>
Current Distribution	Low	Extensive	Moderate
Abundance	Occasional	Common	Abundant
Ecological Impact	Unknown	Unknown	Low
Invasiveness	Rapid	Rapid	Rapid
Feasibility of Control	Low	High	High
General Trend	Unknown	Increasing	Increasing

850000

900000



Kilometres

Absolute Scale - 1:300,000

7000000




GOLDFIELDS HIGHWAY

BARWIDGE ROAD




WONGANOO ROAD

BARWIDGE YANDAL ROAD

Legend

-  Haul road study area
-  Lake Maitland
-  Millipede

Introduced Flora

-  *Bidens bipinnata*
-  *Citrullus ?lanatus*
-  *Tribulus terrestris*



Introduced flora recorded at the study area

Figure: 5.4 Project ID: 1600	Drawn: MH Date: 5/05/2015
<small>Coordinate System Name: GDA 1994 MGA Zone 51 Projection: Transverse Mercator Datum: GDA 1994</small>	

5.2 VEGETATION

A total of 12 floristic-based vegetation units, were described and delineated within the study area. These are described in Table 5.8, they area mapped in Figure 5.5 to Figure 5.7. The cluster analysis dendrogram of vegetation communities as determined by multivariate analysis using regional analysis is detailed in Appendix E and the species by site matrix used in the analysis provided electronically in Appendix D.

The most widespread vegetation unit was M: *Acacia aneura/aptaneura* (+/-*Acacia ayersiana/caesaneura*) open low woodland, over *Eremophila forrestii*, *Eremophila spectabilis* subsp. *brevis* open mid shrubland, over *Triodia basedowii* open hummock grassland and *Eragrostis eriopoda* and *Monachather paradoxus* sparse tussock grassland mapped as 59.4% of the study area, followed by P: +/- *Acacia ayersiana/caesaneura* (+/-*Eucalyptus eremicola* subsp. *peeneri* and *Eucalyptus kingsmillii*) sparse low woodland, over *Acacia ligulata* and *Acacia jamesiana* sparse mid shrubland, over *Halgania cyanea* sparse low shrubs, over *Triodia basedowii* open hummock grassland mapped as 17.7% of the study area. The remaining 10 units were all mapped as less than 5% of the study area.

The most floristically diverse vegetation unit was; CB (*Acacia aneura/aptaneura* open low woodland, over *Acacia burkittii* and *Acacia tetragonophylla* sparse tall shrubland, over *Senna artemisioides* x *artemisioides*, *Senna glaucifolia* and *Eremophila galeata* open mid shrubland, over *Aristida contorta* open tussock grassland) with an average of 36 species per 400 m² quadrat. This was recorded in a minor drainage line to the west of the study area.

The least species rich vegetation unit was; S (*Tecticornia* sp. Burnerbinmah (D. Edinger et al. 101), *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552) and/or *Tecticornia peltata* sparse low shrubland, with *Frankenia cinerea*, *Maireana villosa* and *Atriplex amnicola* sparse shrubs.) with an average of 8 species per quadrat. This was restricted to the salt pan to the east of the study area.

5.2.1 Vegetation Condition

There has been very low disturbance to the condition of the vegetation in the study area which is reflected in the assessment of vegetation condition in the surveyed quadrats. Thirty-eight percent of the surveyed quadrats were in excellent condition and 58 percent were in very good condition. The remaining quadrats were considered in good (2%) and poor condition (2%). The majority of disturbances were from grazing by cattle and other non-native animals. Weeds were present, but in low densities and numbers.




The vegetation condition of the study area has been mapped in Figure 5.8.




5.3 FIRE HISTORY OF THE STUDY AREA




The majority of the study area has not been recently burnt, with 94% of quadrats assessed as having no evidence of fire or estimated to have been burnt more than five years before the field survey. Eight quadrats were estimated to have been burnt two to five years ago and no quadrats showed signs of fire more recent than that.




The fire history of the study area is mapped by quadrat in Figure 5.9. The pattern of burning at the study area appears to have been localised to two locations, which is a typical pattern of fires created by lightning strikes and has not appeared to affected the results of the assessment.

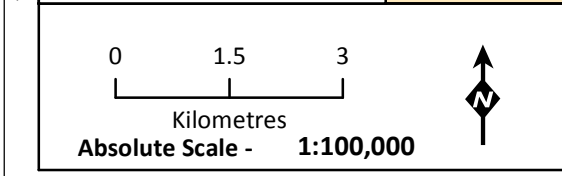
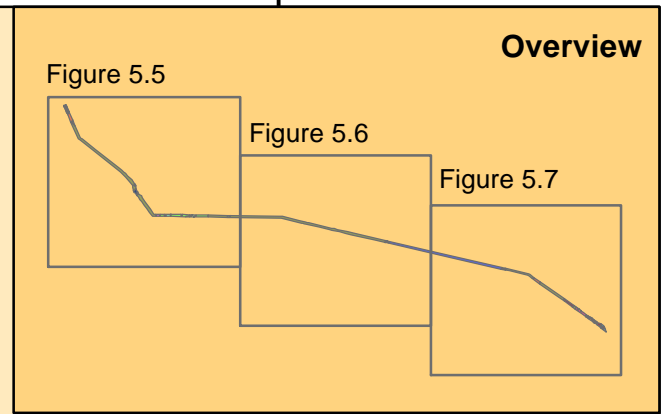
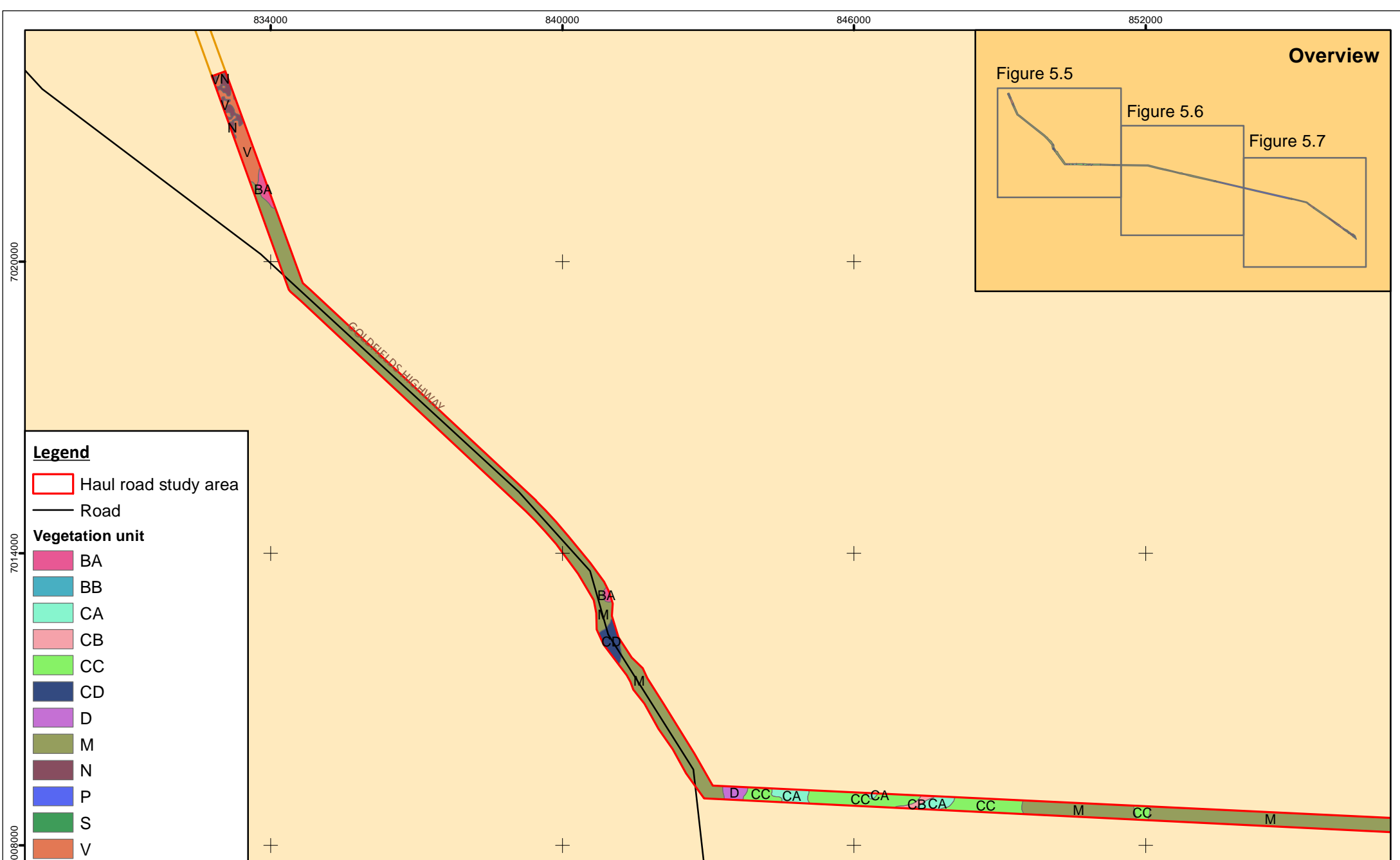
Table 5.8 – Vegetation units at the study area

Code	Vegetation description (NVIS Level VI)	Average species richness, landform and quadrats	Associated species	Photograph
BA	<i>Acacia aneura/ptaneura</i> sparse low woodland, over <i>Acacia tetragonophylla</i> (+/- <i>Melaleuca hamata</i>) sparse tall shrubland, over <i>Senna artemisioides</i> , <i>Scaevola spinescens</i> and <i>Rhagodia drummondii</i> sparse mid shrubland, over <i>Ptilotus obovatus</i> , <i>Maireana villosa</i> , <i>Sclerolaena diacantha</i> and <i>Cratystylis subspinescens</i> sparse low shrubland	Average species richness: 19.1 ± 2.3 Landform: plain Quadrats: 6, 11, 12, 18, 31, 48, 58, 133, 134, 135, 12.	<i>Acacia pteraneura/macraneura</i> <i>Atriplex amnicola</i> <i>Enchylaena tomentosa</i> <i>Enteropogon ramosus</i> <i>Eremophila galeata</i> <i>Exocarpos aphyllus</i> <i>Maireana triptera</i> <i>Melaleuca xerophila</i> <i>Pittosporum phylliraeoides</i> <i>Sclerolaena densiflora</i> <i>Solanum nummularium</i>	
BB	<i>Casuarina pauper</i> open low woodland, over <i>Eremophila pantonii</i> , <i>Eremophila longifolia</i> and <i>Eremophila latrobei</i> sparse mid shrubland, over <i>Scaevola spinescens</i> , <i>Exocarpos aphyllus</i> , <i>Rhagodia drummondii</i> and <i>Ptilotus obovatus</i> sparse low shrubland	Average species richness: 20.4 ± 3.4 Landform: plain Quadrats: 26, 28, 217, 219, 220	<i>Acacia nyssophylla</i> <i>Eremophea spinosa</i> <i>Eremophila forrestii</i> <i>Eriochiton sclerolaenoides</i> <i>Hakea preissii</i> <i>Sclerolaena diacantha</i> <i>Sclerolaena obliquicuspis</i> <i>Senna artemisioides</i> <i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260) <i>Solanum lasiophyllum</i>	
CA	<i>Acacia aneura/ptaneura</i> sparse low woodland, over <i>Acacia burkittii</i> open tall shrubland, over <i>Eremophila galeata</i> , <i>Eremophila compacta</i> , <i>Senna</i> sp. <i>Meekatharra</i> (<i>E. Bailey 1-26</i>), <i>Senna artemisioides</i> and <i>Sida ectogama</i> sparse mid shrubland, over <i>Monachather paradoxus</i> open tussock grassland	Average species richness: 19.3 ± 7.2 Landform: undulating plain, rocky hillslope Quadrats: 13, 104, 107, 110, 147, 148	<i>Solanum lasiophyllum</i> <i>Acacia tetragonophylla</i> <i>Indigofera monophylla</i> <i>Scaevola spinescens</i> <i>Eragrostis eriopoda</i> <i>Eremophila oldfieldii</i> <i>Ptilotus obovatus</i> <i>Maireana thesioides</i> <i>Hibiscus burtonii</i> <i>Senna glaucifolia</i> <i>Eremophila pantonii</i>	

Code	Vegetation description (NVIS Level VI)	Average species richness, landform and quadrats	Associated species	Photograph
CB	<i>Acacia aneura/ptaneura</i> open low woodland, over <i>Acacia burkittii</i> and <i>Acacia tetragonophylla</i> sparse tall shrubland, over <i>Senna artemisioides x artemisioides</i> , <i>Senna glaucifolia</i> and <i>Eremophila galeata</i> open mid shrubland, over <i>Aristida contorta</i> open tussock grassland	Average species richness: 36 ± 1.4 Landform: drainage line Quadrats: 108, 109	<i>Abutilon otocarpum</i> <i>Acacia craspedocarpa</i> <i>Cheilanthes sieberi</i> subsp. <i>sieberi</i> <i>Cyperus betchei</i> subsp. <i>commiscens</i> <i>Digitaria brownii</i> <i>Eremophila clarkei</i> <i>Eremophila compacta</i> <i>Glycine canescens</i> <i>Indigofera monophylla</i> <i>Paspalidium gracile</i> <i>Pluchea dentex</i> <i>Sclerolaena diacantha</i>	
CC	<i>Acacia pteraneura/macraneura</i> isolated low trees, over <i>Eremophila galeata</i> , <i>Senna artemisioides</i> and <i>Sida ectogama</i> sparse mid shrubland, over <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> open tussock grassland	Average species richness: 17.5 ± 4.2 Landform: plain Quadrats: 12, 16, 17, 18, 20, 21, 22, 42, 43, 105, 106, 111, 112	<i>Acacia aneura/ptaneura</i> <i>Acacia burkittii</i> <i>Acacia craspedocarpa</i> <i>Acacia tetragonophylla</i> <i>Eremophila latrobei</i> <i>Maireana thesioides</i> <i>Psyrax rigidula</i> <i>Ptilotus obovatus</i> <i>Solanum lasiophyllum</i>	
CD	<i>Acacia aneura/ptaneura</i> , <i>Acacia pteraneura/macraneura</i> and <i>Acacia craspedocarpa</i> low woodland, over <i>Eremophila gilesii</i> , <i>Eremophila galeata</i> and <i>Senna artemisioides</i> sparse mid shrubland, over <i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423), <i>Solanum lasiophyllum</i> and <i>Abutilon cryptopetalum</i> sparse low shrubland, over <i>Digitaria brownii</i> , <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> sparse tussock grassland	Average species richness: 24 ± 2.4 Landform: plain, floodplain, drainage line Number of quadrats: 7, 19, 38, 46, 54, 122, 127, 208	<i>Acacia ayersiana/caesaneura</i> <i>Acacia tetragonophylla</i> <i>Duperreya commixta</i> <i>Eremophila latrobei</i> <i>Eremophila margarethae</i> <i>Maireana thesioides</i> <i>Paspalidium gracile</i> <i>Psyrax rigidula</i> <i>Psyrax suaveolens</i> <i>Rhyncharrhena linearis</i> <i>Santalum spicatum</i> <i>Sida ectogama</i> <i>Spartothamnella teucriflora</i>	

Code	Vegetation description (NVIS Level VI)	Average species richness, landform and quadrats	Associated species	Photograph
D	<i>Acacia aneura/aptaneura/ayersiana/caesaneura</i> open low woodland (+/- <i>Acacia tetragonophylla</i> and <i>Acacia pruinocarpa</i>), over <i>Eremophila forrestii</i> , <i>Eremophila latrobei</i> , <i>Eremophila foliosissima</i> sparse mid shrubland, over <i>Eragrostis eriopoda</i> sparse tussock grassland and <i>Triodia melvillei</i> sparse hummock grassland	Average species richness: 18.5 ± 4.9 Landform: plain, floodplain, drainage line Number of quadrats: 41, 102	<i>Acacia craspedocarpa</i> <i>Acacia rhodophloia</i> <i>Cheilanthes sieberi</i> subsp. <i>sieberi</i> <i>Eremophila congesta</i> <i>Psydrax rigidula</i> <i>Psydrax suaveolens</i> <i>Ptilotus schwartzii</i> <i>Rhagodia drummondii</i> <i>Rhagodia eremaea</i> <i>Senna artemisioides</i> <i>Senna glaucifolia</i> <i>Solanum lasiophyllum</i> <i>Spartothamnella teucriflora</i>	
M	<i>Acacia aneura/aptaneura</i> (+/- <i>Acacia ayersiana/caesaneura</i>) open low woodland, over <i>Eremophila forrestii</i> , <i>Eremophila spectabilis</i> subsp. <i>brevis</i> open mid shrubland, over <i>Triodia basedowii</i> open hummock grassland and <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> sparse tussock grassland	Average species richness: 13.9 ± 3.8 Landform: plain, sandy plain Number of quadrats: 5, 9, 10, 14, 15, 23, 25, 32, 33, 36, 37, 39, 40, 44, 49, 50, 51, 55, 59, 60, 101, 113, 114, 115, 116, 121, 123, 124, 125, 128, 132, 146, 207, 222, 223	<i>Acacia minyura</i> <i>Acacia pruinocarpa</i> <i>Acacia pteraneura/macraneura</i> <i>Acacia tetragonophylla</i> <i>Eremophila gilesii</i> <i>Eremophila latrobei</i> <i>Maireana villosa</i> <i>Psydrax rigidula</i> <i>Psydrax suaveolens</i> <i>Ptilotus obovatus</i> <i>Sida fibulifera</i> <i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	
N	<i>Acacia ayersiana/caesaneura</i> open low woodland (+/- <i>Acacia aneura/aptaneura</i> and <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i>) open low woodland, over +/- <i>Melaleuca interioris</i> sparse tall shrubland, over <i>Triodia basedowii</i> open hummock grassland and <i>Eragrostis eriopoda</i> sparse tussock grassland	Average species richness: 19.2 ± 6.6 Landform: plain, sandy plain Number of quadrats: 2, 27, 29, 47, 52, 61, 131, 210, 211, 216	<i>Acacia tetragonophylla</i> <i>Cratystylis subspinescens</i> <i>Enchylaena tomentosa</i> var. <i>tomentosa</i> <i>Enteropogon ramosus</i> <i>Eremophila forrestii</i> <i>Grevillea sarissa</i> <i>Ptilotus obovatus</i> <i>Rhagodia drummondii</i> <i>Scaevola spinescens</i> <i>Senna artemisioides</i> <i>Solanum lasiophyllum</i>	

Code	Vegetation description (NVIS Level VI)	Average species richness, landform and quadrats	Associated species	Photograph
P	+/- <i>Acacia ayersiana/caesaneura</i> (+/- <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> and <i>Eucalyptus kingsmillii</i>) sparse low woodland, over <i>Acacia ligulata</i> and <i>Acacia jamesiana</i> sparse mid shrubland, over <i>Halgania cyanea</i> sparse low shrubs, over <i>Triodia basedowii</i> open hummock grassland	Average species richness: 14.8 ± 3 Landform: plain, sandy plain Number of quadrats: 24, 35	<i>Callitris columellaris</i> <i>Dodonaea viscosa</i> <i>Eragrostis eriopoda</i> <i>Eremophila miniata</i> <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> <i>Grevillea sarissa</i> <i>Monachather paradoxus</i> <i>Ptilotus obovatus</i> <i>Scaevola spinescens</i> <i>Scaevola tomentosa</i> <i>Senna artemisioides</i> <i>Solanum lasiophyllum</i>	
S	<i>Tecticornia</i> spp., <i>Frankenia cinerea</i> , <i>Maireana villosa</i> and <i>Atriplex amnicola</i> sparse low shrubland	Average species richness: 8 ± 1 Landform: salt lake, salt pan Number of quadrats: 30, 57, 204	<i>Atriplex bunburyana</i> <i>Disphyma crassifolium</i> <i>Eremophila glabra</i> <i>Frankenia pauciflora sens. lat.</i> <i>Maireana luehmannii</i> <i>Muellerolimon salicorniaceum</i> <i>Panicum effusum</i> <i>Rhagodia eremaea</i> <i>Sclerolaena fimbriolata</i> <i>Solanum lasiophyllum</i> <i>Zygophyllum aurantiacum</i>	
V	<i>Tecticornia</i> spp., <i>Cratystylis subspinescens</i> , <i>Maireana amoena</i> and <i>Sclerolaena diacantha</i> sparse mid shrubland, over <i>Eragrostis falcata</i> sparse tussock grassland	Average species richness: 15.6 ± 4.7 Landform: floodplain, salt pan Number of quadrats: 1, 3, 4, 34, 45, 53, 56, 129, 130, 141, 142, 143, 144, 203, 205, 209, 213, 214, 301, 302, 305	<i>Atriplex codonocarpa</i> <i>Enteropogon ramosus</i> <i>Eremophila malacoides</i> <i>Frankenia fecunda</i> <i>Frankenia laxiflora</i> <i>Melaleuca interioris</i> <i>Melaleuca xerophila</i> <i>Ptilotus obovatus</i> <i>Rhagodia drummondii</i> <i>Scaevola spinescens</i> <i>Sclerolaena cuneata</i> <i>Sclerolaena deserticola</i> <i>Solanum lasiophyllum</i>	



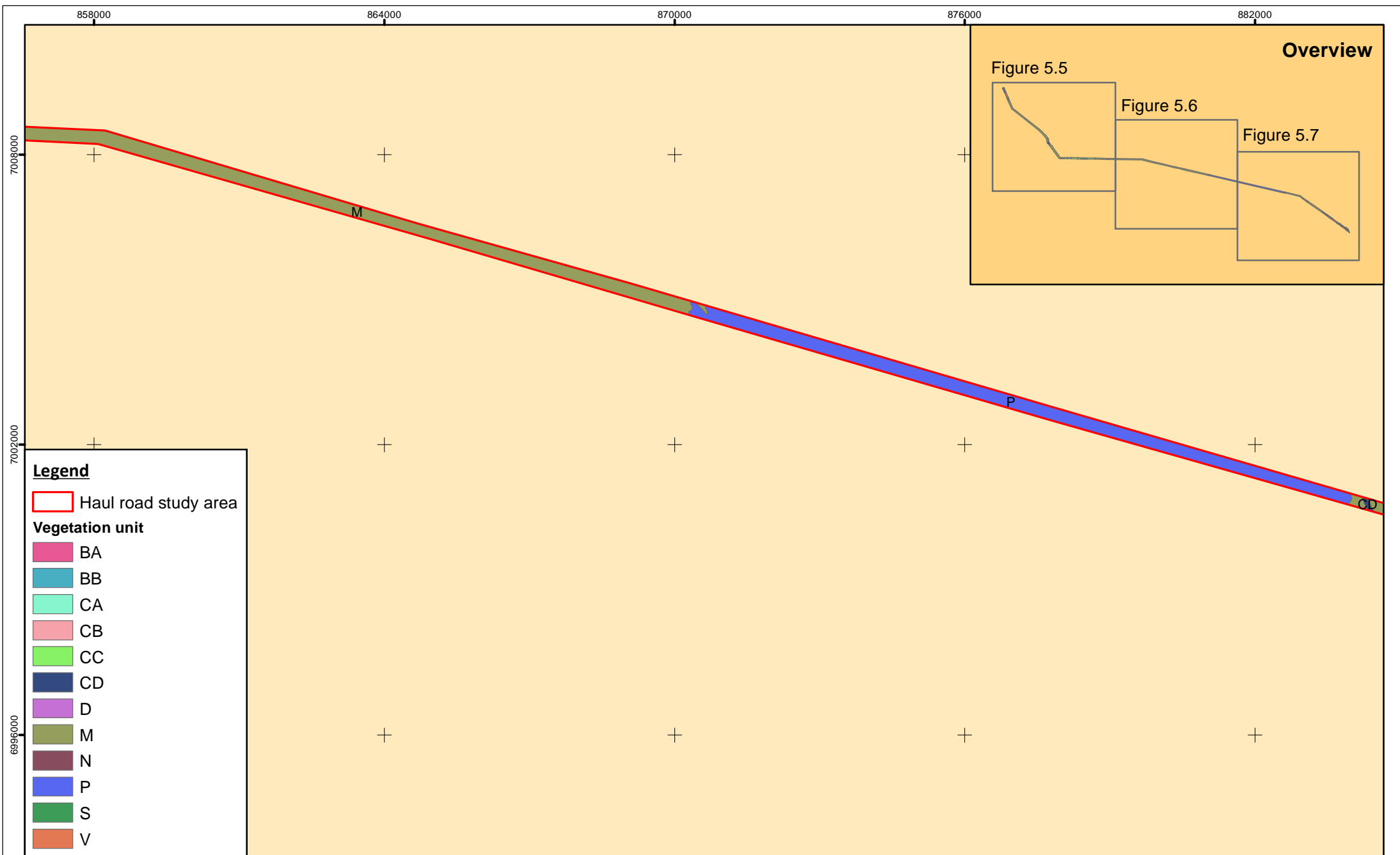
Vegetation communities of the study area
Map 1

Figure: 5.5
Project ID: 1600

Drawn: MH
Date: 10/12/2014

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

A4



Legend

Haul road study area

Vegetation unit

- BA
- BB
- CA
- CB
- CC
- CD
- D
- M
- N
- P
- S
- V

0 1.5 3

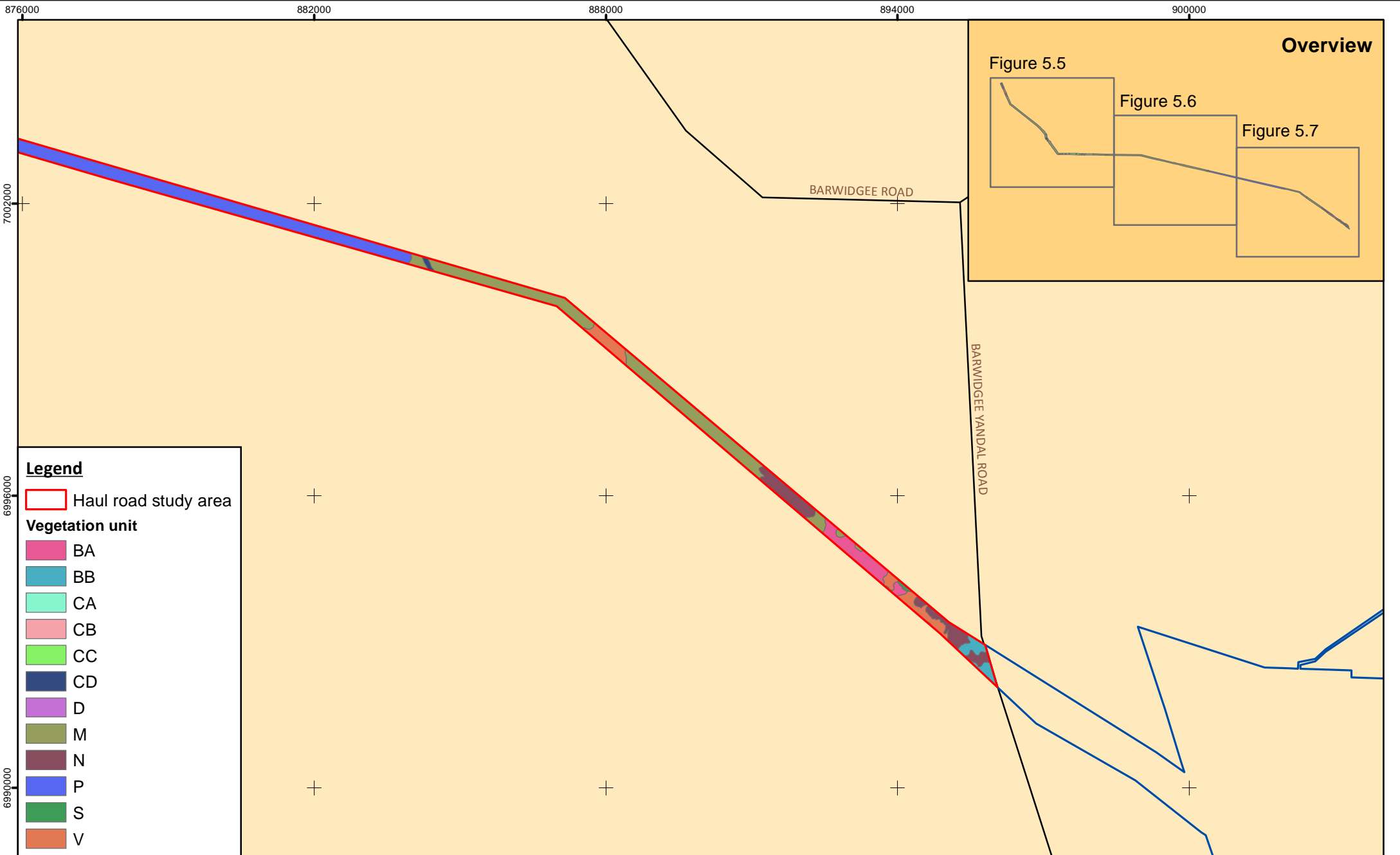
Kilometres

Absolute Scale - 1:100,000

Vegetation communities of the study area

Map 2

<p>Figure: 5.6 Project ID: 1600</p>	<p>Drawn: MH Date: 10/12/2014</p>
<p><small>Coordinate System Name: GDA 1994 MGA Zone 50 Projection: Transverse Mercator Datum: GDA 1994</small></p>	
<p>A4</p>	



Legend

□ Haul road study area

Vegetation unit

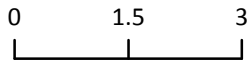
- BA
- BB
- CA
- CB
- CC
- CD
- D
- M
- N
- P
- S
- V

Overview

Figure 5.5

Figure 5.6

Figure 5.7



Absolute Scale - 1:100,000



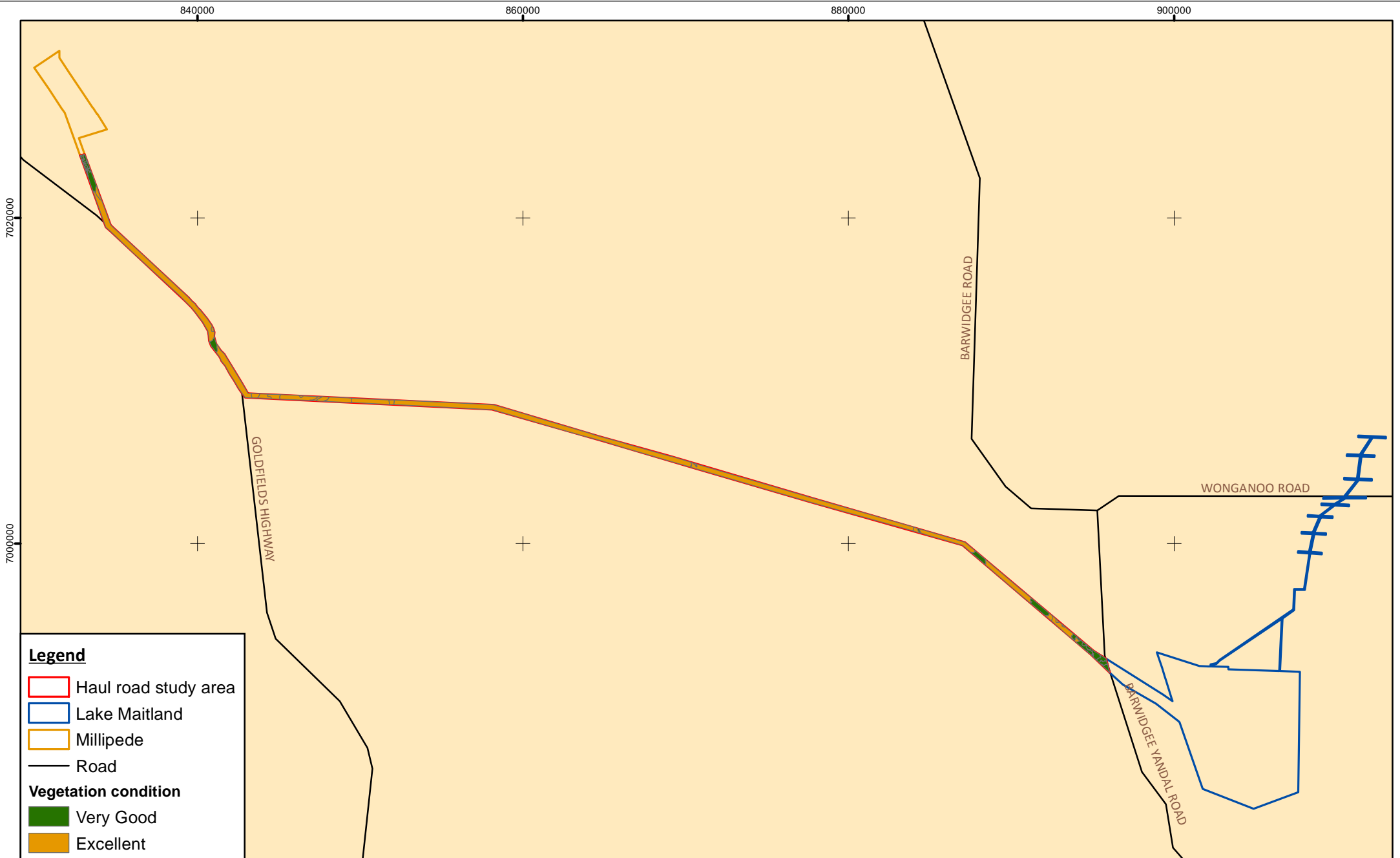
Vegetation communities of the study area

Map 3

Figure: 5.7
Project ID: 1600

Drawn: MH
Date: 10/12/2014

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



0 5 10

Kilometres

Absolute Scale - 1:300,000



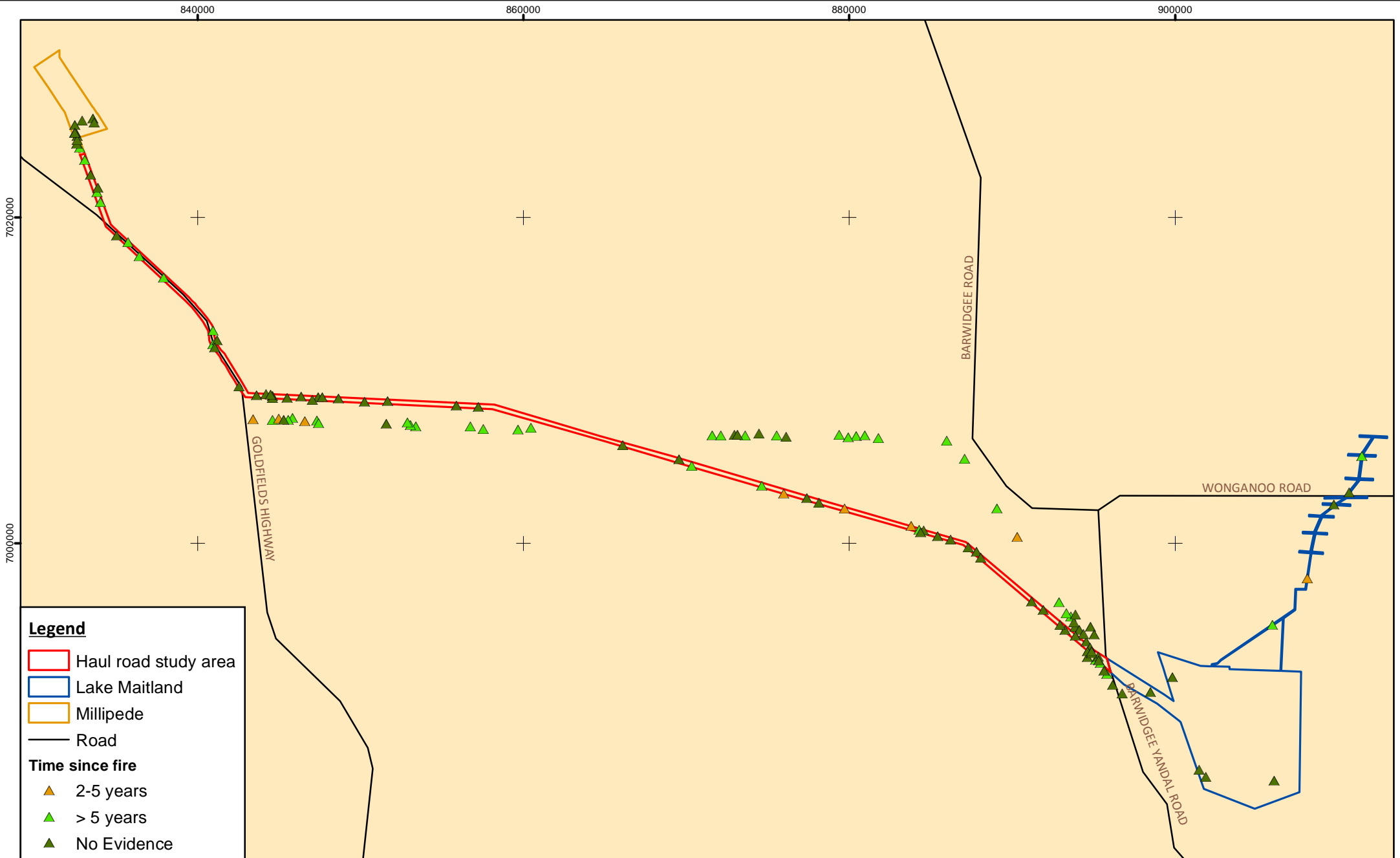
Vegetation condition at the study area

Figure: 5.8
Project ID: 1600

Drawn: MH
Date: 10/12/2014

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

Unique Map ID: MH030

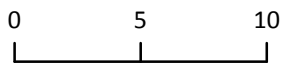


Legend

- Haul road study area
- Lake Maitland
- Millipede
- Road

Time since fire

- ▲ 2-5 years
- ▲ > 5 years
- ▲ No Evidence



Absolute Scale - 1:300,000



Fire history at the study area

Figure: 5.9
Project ID: 1600

Drawn: MH
Date: 10/12/2014

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

Unique Map ID: MH030

5.4 SURVEY LIMITATIONS AND CONSTRAINTS

According to EPA Guidance Statement 51 (EPA 2004), vegetation and flora surveys may be limited by several aspects. An assessment of these aspects with regard to this study is detailed in Table 5.9.

Table 5.9 – Flora and vegetation survey limitations

Aspect	Constraint	Comment
Sources of information and availability of contextual information (i.e. pre-existing background versus new material)	Nil	Broad scale (1:1,000,000) vegetation mapping by Shepherd <i>et al</i> (2001) based on the mapping by Beard (1976) is available. Mapping of land systems (Mabbutt <i>et al.</i> (1963) and Pringle <i>et al.</i> (1994)) is also available. Many recent surveys have been conducted in the vicinity of the study area which were used for local comparison including; Outback Ecology 2007 (Lake Way and Centipede), Outback Ecology, 2009 (Lake Maitland), Niche Environmental, 2011 (Lake Way, Centipede and West Creek Borefield) and Niche Environmental, 2014 (Lake Maitland). <i>ecologia</i> environment mapped the vegetation at the study area using all regional information and 506 quadrats.
The scope (i.e. what life forms were sampled)	Nil	The vascular flora of the study area was sampled in accordance with Guidance Statement 51.
Proportion of flora collected and identified (based on sampling, timing and intensity)	Nil	Species accumulation curve analysis suggests that 74.9-76.7% of the taxa expected to be present were recorded. Four phases of survey were conducted allowing collection of material at different times of the year of which during phase 1, 61% of records were flowering or fruiting, phase 2, 51%, phase 3, 46% and phase 4, 44%.
Completeness and further work which might be needed (e.g. was the relevant area fully surveyed)	Nil	The quadrat density is considered more than adequate for the size of the survey area, with a relatively even coverage throughout the site. The distribution of quadrats is consistent with Guidance Statement 51 which stipulates a minimum of two sites per vegetation unit.
Mapping reliability	Nil	Good aerial imagery was available and the number and distribution of quadrats was considered adequate for definition of vegetation within the study area.
Timing/weather/season/cycle	Minor	All phases of survey were conducted at a lower than average rainfall time. However, the first phase showed better growing conditions following the very heavy rainfall in January and February. This is shown in the number of individuals flowering or fruiting (61%). Sixteen percent of the flora taxa recorded were annuals.
Disturbances (e.g. fire, flood, accidental human intervention)	Nil	There were no natural or human interventions that constrained the survey of the study area.
Intensity (in retrospect, was the intensity adequate?)	Nil	The species accumulation curve suggests that 74.9-76.7% of species present. Quadrats were distributed relatively evenly across the study area and four phases of survey was conducted.
Resources	Nil	A total of 42 person-days (excluding travel days) was expended over the four phases which was enough to survey the study area adequately.
Access issues	Nil	The study area was within 10 km of existing tracks.
Experience levels (e.g. degree of expertise in plant identification to taxon level)	Nil	The project manager has ten years' of experience conducting botanical surveys, the report was written by a Senior Botanist with more than ten years' experience and a botanist/taxonomist with six years' experience. Other botanists engaged in survey work have between two and ten years' experience in biological surveys. The taxonomist responsible for plant identifications has a Doctorate in botanical taxonomy and has completed identifications for many projects within WA. Where necessary, external expertise (from WA Herbarium) was sought.

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6 DISCUSSION

6.1 SAMPLING ADEQUACY

The study area was surveyed over four phases over 2014 and 2015 with 130 quadrats surveyed during this time. Sixteen percent of the total taxa recorded were annuals or short lived perennials and high percentages of individuals recorded over all phases were flowering or fruiting during the survey (44% minimum during phase 4 and 61% maximum during phase 1). It is considered that the sampling adequacy at the study area is more than satisfactory for a level 2 survey.

The species accumulation curve shows that between 74.9% and 76.7% of the expected taxa present within the study area was recorded during the current survey, and when including the regional quadrats, an estimated 78.7% and 78.9% of the taxa present were recorded.

In addition to this an average of 0.09 taxa per hectare were recorded at the study area which was slightly higher than the majority of studies conducted in the vicinity, including Outback Ecology (2007 and 2009) who recorded 0.04 and 0.03 taxa at Lake Way/Centipede and Lake Maitland respectively and Niche Environmental (2011) who recorded 0.03 taxa per hectare at Millipede (Table 2.5).

6.2 FLORA CONSERVATION SIGNIFICANCE ASSESSMENT

The flora conservation significance assessment is for the taxa recorded within the study area.

6.2.1 Flora of National and State Significance

No taxa listed under the EPBC Act or of National significance were recorded at the study area.

No taxa listed under WC Act or of State significance were recorded at the study area.

Based on the DPaW database searches, one taxon; *Atriplex* sp. Yeelirrie (L. Trotter & A. Douglas LCH 25025) (Threatened; Vulnerable) was recorded within 50 km of the study area, however this species was considered 'Unlikely' to occur due to the lack of potential habitat (self-mulching red clay) and distance (40 km south-west) from the study area.

6.2.2 Flora of Regional Significance

Regional significance of the priority flora recorded at the study area is discussed for each taxon below:

Tecticornia cymbiformis (Priority 3) has a large range of over 1,000 km and is known to occur in the Gascoyne, Murchison and Yalgoo IBRA regions. Although the location at the study area is the first record for the area, with the nearest location on florabase 100 km to the north-east, it is likely to be more widespread based on the current known locations and is therefore not considered regionally significant.

Eremophila pungens (Priority 4) has a moderate range of over 400 km and is known to occur in the Gascoyne and Murchison IBRA regions. This species was recorded during the DPaW database searches as occurring in the vicinity of the study area and this is not a new record. Based on the widespread current known distribution and previous records at the study area, it is not considered regionally significant.

Four range extensions recorded at the study area; *Acacia heteroneura* var. *jutsonii*, *Paspalidium gracile*, *Pterocaulon sphacelatum* and *Frankenia* sp. aff. *fecunda* have locations on Florabase that are scattered around the state, and within the Murchison region. *Mollugo cerviana* and *Thyridolepis xerophila* have locations on Florabase that are scattered around the state, but not within the

Murchison region. These distribution patterns suggests they are widespread, but poorly vouchered and therefore these taxa are not considered regionally significant.

6.2.3 Flora of Local Significance

Tecticornia cymbiformis (Priority 3) is commonly recorded on saline soils and the edges of creeklines. It is not known from the local area, with the nearest location on Florabase 100 km to the north-east of the study area. *Tecticornia cymbiformis* is likely to be restricted to the V (*Tecticornia indica* and *Tecticornia laevigata* (+/-*Tecticornia cymbiformis*, *Tecticornia disarticulata* and *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552), *Cratystylis subspinescens*, *Maireana amoena* and *Sclerolaena diacantha* sparse mid shrubland, over *Eragrostis falcata* sparse tussock grassland) vegetation unit, which is very restricted at the study area and is only mapped as 4.8 ha or 0.2%. This vegetation unit is also likely to be restricted based on habitat availability, as it is only recorded on the edges of salt lakes or saline flats. *Tecticornia cymbiformis* is therefore considered to have high local conservation significance at the study area.

Eremophila pungens (Priority 4) is commonly recorded on sandy loam, clayey sand over laterite, plains, ridges and breakaways which are landforms and habitat types that are widespread through the study area and regionally. In addition, *E. pungens* has previously been recorded at four widespread locations surrounding the study area (Figure 4.1), and it is therefore considered to have low local conservation significance at the study area.

6.3 VEGETATION CONSERVATION SIGNIFICANCE ASSESSMENT

6.3.1 Vegetation of National Significance

No TECs, or vegetation units likely to be TECs, were located at the study area and therefore no vegetation units of National significance were recorded.

6.3.2 Vegetation of State Significance

No State listed TECs, or vegetation units likely to be TECs were recorded at the study area. Eleven PECs were recorded as occurring within 50 km of the study area, of which two occur within the study area:

- Barwidgee calcrete groundwater assemblage type on Carey palaeodrainage on Barwidgee Station; and
- Hinkler Well calcrete groundwater assemblage type on Carey palaeodrainage on Lake Way Station.

The two PECs that occur at the study area are underground invertebrate assemblages and are not pertinent to the flora and vegetation of the study area. The closest PECs that are relevant to flora and vegetation are the Wiluna West vegetation complexes on BIF, 35 km west and the Violet Range vegetation complexes on BIF, 40 km south. There is no BIF habitat at the study area and no vegetation units at the study area that resemble these PECs. Therefore no vegetation units of State significance occur at the study area.

6.3.3 Vegetation of Regional Significance

An assessment of the significance of the vegetation at the study area at a regional level is constrained by the lack of mapping across the region at a scale comparable to the mapping during the current survey. The only source of vegetation mapping available across the Murchison is that conducted by Beard (1976) (and digitised by Shepherd *et al.* (2001)), at a scale of 1:1,000,000. As it is completed at such a large scale it does not accurately represent the mapped communities at the study area, especially the minor details including drainage channels, creeklines and low hill slopes. If

a vegetation unit mapped at the study area can be attributed to a Beard vegetation unit, it can be used to loosely determine the potential extent of this community in the region.

The eight Beard vegetation units mapped at the study area have been compared to the vegetation units that have been mapped during the current study in Table 6.1. Using the total mapped area of each Beard unit in the Murchison region, three units; 204, 560 and 676 have restricted distributions. These units are associated with salt lakes or saline depressions and often have a Chenopodiaceae understory. Two vegetation units; V and S, mapped during the current study are likely to be associated with these units and therefore likely to have a restricted regional distribution and have high regional significance.

Table 6.1 – Comparing Beard vegetation mapping and vegetation units for regional significance

Unit	Beard vegetation	Area mapped in the Murchison (ha)	% total area mapped in the Murchison* & (regional distribution)	Corresponding vegetation unit (s) at the study area	Regional Significance of vegetation unit
18	Low woodland; Mulga (<i>Acacia aneura</i>)	12,420,005	60% (Widespread)	M: <i>Acacia aneura/ptaneura</i> (+/- <i>Acacia ayersiana/ caesaneura</i>) open low woodland, over <i>Eremophila forrestii</i> , <i>Eremophila spectabilis</i> subsp. <i>brevis</i> open mid shrubland, over <i>Triodia basedowii</i> open hummock grassland and <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> sparse tussock grassland	Low
				CD: <i>Acacia aneura/ptaneura</i> , <i>Acacia pteraneura/macraneura</i> and <i>Acacia craspedocarpa</i> low woodland, over <i>Eremophila gilesii</i> , <i>Eremophila galeata</i> and <i>Senna artemisioides</i> sparse mid shrubland, over <i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423), <i>Solanum lasiophyllum</i> and <i>Abutilon cryptopetalum</i> sparse low shrubland, over <i>Digitaria brownii</i> , <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> sparse tussock grassland	Low
				D: <i>Acacia aneura/ptaneura/ayersiana/caesaneura</i> open low woodland (+/- <i>Acacia tetragonophylla</i> and <i>Acacia pruinocarpa</i>), over <i>Eremophila forrestii</i> , <i>Eremophila latrobei</i> , <i>Eremophila foliosissima</i> sparse mid shrubland, over <i>Eragrostis eriopoda</i> sparse tussock grassland and <i>Triodia melvillei</i> sparse hummock grassland	Low
29	Sparse low woodland; Mulga, discontinuous in scattered groups	2,956,524	14.3% (Widespread)	M: <i>Acacia aneura/ptaneura</i> (+/- <i>Acacia ayersiana/ caesaneura</i>) open low woodland, over <i>Eremophila forrestii</i> , <i>Eremophila spectabilis</i> subsp. <i>brevis</i> open mid shrubland, over <i>Triodia basedowii</i> open hummock grassland and <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> sparse tussock grassland	Low
				CD: <i>Acacia aneura/ptaneura</i> , <i>Acacia pteraneura/macraneura</i> and <i>Acacia craspedocarpa</i> low woodland, over <i>Eremophila gilesii</i> , <i>Eremophila galeata</i> and <i>Senna artemisioides</i> sparse mid shrubland, over <i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423), <i>Solanum lasiophyllum</i> and <i>Abutilon cryptopetalum</i> sparse low shrubland, over <i>Digitaria brownii</i> , <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> sparse tussock grassland	Low
39	Shrublands; Mulga scrub	1,149,610	5.6% (Moderate)	CA: <i>Acacia aneura/ptaneura</i> sparse low woodland, over <i>Acacia burkittii</i> open tall shrubland, over <i>Eremophila galeata</i> , <i>Eremophila compacta</i> , <i>Senna</i> sp. Meekatharra (E. Bailey 1-26), <i>Senna artemisioides</i> and <i>Sida ectogama</i> sparse mid shrubland, over <i>Monachather paradoxus</i> open tussock grassland	Low
				CB: <i>Acacia aneura/ptaneura</i> open low woodland, over <i>Acacia burkittii</i> and <i>Acacia tetragonophylla</i> sparse tall shrubland, over <i>Senna artemisioides x artemisioides</i> , <i>Senna glaucifolia</i> and <i>Eremophila galeata</i> open mid shrubland, over <i>Aristida contorta</i> open tussock grassland	Moderate, restricted to hill slopes
				CC: <i>Acacia pteraneura/macraneura</i> isolated low trees, over <i>Eremophila galeata</i> , <i>Senna artemisioides</i> and <i>Sida ectogama</i> sparse mid shrubland, over <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> open tussock grassland	Low
107	Hummock grasslands, shrub steppe; Mulga and <i>Eucalyptus kingsmillii</i> over hard spinifex	2,801,011	13.5% (Widespread)	P: +/- <i>Acacia ayersiana/caesaneura</i> (+/- <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> and <i>Eucalyptus kingsmillii</i>) sparse low woodland, over <i>Acacia ligulata</i> and <i>Acacia jamesiana</i> sparse mid shrubland, over <i>Halgania cyanea</i> sparse low shrubs, over <i>Triodia basedowii</i> open hummock grassland	Low

Unit	Beard vegetation	Area mapped in the Murchison (ha)	% total area mapped in the Murchison* & (regional distribution)	Corresponding vegetation unit (s) at the study area	Regional Significance of vegetation unit
204	Succulent steppe with open scrub; scattered Mulga & <i>Acacia sclerosperma</i> over saltbush & bluebush	185,622	0.9% (Restricted)	N: <i>Acacia ayersiana/caesaneura</i> open low woodland (+/- <i>Acacia aneura/aptaneura</i> and <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i>) open low woodland, over +/- <i>Melaleuca interioris</i> sparse tall shrubland, over <i>Triodia basedowii</i> open hummock grassland and <i>Eragrostis eriopoda</i> sparse tussock grassland	Moderate – potentially restricted to near salt lakes
				V: <i>Tecticornia indica</i> and <i>Tecticornia laevigata</i> (+/- <i>Tecticornia cymbiformis</i> , <i>Tecticornia disarticulata</i> and <i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552), <i>Cratystylis subspinescens</i> , <i>Maireana amoena</i> and <i>Sclerolaena diacantha</i> sparse mid shrubland, over <i>Eragrostis falcata</i> sparse tussock grassland	High – restricted to salt pans
560	Mosaic: Shrublands; Bowgada scrub / succulent steppe; Samphire	85,002	0.4% (Restricted)	V: <i>Tecticornia indica</i> and <i>Tecticornia laevigata</i> (+/- <i>Tecticornia cymbiformis</i> , <i>Tecticornia disarticulata</i> and <i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552), <i>Cratystylis subspinescens</i> , <i>Maireana amoena</i> and <i>Sclerolaena diacantha</i> sparse mid shrubland, over <i>Eragrostis falcata</i> sparse tussock grassland	High – restricted to salt pans
676	Succulent steppe; Samphire	383,880	1.9% (Restricted)	N: <i>Acacia ayersiana/caesaneura</i> open low woodland (+/- <i>Acacia aneura/aptaneura</i> and <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i>) open low woodland, over +/- <i>Melaleuca interioris</i> sparse tall shrubland, over <i>Triodia basedowii</i> open hummock grassland and <i>Eragrostis eriopoda</i> sparse tussock grassland	Moderate – potentially restricted to near salt lakes
				BA: <i>Acacia aneura/aptaneura</i> sparse low woodland, over <i>Acacia tetragonophylla</i> (+/- <i>Melaleuca hamata</i>) sparse tall shrubland, over <i>Senna artemisioides</i> , <i>Scaevola spinescens</i> and <i>Rhagodia drummondii</i> sparse mid shrubland, over <i>Ptilotus obovatus</i> , <i>Maireana villosa</i> , <i>Sclerolaena diacantha</i> and <i>Cratystylis subspinescens</i> sparse low shrubland	Moderate – potentially restricted to near salt lakes
				V: <i>Tecticornia indica</i> and <i>Tecticornia laevigata</i> (+/- <i>Tecticornia cymbiformis</i> , <i>Tecticornia disarticulata</i> and <i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552), <i>Cratystylis subspinescens</i> , <i>Maireana amoena</i> and <i>Sclerolaena diacantha</i> sparse mid shrubland, over <i>Eragrostis falcata</i> sparse tussock grassland	High – restricted to salt pans
				S: <i>Tecticornia</i> sp. Burnerbinmah (D. Edinger et al. 101), <i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552) and/or <i>Tecticornia peltata</i> sparse low shrubland, with <i>Frankenia cinerea</i> , <i>Maireana villosa</i> and <i>Atriplex amnicola</i> sparse shrubs	High – restricted to salt pans
				BB: <i>Casuarina pauper</i> open low woodland, over <i>Eremophila pantonii</i> , <i>Eremophila longifolia</i> and <i>Eremophila latrobei</i> sparse mid shrubland, over <i>Scaevola spinescens</i> , <i>Exocarpos aphyllus</i> , <i>Rhagodia drummondii</i> and <i>Ptilotus obovatus</i> sparse low shrubland	Moderate – potentially restricted to near salt lakes

* Based on sum of all Beard vegetation units mapped for the Murchison

6.3.4 Vegetation of Local Significance

The local conservation significance of the 12 vegetation units recorded at the study area is assessed in Table 6.2. Of these, two are considered to have a high local significance, three have a moderate local significance and seven have a low local significance. Vegetation units with a high or moderate significance are discussed below:

Vegetation units with a high local significance

S: *Tecticornia* sp. Burnerbinmah (D. Edinger et al. 101), *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552) and/or *Tecticornia peltata* sparse low shrubland, with *Frankenia cinerea*, *Maireana villosa* and *Atriplex amnicola* sparse shrubs is associated with beard vegetation unit 676, a restricted unit mapped as occurring across 1.9% of the Murchison. It is restricted to saline depressions, a very restricted landform. It also is associated with *Tecticornia cymbiformis*, with 1,000 plants recorded within the mapped unit.

V: *Tecticornia indica* and *Tecticornia laevigata* (+/-*Tecticornia disarticulata* and *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552), *Cratystylis subspinescens*, *Maireana amoena* and *Sclerolaena diacantha* sparse mid shrubland, over *Eragrostis falcata* sparse tussock grassland is associated with beard vegetation unit 676, a restricted unit mapped as occurring across 1.9% of the Murchison. It is restricted to saline depressions and floodplains, a very restricted landform. It also is associated with *Tecticornia cymbiformis*, with 1,000 plants recorded within the mapped unit. It is considered of high local significance.

Vegetation units with a moderate local significance

BB: *Casuarina pauper* open low woodland, over *Eremophila pantonii*, *Eremophila longifolia* and *Eremophila latrobei* sparse mid shrubland, over *Scaevola spinescens*, *Exocarpos aphyllus*, *Rhagodia drummondii* and *Ptilotus obovatus* sparse low shrubland. BB is similar to unit PCW and PCW2 recorded by Outback Ecology (2009) at Lake Maitland and is moderately widespread. As this vegetation unit is associated with Beard unit 676 a restricted unit mapped as only 1.9% of the Murchison it is likely to be uncommon in the region and as it is mapped as only 42.37 ha at the study area and is associated with priority flora, with the only record of *Cratystylis centralis* (P3) associated with this unit. It is considered of moderate local significance.

CA: *Acacia aneura/aptaneura* sparse low woodland, over *Acacia burkittii* open tall shrubland, over *Eremophila galeata*, *Eremophila compacta*, *Senna* sp. *Meekatharra* (E. Bailey 1-26), *Senna artemisioides* and *Sida ectogama* sparse mid shrubland, over *Monachather paradoxus* open tussock grassland was recorded on the restricted rocky hill slope habitat type only seen in one area near the study area. It is associated with Beard unit 39 a moderately restricted vegetation unit mapped as only 5.6% of the Murchison. Because of this, and the lack of similar land forms in the local area it has been given a moderate local significance.

CB: *Acacia aneura/aptaneura* open low woodland, over *Acacia burkittii* and *Acacia tetragonophylla* sparse tall shrubland, over *Senna artemisioides x artemisioides*, *Senna glaucifolia* and *Eremophila galeata* open mid shrubland, over *Aristida contorta* open tussock grassland was recorded on a drainage line, near the restricted rocky hill slope habitat type only seen in one area near the study area. It is associated with Beard unit 39 a moderately restricted vegetation unit mapped as only 5.6% of the Murchison. Because of this, and the lack of similar land forms in the local area it has been given a moderate local significance.

The remainder of the vegetation units are assigned a low local significance. These units are associated with widespread Beard vegetation units or locally widespread land form types and they have no significant flora species associated with them (Table 6.2).

Table 6.2 – Local conservation significance of vegetation units at the study area

Unit	Vegetation description	Area (ha)	% study area	Landform & potential local distribution of landform	Regionally distribution ^A	Species richness	Vegetation condition*	Significant species	Assigned local significance
BA	<i>Acacia aneura/ptaneura</i> sparse low woodland, over <i>Acacia tetragonophylla</i> (+/- <i>Melaleuca hamata</i>) sparse tall shrubland, over <i>Senna artemisioides</i> , <i>Scaevola spinescens</i> and <i>Rhagodia drummondii</i> sparse mid shrubland, over <i>Ptilotus obovatus</i> , <i>Maireana villosa</i> , <i>Sclerolaena diacantha</i> and <i>Cratystylis subspinescens</i> sparse low shrubland	64	3	Plain: widespread	Moderate	19.1	Excellent	<i>Tecticornia cymbiformis</i> (1,053 plants)	Low
BB	<i>Casuarina pauper</i> open low woodland, over <i>Eremophila pantonii</i> , <i>Eremophila longifolia</i> and <i>Eremophila latrobei</i> sparse mid shrubland, over <i>Scaevola spinescens</i> , <i>Exocarpos aphyllus</i> , <i>Rhagodia drummondii</i> and <i>Ptilotus obovatus</i> sparse low shrubland	23.3	1.1	Floodplain: moderate	Moderate	20.4	Very good	<i>Cratystylis centralis</i> (1 plant)	Moderate
CA	<i>Acacia aneura/ptaneura</i> sparse low woodland, over <i>Acacia burkittii</i> open tall shrubland, over <i>Eremophila galeata</i> , <i>Eremophila compacta</i> , <i>Senna sp. Meekatharra</i> (E. Bailey 1-26), <i>Senna artemisioides</i> and <i>Sida ectogama</i> sparse mid shrubland, over <i>Monachather paradoxus</i> open tussock grassland	34.6	1.6	Undulating plain, rocky hillslope: restricted	Moderate	19.3	Excellent	-	Moderate
CB	<i>Acacia aneura/ptaneura</i> open low woodland, over <i>Acacia burkittii</i> and <i>Acacia tetragonophylla</i> sparse tall shrubland, over <i>Senna artemisioides x artemisioides</i> , <i>Senna glaucifolia</i> and <i>Eremophila galeata</i> open mid shrubland, over <i>Aristida contorta</i> open tussock grassland	6.6	0.3	Drainage line: restricted	Moderate	36	Excellent	-	Moderate
CC	<i>Acacia pteraneura/macraneura</i> isolated low trees, over <i>Eremophila galeata</i> , <i>Senna artemisioides</i> and <i>Sida ectogama</i> sparse mid shrubland, over <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> open tussock grassland	122.2	5.8	Plain: widespread	Low	17.5	Excellent	-	Low
CD	<i>Acacia aneura/ptaneura</i> , <i>Acacia pteraneura/macraneura</i> and <i>Acacia craspedocarpa</i> low woodland, over <i>Eremophila gilesii</i> , <i>Eremophila galeata</i> and <i>Senna artemisioides</i> sparse mid shrubland, over <i>Sida sp. verrucose glands</i> (F.H. Mollemans 2423), <i>Solanum lasiophyllum</i> and <i>Abutilon cryptopetalum</i> sparse low shrubland, over <i>Digitaria brownii</i> , <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> sparse tussock grassland	25.4	1.2	Plain, floodplain, drainage line: widespread	Low	24	Very good	-	Low
D	<i>Acacia aneura/ptaneura/ayersiana/caesaneura</i> open low woodland (+/- <i>Acacia tetragonophylla</i> and <i>Acacia pruinoarpa</i>), over <i>Eremophila forrestii</i> , <i>Eremophila latrobei</i> , <i>Eremophila foliosissima</i> sparse mid shrubland, over <i>Eragrostis eriopoda</i> sparse tussock grassland and <i>Triodia melvillei</i> sparse hummock grassland	12.2	0.6	Plain: widespread	Low	18.5	Excellent	<i>Eremophila pungens</i> (95 plants)	Low
M	<i>Acacia aneura/ptaneura</i> (+/- <i>Acacia ayersiana/ caesaneura</i>) open low woodland, over <i>Eremophila forrestii</i> , <i>Eremophila spectabilis</i> subsp. <i>brevis</i> open mid shrubland, over <i>Triodia basedowii</i> open hummock grassland and <i>Eragrostis eriopoda</i> and <i>Monachather paradoxus</i> sparse tussock grassland	1,252.9	59.4	Sandy plain: widespread	Low	13.9	Excellent	<i>Eremophila pungens</i> (1,886 plants)	Low

Unit	Vegetation description	Area (ha)	% study area	Landform & potential local distribution of landform	Regionally distribution [^]	Species richness	Vegetation condition*	Significant species	Assigned local significance
N	<i>Acacia ayersiana/caesaneura</i> open low woodland (+/- <i>Acacia aneura/aptaneura</i> and <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i>) open low woodland, over +/- <i>Melaleuca interioris</i> sparse tall shrubland, over <i>Triodia basedowii</i> open hummock grassland and <i>Eragrostis eriopoda</i> sparse tussock grassland	91.1	4.3	Sandy plain: widespread	Moderate	19.2	Very good	-	Low
P	+/- <i>Acacia ayersiana/caesaneura</i> (+/- <i>Eucalyptus eremicola</i> subsp. <i>peeneri</i> and <i>Eucalyptus kingsmillii</i>) sparse low woodland, over <i>Acacia ligulata</i> and <i>Acacia jamesiana</i> sparse mid shrubland, over <i>Halgania cyanea</i> sparse low shrubs, over <i>Triodia basedowii</i> open hummock grassland	372.2	17.7	Sandy plain: widespread	Low	14.8	Excellent	-	Low
S	<i>Tecticornia</i> sp. Burnerbinmah (D. Edinger et al. 101), <i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552) and/or <i>Tecticornia peltata</i> sparse low shrubland, with <i>Frankenia cinerea</i> , <i>Maireana villosa</i> and <i>Atriplex amnicola</i> sparse shrubs	2.2	0.1	Salt pan: restricted	High	8	Very good	<i>Frankenia confusa</i> (1 plant) <i>Tecticornia cymbiformis</i> (1,000 plants)	High
V	<i>Tecticornia indica</i> and <i>Tecticornia laevigata</i> (+/- <i>Tecticornia cymbiformis</i> , <i>Tecticornia disarticulata</i> and <i>Tecticornia</i> sp. Dennys Crossing (K.A. Shepherd & J. English KS 552), <i>Cratystylis subspinescens</i> , <i>Maireana amoena</i> and <i>Sclerolaena diacantha</i> sparse mid shrubland, over <i>Eragrostis falcata</i> sparse tussock grassland	102.1	4.8	Floodplain, salt pan: moderate	High	15.6	Very good	<i>Frankenia confusa</i> (36 plants) <i>Stackhousia clementii</i> (5 plants) <i>Tecticornia cymbiformis</i> (10 plants)	High

[^] = using the highest regional significance value in Table 6.1. * = vegetation condition score is based on the average value of the vegetation condition rating for all quadrats within that vegetation unit.

7 CONCLUSIONS

7.1 Flora

A total of 223 vascular plant taxa were collected in this survey from 93 genera and 34 families. The most common families were Fabaceae (34 taxa), Poaceae (31 taxa) and Chenopodiaceae (27 taxa), the most common genera were *Acacia* (22 taxa), *Eremophila* (22 taxa) and *Senna* (9 taxa) and the most common taxa were *Solanum lasiophyllum*, *Monachather paradoxus* and *Aristida contorta*.

No EPBC Act listed or WC Act listed Threatened Flora taxa were recorded at the study area. Two Priority Flora taxa; *Tecticornia cymbiformis* (Priority 3) and *Eremophila pungens* (Priority 4), were recorded at the study area and four additional Priority Flora taxa; *Cratystylis centralis* (Priority 3), *Frankenia confusa* (Priority 4), *Stackhousia clementii* (Priority 3) and *Tecticornia* sp. Sunshine Lake (K.A. Shepherd et al. KS 867) were recorded outside of the study area in the regional quadrats or opportunistically.

None of the flora recorded at the study area were of national, state or regional significance. The Priority 3 flora taxa; *Tecticornia cymbiformis* is considered to have 'High' local significance because it hasn't been recorded in the local area before, and the habitat it is found on is also likely to be locally restricted.

No Weeds of National Significance (WONS) or Declared Pests (weeds) were recorded at the study area. Three environmental weeds were recorded; **Bidens bipinnata*, **Citrullus lanatus* and **Tribulus terrestris*. These were not considered to have a high environmental impact at the study area.

7.2 Vegetation

A total of 12 floristic-based vegetation units, were described and delineated within the study area. The most widespread vegetation unit was M: *Acacia aneura/aptaneura* (+/-*Acacia ayersiana/caesaneura*) open low woodland, over *Eremophila forrestii*, *Eremophila spectabilis* subsp. *brevis* open mid shrubland, over *Triodia basedowii* open hummock grassland and *Eragrostis eriopoda* and *Monachather paradoxus* sparse tussock grassland mapped as 59.4% of the study area, followed by P: +/- *Acacia ayersiana/caesaneura* (+/-*Eucalyptus eremicola* subsp. *peeneri* and *Eucalyptus kingsmillii*) sparse low woodland, over *Acacia ligulata* and *Acacia jamesiana* sparse mid shrubland, over *Halgania cyanea* sparse low shrubs, over *Triodia basedowii* open hummock grassland mapped as 17.7% of the study area.

There has been very low disturbance to the condition of the vegetation in the study area which is reflected in the assessment of vegetation condition in the surveyed quadrats. Thirty-eight percent of the surveyed quadrats were in excellent condition and 58 percent were in very good condition. The majority of disturbances were from grazing by cattle and other non-native animals. Weeds were present, but in low densities and numbers.

The majority of the study area has not been recently burnt, with 94% of quadrats assessed as having no evidence of fire or estimated to have been burnt more than five years before the field survey. Four quadrats were estimated to have been burnt two to five years ago and no quadrats showed signs of fire more recent than that.

Two vegetation units; V and S mapped during the current study are associated with restricted Beard vegetation units and therefore likely to have a restricted regional distribution and are regionally significant.

Two vegetation units are considered to have a high local significance:

S: *Tecticornia* sp. Burnerbinmah (D. Edinger et al. 101), *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552) and/or *Tecticornia peltata* sparse low shrubland, with *Frankenia cinerea*, *Maireana villosa* and *Atriplex amnicola* sparse shrubs; and

V: *Tecticornia indica* and *Tecticornia laevigata* (+/-*Tecticornia disarticulata* and *Tecticornia* sp. Dennys Crossing (K.A. Shepherd & J. English KS 552), *Cratystylis subspinescens*, *Maireana amoena* and *Sclerolaena diacantha* sparse mid shrubland, over *Eragrostis falcata* sparse tussock grassland.

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APPENDIX A EXPLANATION OF CONSERVATION CODES

Definitions of Codes for Threatened Ecological Communities

Code	Definition
PD: Presumed Totally Destroyed	An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future. An ecological community will be listed as presumed totally destroyed if there are no recent records of the community being extant
CR: Critically Endangered	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated. An ecological community will be listed as Critically Endangered when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future.
EN: Endangered	An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future. An ecological community will be listed as Endangered when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future.
VU: Vulnerable	An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range. An ecological community will be listed as Vulnerable when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction or significant modification in the medium to long-term future.

Definitions of Codes for Priority Ecological Communities

Code	Definition
P1: Priority One	Ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or Pastoral lands, urban areas, active mineral leases) and for which current threats exist. 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.
P2: Priority Two	Communities that are known from few small occurrences, all or most of which are actively managed for conservation (e.g. within national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc.) and not under imminent threat of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.
P3: Priority Three	(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; (ii) Communities known from a few widespread occurrences, which are either large or within significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat, or; (iii) Communities made up of large, and/or widespread occurrences that may or not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, and inappropriate fire regimes. Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.
P4: Priority Four	Ecological communities that are adequately known, Rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring. Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands. Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable. Ecological communities that have been removed from the list of threatened communities during the past five years.
P5: Priority Five	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.

Definitions of Threatened Flora Categories under the EPBC Act and WC Act

Conservation Code	Definition
Extinct	A species is extinct if there is no reasonable doubt that the last member of the species has died.
Extinct in the wild	A species is categorised as extinct in the wild if it is only known to survive in cultivation, in captivity or as a naturalised population well outside its past range; or if it has not been recorded in its known/expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
Critically Endangered	The species is facing an extremely high risk of extinction in the wild in the immediate future.
Endangered	The species is likely to become extinct unless the circumstances and factors threatening its abundance, survival or evolutionary development cease to operate; or its numbers have been reduced to such a critical level, or its habitats have been so drastically reduced, that it is in immediate danger of extinction.
Vulnerable	Within the next 25 years, the species is likely to become endangered unless the circumstances and factors threatening its abundance, survival or evolutionary development cease to operate.
Conservation Dependent	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 within a period of five years.

Definition of Threatened (Declared Rare) and Priority Flora Categories

Conservation Code	Definition
Threatened	Declared Rare Flora-Extant Taxa. Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such.
P1: Priority One	Poorly Known Taxa. Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2: Priority Two	Poorly Known Taxa. Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P3: Priority Three	Poorly Known Taxa. Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but are in need of further survey.
P4: Priority Four	Rare Taxa. Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5-10 years.

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**APPENDIX B SIGNIFICANT FLORA RECORDED DURING THE
DATABASE SEARCHES LIKELIHOOD OF OCCURRENCE**


Status	Taxa	Source	IBRA Region (s)	Habitat	Distance from study area	Likelihood of occurrence
Threatened	<i>Atriplex</i> sp. Yeelirrie Station (L. Trotter & A. Douglas LCH 25025)	TPList, TPFL	MUR	Self-mulching red clay.	40 km south-east	Possible
Priority 1	<i>Anacampteros</i> sp. Eremaean (F. Hort, J. Hort & J. Shanks 3248)	TPFL, WAHerb	MUR, YAL	Sand patches inside rocks, brown sandy clay, granite. Depressions in rock outcrops, breakaways, flats.	50 km south	Unlikely
Priority 1	<i>Beyeria lapidicola</i>	TPList, TPFL, WAHerb	MUR	Ironstone, banded ironstone	40 km east	Unlikely
Priority 1	<i>Eremophila arguta</i>	TPList, WAHerb	GAS, MUR	Floodplains, waterway, loamy soil.	30 km north	Unlikely
Priority 1	<i>Eremophila congesta</i>	TPList, TPFL, WAHerb, Reports	MUR	Lateritic outcrops in greenstone hills, stony quartzite slopes.	35 km north-west	Unlikely
Priority 1	<i>Hibiscus</i> sp. Wonganoo Station (K. Boladeras 125)	TPList, WAHerb	MUR	Breakaway, Dry stony brown limestone.	50 km west	Unlikely
Priority 1	<i>Neurachne lanigera</i>	TPList	CR, GD, MUR	Red sand, laterite. Rocky outcrops, plains.	>50 km	Unlikely
Priority 1	<i>Ptilotus chrysocomus</i>	WAHerb	GAS, MUR	Brown sandy clays. Bases of breakaways, rocky scree slopes.	35 north-west	Unlikely
Priority 1	<i>Sauropus</i> sp. Woolgorong (M. Officer s.n. 10/8/94)	TPList	MUR, YAL	Red sand. Plains. BIF.	>50 km	Unlikely
Priority 1	<i>Stenanthemum mediale</i>	TPFL, WAHerb	MUR	Red clayey sand.	35 km south-east	Possible
Priority 1	<i>Tecticornia</i> sp. Lake Way (P. Armstrong 05/961)	NM, TPList, TPFL, WAHerb, Reports	MUR	Edges of salt lakes	7 km north-east	Likely
Priority 3	<i>Austroparmelina macrospora</i>	TPList, TPFL, WAHerb	AW, COO, ESP, GS, JF, MAL, MUR, WAR, YAL	Grey sand over laterite. Rocky outcrops	50 km south	Unlikely
Priority 3	<i>Baeckea</i> sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963)	TPList	GVD, MUR	Orange sand. Flats.	> 50 km	Unlikely
Priority 3	<i>Bossiaea eremaea</i>	WAHerb	GVD, MUR	Deep red sand	45 km south-east	Possible
Priority 3	<i>Calytrix praecipua</i>	TPList	GAS, GVD, LSD, MUR	Skeletal sandy soils over granite or laterite. Breakaways, outcrops.	> 50 km	Unlikely
Priority 3	<i>Calytrix uncinata</i>	NM, TPList, WAHerb	MUR, YAL	Granite or sandstone breakaways, rocky rises.	35 km south	Unlikely
Priority 3	<i>Calytrix verruculosa</i>	TPList	MUR	Sandy clay.	> 50 km	Unlikely
Priority 3	<i>Cratystylis centralis</i>	NM, TPList, WAHerb	MUR	Red sandy loam with ironstone gravel. Flat plains, breakaway country.	1 km north	Highly likely
Priority 3	<i>Eremophila arachnoides</i> subsp. <i>arachnoides</i>	Reports	LSD, MUR	Shallow loam over limestone.	ca 1 km north	Highly likely
Priority 3	<i>Eremophila flaccida</i> subsp. <i>attenuata</i>	TPList, WAHerb	GAS, MUR	Stony clay over quartzite. Hillslopes, ridges.	25 km north-east	Unlikely
Priority 3	<i>Eremophila gracillima</i>	TPList, TPFL, WAHerb	GAS, MUR	Stony flats	35 km south-east	Unlikely
Priority 3	<i>Euryomyrtus inflata</i>	TPList, WAHerb	MUR	Deep red sand. Flat plain.	25 km north-east	Possible
Priority 3	<i>Goodenia modesta</i>	TPFL, WAHerb	CR, GD, GSD, LSD, MUR, TAN	Red loam, sand.	43 km south	Possible
Priority 3	<i>Homalocalyx echinulatus</i>	TPList, WAHerb, Reports	GAS, MUR	Laterite. Breakaways, sandstone hills.	30 km north-west	Unlikely
Priority 3	<i>Hybanthus floribundus</i> subsp. <i>chloroxanthus</i>	WAHerb	MUR	Dark red-brown soil, never sandy, rich in iron oxide, laterite. Rocky areas, creek banks, along drainage lines.	45 km south	Unlikely
Priority 3	<i>Maireana prosthecochoaeta</i>	TPList, TPFL,	CK, GAS, KIM	Laterite. Hills, salty places.	40 km north-west	Unlikely

Status	Taxa	Source	IBRA Region (s)	Habitat	Distance from study area	Likelihood of occurrence
		WAHerb, Reports				
Priority 3	<i>Mirbelia stipitata</i>	WAHerb, Reports	MUR	Red sandy loam	49 km west	Possible
Priority 3	<i>Olearia mucronata</i>	NM, TPList, TPFL, WAHerb	MUR, PIL	Schistose hills, along drainage channels.	23 km south	Unlikely
Priority 3	<i>Paspalidium distans</i>	NM, WAHerb	MUR, NK, VB	Loam. River banks.	1 km east	Highly likely
Priority 3	<i>Prostanthera ferricola</i>	TPList, WAHerb	GAS, MUR	Shallow red-brown skeletal sandy loam on banded ironstone, laterite, basalt or quartz. Gently inclined mid to upper slopes of hills, rocky crests, outcrops.	45 km north-east	Unlikely
Priority 3	<i>Ptilotus luteolus</i>	TPList, TPFL, WAHerb	CAR, GAS, MUR	Rocky Hills, BIF, gravel	45 km north-east	Unlikely
Priority 3	<i>Sauropus ramosissimus</i>	NM, WAHerb	GAS, GD, GVD, MUR	Rocky Hills, BIF	20 km south	Unlikely
Priority 3	<i>Sida picklesiana</i>	NM, TPList, WAHerb	GAS, MUR	Breakaways, BIF	20 km south	Unlikely
Priority 3	<i>Stackhousia clementii</i>	TPList, TPFL, WAHerb, Reports	CAR, CR, MUR, PIL	Skeletal soils. Sandstone hills.	40 km north-west	Unlikely
Priority 3	<i>Thryptomene</i> sp. Leinster (B.J. Lepschi & L.A. Craven 4362)	NM, TPFL, WAHerb	MUR	Low granite breakaway	20 km south	Unlikely
Priority 3	<i>Tribulus adelacanthus</i>	NM, TPList, WAHerb	GAS, MUR	Flats, gravel, BIF	20 km south	Unlikely
Priority 3	<i>Verticordia jamiesonii</i>	WAHerb	GAS, GD, GVD, MUR, YAL	Sandy clay soils. Lateritic breakaways.	40 km south	Unlikely
Priority 3	<i>Xanthoparmelia nashii</i>	NM, TPList, WAHerb	AW, GAS, GS, MUR, PIL	Floodplains, flats, dry stone, granite	35 km north	Possible
Priority 4	<i>Eremophila pungens</i>	NM, TPList, WAHerb	GAS, MUR	Sandy loam, clayey sand over laterite. Plains, ridges, breakaways.	300 m north-west	Highly likely
Priority 4	<i>Grevillea inconspicua</i>	NM, TPFL, WAHerb	MUR	Loam, gravel. Along drainage lines on rocky outcrops, creeklines.	25 km south	Possible
Priority 4	<i>Hemigenia exilis</i>	NM, TPList, TPFL, WAHerb	MUR	Laterite. Breakaways, slopes.	20 km north	Unlikely
Priority 4	<i>Olearia arida</i>	WAHerb	GVD, MUR	Red or yellow sand. Undulating low rises.	30 km south-west	Possible

IBRA Regions: AW = Avon Wheatbelt, COO = Coolgardie, CR = Central Ranges, EP = Esperance Plains, JF = Jarrah Forrest, GD = Gibson Desert, GS = Geraldton Sandplains, GAS = Gascoyne, GVD = Great Victoria Desert, LSD = Little Sandy Desert, MAL = Mallee, MUR = Murchison, NK = Northern Kimberly, TAN = Tanami, VB = Victoria Bonaparte, WAR = Warren, YAL = Yalgoo

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APPENDIX C SITE INFORMATION

Site:	001	Phase:	2
Botanist:	Andrew Craigie	Date:	10/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0236226 7026821
Habitat:	Edge of saline depression	Soil:	Yellow; White, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Faeces		
			
Taxa	Canopy Cover (%)		Stratum
<i>Aristida contorta</i>	1		Tussock grass
<i>Boerhavia sp.</i>	0.1		Herb
<i>Eragrostis ?pergracilis</i>	1		Tussock grass
<i>Eragrostis dielsii</i>	1		Tussock grass
<i>Eremophila glabra</i> subsp. <i>glabra</i>	0.1		Shrub (0-1 m)
<i>Frankenia laxiflora</i>	5		Shrub (0-1 m)
<i>Maireana amoena</i>	0.1		Shrub (0-1 m)
<i>Maireana tomentosa</i> subsp. <i>tomentosa</i>	0.1		Shrub (0-1 m)
<i>Melaleuca interioris</i>	5		Shrub (>2 m)
<i>Podolepis capillaris</i>	0.1		Herb
<i>Ptilotus ?chamaecladus</i>	0.1		Herb
<i>Scaevola spinescens</i>	2		Shrub (0-1 m)
<i>Sclerolaena densiflora</i>	0.1		Herb
<i>Sclerolaena deserticola</i>	0.1		Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1		Shrub (0-1 m)
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	1		Herb
<i>Tecticornia indica</i> subsp. <i>bidens</i>	10		Shrub (0-1 m)

Site:	002	Phase:	1
Botanist:	Andrew Craigie	Date:	6/7/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0236589 7025923
Habitat:	Plain	Soil:	Red; Sand; Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years

Vegetation condition and disturbance: Very Good (slight disturbance): Animal tracks; Grazing; Faeces



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?cuthbertsonii</i>	1	Shrub (1-2 m)
<i>Acacia caesaneura</i>	15	Shrub (>2 m)
<i>Aristida holathera</i> var. <i>holathera</i>	2	Tussock grass
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	1	Shrub (0-1 m)
<i>Eragrostis eriopoda</i>	2	Tussock grass
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	1	Shrub (1-2 m)
<i>Eriachne helmsii</i>	2	Tussock grass
<i>Grevillea sarissa</i> subsp. <i>sarissa</i>	5	Shrub (>2 m)
<i>Gunniopsis quadrifida</i>	1	Shrub (0-1 m)
<i>Maireana suaedifolia</i>	1	Shrub (0-1 m)
<i>Portulaca ?oleracea</i> (sterile)	0.1	Herb
<i>Rhagodia drummondii</i>	2	Shrub (1-2 m)
<i>Scaevola spinescens</i>	1	Shrub (0-1 m)
<i>Sclerolaena deserticola</i>	1	Shrub (0-1 m)
<i>Sclerolaena deserticola</i>	0.1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	1	Shrub (0-1 m)
<i>Sida ?trichopoda</i>	2	Herb
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)
<i>Triodia basedowii</i>	10	Hummock grass

Site:	003	Phase:	1
Botanist:	Andrew Craigie	Date:	6/7/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0236415 7026368
Habitat:	Depression	Soil:	Brown; Yellow, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence

Vegetation condition and disturbance: Very Good (slight disturbance): Animal tracks; Grazing



Taxa	Canopy Cover (%)	Stratum
<i>Acacia caesaneura</i>	0.1	Shrub (0-1 m)
<i>Aristida holathera</i> var. <i>holathera</i>	1	Tussock grass
<i>Atriplex codonocarpa</i>	1	Shrub (0-1 m)
<i>Brachyscome ciliaris</i>	0.1	Herb
<i>Calandrinia</i> sp. 1 (indet.)	0.1	Herb
<i>Eragrostis falcata</i>	1	Tussock grass
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	0.1	Tussock grass
<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	5	Shrub (0-1 m)
<i>Gunniopsis quadrifida</i>	0.1	Shrub (0-1 m)
<i>Maireana amoena</i>	0.1	Shrub (0-1 m)
<i>Maireana carnosa</i>	0.1	Herb
<i>Muellerolimon salicorniaceum</i>	1	Shrub (0-1 m)
<i>Podolepis capillaris</i>	0.1	Herb
<i>Portulaca oleracea</i>	0.1	Herb
<i>Scaevola spinescens</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena cuneata</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena diacantha</i>	2	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	1	Herb
<i>Tecticornia tenuis</i>	5	Shrub (0-1 m)
<i>Trianthema triquetrum</i>	0.1	Herb

Site:	004	Phase:	1
Botanist:	Andrew Craigie	Date:	6/7/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0237331 7024262
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Rocky	Rocks:	Quartz, Gravel/Pebble, Many (30-70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Aristida contorta</i>	1	Tussock grass
<i>Atriplex codonocarpa</i>	2	Shrub (0-1 m)
<i>Eragrostis falcata</i>	1	Tussock grass
<i>Eremophila spinescens</i>	1	Shrub (0-1 m)
<i>Frankenia fecunda</i>	2	Shrub (0-1 m)
<i>Maireana carnosae</i>	1	Herb
<i>Maireana triptera</i>	15	Shrub (0-1 m)
<i>Ptilotus obovatus</i>	1	Shrub (0-1 m)
<i>Salsola australis</i>	2	Herb
<i>Sclerolaena cuneata</i>	2	Shrub (0-1 m)
<i>Sclerolaena densiflora</i>	5	Shrub (0-1 m)
<i>Senna glutinosa</i> subsp. <i>chatelainiana</i>	0.1	Shrub (0-1 m)
<i>Senna</i> sp. Meekatharra (E. Bailey 1-26)	0.1	Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)

Site:	005	Phase:	1
Botanist:	Andrew Craigie	Date:	6/7/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0237995 7022637
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years

Vegetation condition and disturbance: Very Good (slight disturbance): Animal tracks; Grazing; Faeces



Taxa	Canopy Cover (%)	Stratum
<i>Abutilon cryptopetalum</i>	0.1	Shrub (0-1 m)
<i>Acacia ?aneura</i>	25	Shrub (>2 m)
<i>Acacia craspedocarpa</i>	5	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	2	Shrub (>2 m)
<i>Aristida contorta</i>	5	Tussock grass
<i>Calandrinia</i> sp. The Pink Hills (F. Obbens FO 19/06)	0.1	Herb
<i>Digitaria brownii</i>	2	Tussock grass
<i>Eragrostis eriopoda</i>	5	Tussock grass
<i>Eragrostis kennedyae</i>	1	Tussock grass
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	2	Shrub (0-1 m)
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	5	Shrub (0-1 m)
<i>Eremophila spectabilis</i> subsp. <i>brevis</i>	2	Shrub (0-1 m)
<i>Monachather paradoxus</i>	2	Tussock grass
<i>Portulaca ?oleracea (sterile)</i>	0.1	Herb
<i>Psydrax rigidula</i>	1	Shrub (>2 m)
<i>Ptilotus nobilis</i> subsp. <i>nobilis</i>	0.1	Herb
<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	3	Shrub (0-1 m)
<i>Spartothamnella teucriflora</i>	1	Shrub (0-1 m)

Site:	006	Phase:	2
Botanist:	Jordan Vos	Date:	10/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0245275 7015104
Habitat:	Low Rise	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Rocky	Rocks:	Ironstone; Quartz, Gravel/Pebble; Stones; Boulders, Continuous (>70%)
Slope:	Gentle	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia craspedocarpa</i> (hybrid)	1	Shrub (>2 m)
<i>Acacia pteraneura</i>	0.1	Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (0-1 m)
<i>Enneapogon polyphyllus</i>	0.1	Tussock grass
<i>Eremophila forrestii</i>	0.1	Shrub (0-1 m)
<i>Eremophila pantonii</i>	1	Shrub (>2 m)
<i>Hakea preissii</i>	1	Shrub (>2 m)
<i>Hibiscus burtonii</i>	0.1	Shrub (0-1 m)
<i>Lepidium platypetalum</i>	0.1	Shrub (0-1 m)
<i>Maireana georgei</i>	0.1	Shrub (0-1 m)
<i>Ptilotus nobilis</i> subsp. <i>nobilis</i>	0.1	Shrub (0-1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)
<i>Scaevola spinescens</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena eriacantha</i>	5	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	5	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)

Site:	007	Phase:	2
Botanist:	Andrew Craigie	Date:	10/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0245422 7014044
Habitat:	Floodplain	Soil:	Orange; Brown; Sand; Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence

Vegetation condition and disturbance: Very Good (slight disturbance): Animal tracks; Grazing; Faeces



Taxa	Canopy Cover (%)	Stratum
<i>Abutilon cryptopetalum</i>	0.1	Shrub (0-1 m)
<i>Abutilon otocarpum</i>	0.1	Shrub (0-1 m)
<i>Acacia ayersiana</i>	1	Shrub (>2 m)
<i>Acacia craspedocarpa</i>	10	Shrub (>2 m)
<i>Acacia pteraneura</i>	5	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	2	Shrub (>2 m)
<i>Aristida contorta</i>	1	Tussock grass
<i>Boerhavia ?schomburgkiana</i>	0.1	Herb
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Dissocarpus paradoxus</i>	0.1	Shrub (0-1 m)
<i>Duperreya commixta</i>	0.1	Climber
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	0.1	Shrub (0-1 m)
<i>Eragrostis eriopoda</i>	5	Tussock grass
<i>Eremophila galeata</i>	0.1	Shrub (1-2 m)
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	1	Shrub (0-1 m)
<i>Hakea francisiana</i>	5	Tree (<10 m)
<i>Psyrax latifolia</i>	0.1	Shrub (0-1 m)
<i>Psyrax rigidula</i>	0.1	Shrub (0-1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena densiflora</i>	0.1	Herb
<i>Sclerolaena deserticola</i>	0.1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>filifolia</i>	0.1	Shrub (0-1 m)
<i>Sida ectogama</i>	0.1	Shrub (1-2 m)
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	5	Shrub (0-1 m)
<i>Solanum cleistogamum</i>	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)

Site:	009	Phase:	1
Botanist:	Andrew Craigie	Date:	6/7/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0247990 7009773
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Loose	Rocks:	Ironstone; Quartz, Gravel/Pebble, Few (<10%)
Slope:	Negligible	Time since fire:	2-5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
? <i>Maireana georgei</i>	0.1	Shrub (0-1 m)
<i>Acacia ?aptaneura</i>	1	Shrub (>2 m)
<i>Acacia ?pteraneura</i>	5	Shrub (>2 m)
<i>Acacia incurvaneura</i>	1	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	3	Shrub (>2 m)
<i>Aristida contorta</i>	10	Tussock grass
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	0.1	Herb
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophila jucunda</i> subsp. <i>pulcherrima</i>	0.1	Shrub (0-1 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	1	Shrub (1-2 m)
<i>Eremophila spectabilis</i> subsp. <i>brevis</i>	0.1	Shrub (0-1 m)
<i>Eriachne mucronata</i>	2	Tussock grass
<i>Maireana melanocoma</i>	0.1	Shrub (0-1 m)
<i>Maireana villosa</i>	0.1	Shrub (0-1 m)
<i>Monachather paradoxus</i>	5	Tussock grass
<i>Psyrax rigidula</i>	0.1	Shrub (0-1 m)
<i>Ptilotus ?drummondii</i>	2	Shrub (0-1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)
<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Thyridolepis mitchelliana</i>	0.1	Tussock grass

Site:	010	Phase:	2
Botanist:	Andrew Craigie	Date:	10/10/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0249197 7009798
Habitat:	Low Rise	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Gravel; Rocky	Rocks:	Ironstone; Quartz, Gravel/Pebble; Stones, Many (30-70%)
Slope:	Gentle	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
? <i>Halgania cyanea</i>	1	Shrub (0-1 m)
<i>Acacia incurvaneura</i>	25	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	1	Shrub (1-2 m)
<i>Eragrostis ?eriopoda</i>	5	Tussock grass
<i>Eremophila spectabilis</i> subsp. <i>brevis</i>	2	Shrub (0-1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Psyrax latifolia</i>	0.1	Shrub (0-1 m)
<i>Psyrax rigidula</i>	0.1	Shrub (0-1 m)
<i>Ptilotus ?drummondii</i>	0.1	Shrub (0-1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)
<i>Scaevola spinescens</i>	1	Shrub (0-1 m)
<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	0.1	Shrub (0-1 m)
<i>Sida</i> sp. Golden calyces glabrous (H.N. Foote 32)	5	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)

Site:	011	Phase:	1
Botanist:	Andrew Craigie	Date:	6/8/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0249576 7009883
Habitat:	Undulating Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Rocky	Rocks:	Ironstone; Quartz, Stones, Continuous (>70%)
Slope:	Negligible	Time since fire:	2-5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura</i>	0.1	Shrub (0-1 m)
<i>Acacia ?pteraneura</i>	1	Shrub (1-2 m)
<i>Aristida contorta</i>	10	Tussock grass
<i>Enneapogon caerulescens</i>	1	Tussock grass
<i>Eremophila galeata</i>	0.1	Shrub (0-1 m)
<i>Eremophila pantonii</i>	10	Shrub (>2 m)
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	0.1	Tussock grass
<i>Hakea ?minyma</i>	1	Shrub (>2 m)
<i>Hakea preissii</i>	1	Shrub (>2 m)
<i>Lepidium platypetalum</i>	0.1	Shrub (0-1 m)
<i>Maireana ?georgei</i>	0.1	Shrub (0-1 m)
<i>Portulaca ?oleracea</i> (sterile)	0.1	Herb
<i>Ptilotus aevoides</i>	0.1	Herb
<i>Ptilotus helipteroides</i>	0.1	Herb
<i>Ptilotus nobilis</i> subsp. <i>nobilis</i>	0.1	Herb
<i>Scaevola spinescens</i>	1	Shrub (1-2 m)
<i>Sclerolaena densiflora</i>	2	Shrub (0-1 m)
<i>Sclerolaena eriacantha</i>	2	Shrub (0-1 m)
<i>Senna</i> sp. Meekatharra (E. Bailey 1-26)	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)

Site:	012	Phase:	2
Botanist:	Andrew Craigie	Date:	10/10/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0250166 7009848
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Rocky	Rocks:	Quartz; Granite; Basalt, Gravel/Pebble; Stones, Many (30-70%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		





Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?macraneura</i>	1	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	1	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)
<i>Aristida contorta</i>	20	Tussock grass
<i>Calandrinia</i> sp. The Pink Hills (F. Obbens FO 19/06)	1	Herb
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	0.1	Herb
<i>Eremophila galeata</i>	5	Shrub (1-2 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1	Shrub (0-1 m)
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	1	Tussock grass
<i>Heliotropium heteranthum</i>	0.1	Herb
<i>Maireana ?thesioides</i>	0.1	Shrub (0-1 m)
<i>Maireana georgei</i>	0.1	Shrub (0-1 m)
<i>Marsdenia australis</i>	0.1	Climber
<i>Ptilotus obovatus</i>	1	Shrub (0-1 m)
<i>Sclerolaena densiflora</i>	0.1	Herb
<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	5	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	1	Shrub (0-1 m)
<i>Sida ectogama</i>	1	Shrub (0-1 m)
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)

Site:	013	Phase:	1
Botanist:	Andrew Craigie	Date:	6/8/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0250398 7009960
Habitat:	Undulating Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Rocky	Rocks:	Quartz, Stones, Common (10-30%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Abutilon cryptopetalum</i>	0.1	Shrub (0-1 m)
<i>Acacia burkittii</i>	15	Shrub (>2 m)
<i>Acacia craspedocarpa</i>	1	Shrub (>2 m)
<i>Acacia pteraneura</i>	1	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	5	Shrub (>2 m)
<i>Aristida contorta</i>	10	Tussock grass
<i>Calandrinia</i> sp. The Pink Hills (F. Obbens FO 19/06)	0.1	Herb
<i>Duperreya commixta</i>	1	Climber
<i>Enneapogon caeruleus</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila galeata</i>	2	Shrub (1-2 m)
<i>Eremophila jucunda</i> subsp. <i>pulcherrima</i>	0.1	Shrub (0-1 m)
<i>Eremophila oldfieldii</i> subsp. <i>angustifolia</i>	1	Shrub (>2 m)
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	1	Tussock grass
<i>Euphorbia drummondii</i>	0.1	Herb
<i>Glycine canescens</i>	0.1	Herb
<i>Indigofera monophylla</i>	3	Shrub (0-1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Prostanthera</i> ? <i>althoferi</i>	0.1	Shrub (0-1 m)
<i>Ptilotus roei</i>	0.1	Herb
<i>Santalum lanceolatum</i>	0.1	Shrub (>2 m)
<i>Santalum spicatum</i>	1	Shrub (>2 m)
<i>Scaevola spinescens</i>	2	Shrub (1-2 m)
<i>Senna</i> ? <i>artemisioides</i> subsp. <i>x sturtii</i>	0.1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	1	Shrub (0-1 m)
<i>Senna</i> sp. Meekatharra (E. Bailey 1-26)	1	Shrub (0-1 m)
<i>Sida ectogama</i>	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	0.1	Herb
<i>Tribulus astrocarpus</i>	0.1	Herb
<i>Tripogon loliiformis</i>	1	Tussock grass

Site:	014	Phase:	2
Botanist:	Andrew Craigie	Date:	10/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0240555 7019453
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		
			
Taxa	Canopy Cover (%)		Stratum
<i>Acacia ?ramulosa</i> var. <i>linophylla</i>	1		Shrub (1-2 m)
<i>Acacia ayersiana</i>	1		Shrub (>2 m)
<i>Acacia caesaneura</i> x <i>incurvaneura</i>	15		Shrub (>2 m)
<i>Eragrostis eriopoda</i>	1		Tussock grass
<i>Eremophila forrestii</i>	1		Shrub (0-1 m)
<i>Eremophila spectabilis</i> subsp. <i>brevis</i>	1		Shrub (0-1 m)
<i>Maireana ?villosa</i>	0.1		Shrub (0-1 m)
<i>Monachather paradoxus</i>	5		Tussock grass
<i>Sida</i> ?sp. dark green fruits (S. van Leeuwen 2260)	0.1		Shrub (0-1 m)
<i>Sida</i> sp. Golden calyces glabrous (H.N. Foote 32)	0.1		Shrub (0-1 m)
<i>Triodia basedowii</i>	20		Hummock grass

Site:	015	Phase:	2
Botanist:	Andrew Craigie	Date:	10/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0242099 7018185
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		
			
Taxa	Canopy Cover (%)		Stratum
<i>Acacia ?aneura</i>	0.1		Shrub (0-1 m)
<i>Acacia ?aptaneura</i>	2		Shrub (>2 m)
<i>Acacia pruinocarpa</i>	1		Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	2		Shrub (>2 m)
<i>Eragrostis eriopoda</i>	1		Tussock grass
<i>Eremophila forrestii</i>	1		Shrub (0-1 m)
<i>Eucalyptus kingsmillii</i>	5		Mallee (3-10 m)
<i>Monachather paradoxus</i>	1		Tussock grass
<i>Sida</i> sp. Golden calyces glabrous (H.N. Foote 32)	0.1		Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1		Shrub (0-1 m)
<i>Triodia basedowii</i>	40		Hummock grass

Site:	016	Phase:	1
Botanist:	Andrew Craigie	Date:	6/8/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0251162 7009811
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Rocky	Rocks:	Quartz; Granite, Stones, Common (10-30%)
Slope:	Negligible	Time since fire:	2-5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura</i>	2	Shrub (>2 m)
<i>Acacia burkittii</i>	0.1	Shrub (0-1 m)
<i>Acacia tetragonophylla</i>	5	Shrub (>2 m)
<i>Aristida contorta</i>	20	Tussock grass
<i>Calandrinia ?sp. The Pink Hills (F. Obbens FO 19/06)</i>	1	Herb
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila galeata</i>	5	Shrub (1-2 m)
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	1	Tussock grass
<i>Heliotropium heteranthum</i>	1	Shrub (0-1 m)
<i>Hibiscus burtonii</i>	0.1	Shrub (0-1 m)
<i>Hibiscus sturtii</i>	1	Shrub (0-1 m)
<i>Psyrax suaveolens</i>	0.1	Shrub (>2 m)
<i>Ptilotus ?drummondii</i>	0.1	Shrub (0-1 m)
<i>Ptilotus obovatus</i>	1	Shrub (0-1 m)
<i>Ptilotus roei</i>	0.1	Herb
<i>Rhagodia drummondii</i>	0.1	Shrub (0-1 m)
<i>Rhyncharrhena linearis</i>	0.1	Climber
<i>Senna ?artemisioides</i> subsp. <i>x sturtii</i>	2	Shrub (1-2 m)
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	1	Shrub (1-2 m)
<i>Sida ectogama</i>	1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)

Site:	017	Phase:	2
Botanist:	Jordan Vos	Date:	10/10/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0251907 7009901
Habitat:	Undulating Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Crust; Rocky	Rocks:	Ironstone; Quartz; Granite, Gravel/Pebble; Stones; Boulders, Many (30-70%)
Slope:	Gentle	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
? <i>Calytrix</i> sp. 1 (indet.)	1	Shrub (1-2 m)
<i>Acacia burkittii</i>	20	Shrub (>2 m)
<i>Acacia craspedocarpa</i> (hybrid)	0.1	Shrub (>2 m)
<i>Acacia pteraneura</i>	1	Shrub (1-2 m)
<i>Aristida contorta</i>	5	Tussock grass
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Enneapogon caerulescens</i>	0.1	Tussock grass
<i>Eremophila ?longifolia</i>	0.1	Shrub (0-1 m)
<i>Eremophila galeata</i>	1	Shrub (1-2 m)
<i>Eremophila jucunda</i>	5	Shrub (1-2 m)
<i>Eriachne pulchella</i>	1	Tussock grass
<i>Indigofera</i> sp. 1 (indet.)	0.1	Shrub (0-1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)
<i>Ptilotus rotundifolius</i>	0.1	Shrub (0-1 m)
<i>Santalum ?spicatum</i>	0.1	Shrub (>2 m)
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	1	Shrub (1-2 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	1	Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)

Site:	018	Phase:	2
Botanist:	Jordan Vos	Date:	10/10/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0252018 7009732
Habitat:	Hillslope - Midslope	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Crust; Rocky	Rocks:	Ironstone; Quartz; Basalt, Gravel/Pebble; Stones; Surface Plates, Continuous (>70%)
Slope:	Gentle	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		




Taxa	Canopy Cover (%)	Stratum
<i>Acacia burkittii</i>	10	Shrub (>2 m)
<i>Acacia pteraneura</i>	10	Shrub (>2 m)
<i>Aristida contorta</i>	10	Tussock grass
<i>Cheilanthes brownii</i>	0.1	Shrub (0-1 m)
<i>Enneapogon caerulescens</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila jucunda</i>	5	Shrub (1-2 m)
<i>Indigofera</i> sp. 1 (indet.)	1	Shrub (0-1 m)
<i>Ptilotus ?roei</i>	0.1	Herb
<i>Ptilotus aevoides</i>	0.1	Herb
<i>Ptilotus rotundifolius</i>	1	Shrub (1-2 m)
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	1	Shrub (1-2 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	1	Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)

Site:	019	Phase:	2
Botanist:	Andrew Craigie	Date:	10/10/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0256177 7009899
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	Ironstone; Quartz, Gravel/Pebble; Stones, Many (30-70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura</i>	10	Shrub (>2 m)
<i>Acacia caesaneura</i>	1	Shrub (>2 m)
<i>Acacia craspedocarpa</i> (hybrid)	1	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	1	Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	10	Shrub (>2 m)
<i>Aristida contorta</i>	10	Tussock grass
<i>Dianella revoluta</i> var. <i>divaricata</i>	0.1	Herb
<i>Digitaria brownii</i>	1	Tussock grass
<i>Duperreya commixta</i>	0.1	Climber
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophila galeata</i>	5	Shrub (1-2 m)
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	1	Shrub (0-1 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1	Shrub (0-1 m)
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	5	Tussock grass
<i>Grevillea deflexa</i>	1	Shrub (0-1 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Psyrax rigidula</i>	1	Shrub (0-1 m)
<i>Santalum spicatum</i>	1	Shrub (>2 m)
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	1	Shrub (0-1 m)
<i>Sida</i> ?sp. verrucose glands (F.H. Mollemans 2423)	0.1	Shrub (0-1 m)
<i>Sida ectogama</i>	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Spartothamnella teucriflora</i>	0.1	Shrub (0-1 m)
<i>Thyridolepis xerophila</i>	1	Tussock grass

Site:	020	Phase:	2
Botanist:	Jordan Vos	Date:	10/10/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0257987 7009834
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	Granite, Stones, Few (<10%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Acacia ?aneura</i>	5	Shrub (>2 m)	
<i>Acacia ?macraneura</i>	1	Shrub (1-2 m)	
<i>Acacia burkittii</i>	1	Shrub (>2 m)	
<i>Acacia pteraneura</i>	0.1	Shrub (>2 m)	
<i>Aristida contorta</i>	20	Tussock grass	
<i>Eragrostis eriopoda</i>	1	Tussock grass	
<i>Eremophila galeata</i>	1	Shrub (1-2 m)	
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1	Shrub (0-1 m)	
<i>Eremophila margarethae</i>	1	Shrub (0-1 m)	
<i>Monachather paradoxus</i>	0.1	Tussock grass	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1	Shrub (0-1 m)	
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	1	Shrub (1-2 m)	
<i>Sida ectogama</i>	0.1	Shrub (1-2 m)	
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)	

Site:	021	Phase:	2
Botanist:	Jordan Vos	Date:	10/10/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0257639 7009890
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Crust; Rocky	Rocks:	Quartz; Granite, Gravel/Pebble; Stones, Many (30-70%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Aristida contorta</i>	20	Tussock grass
<i>Calytrix desolata</i>	0.1	Shrub (0-1 m)
<i>Eremophila galeata</i>	1	Shrub (1-2 m)
<i>Eremophila margarethae</i>	0.1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	1	Shrub (1-2 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	1	Shrub (1-2 m)
<i>Sida ectogama</i>	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)

Site:	022	Phase:	2
Botanist:	Andrew Craigie	Date:	10/11/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0261328 7009956
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years

Vegetation condition and disturbance: Very Good (slight disturbance): Animal tracks; Grazing; Faeces




Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?macraneura</i>	5	Shrub (>2 m)
<i>Acacia caesaneura</i> (narrow phyllode variant)	5	Shrub (>2 m)
<i>Acacia craspedocarpa</i> (hybrid)	2	Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	5	Shrub (>2 m)
<i>Aristida contorta</i>	10	Tussock grass
<i>Calandrinia ?eremaea</i>	1	Herb
<i>Calandrinia ?translucens</i>	0.1	Herb
<i>Calandrinia</i> sp. 1 (indet.)	0.1	Herb
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	0.1	Herb
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila galeata</i>	5	Shrub (>2 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	5	Shrub (1-2 m)
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	0.1	Tussock grass
<i>Goodenia</i> sp. 1 (indet.)	1	Herb
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Psyrax rigidula</i>	0.1	Shrub (0-1 m)
<i>Psyrax suaveolens</i>	0.1	Shrub (0-1 m)
<i>Sida ectogama</i>	1	Shrub (0-1 m)
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	1	Shrub (0-1 m)
<i>Solanum ?horridum</i>	0.1	Herb
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Tribulus astrocarpus</i>	1	Herb

Site:	023	Phase:	2
Botanist:	Jordan Vos	Date:	10/11/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0262114 7009843
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura</i>	20	Shrub (>2 m)
<i>Acacia caesaneura</i>	0.1	Shrub (>2 m)
<i>Acacia pteraneura</i>	5	Shrub (>2 m)
<i>Acacia pteraneura</i>	1	Shrub (0-1 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila forrestii</i> subsp. <i>hastieana</i>	5	Shrub (1-2 m)
<i>Eremophila spectabilis</i> subsp. <i>brevis</i>	1	Shrub (0-1 m)
<i>Maireana ?villosa</i>	0.1	Shrub (0-1 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Psyrax rigidula</i>	0.1	Shrub (1-2 m)
<i>Psyrax suaveolens</i>	0.1	Shrub (0-1 m)
<i>Triodia basedowii</i>	20	Hummock grass

Site:	024	Phase:	2
Botanist:	Jordan Vos	Date:	10/11/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0264253 7009920
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		
			
Taxa	Canopy Cover (%)		Stratum
<i>Acacia ?aptaneura</i>	1		Shrub (1-2 m)
<i>Acacia caesaneura</i>	5		Shrub (>2 m)
<i>Acacia caesaneura x incurvaneura</i>	10		Shrub (>2 m)
<i>Acacia pruinocarpa</i>	5		Shrub (>2 m)
<i>Acacia pteraneura</i>	0.1		Shrub (1-2 m)
<i>Eragrostis eriopoda</i>	0.1		Tussock grass
<i>Eremophila forrestii</i>	1		Shrub (0-1 m)
<i>Eucalyptus kingsmillii</i>	5		Mallee (3-10 m)
<i>Psyrax suaveolens</i>	0.1		Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	0.1		Shrub (0-1 m)
<i>Triodia basedowii</i>	5		Hummock grass

Site:	025	Phase:	2
Botanist:	Andrew Craigie	Date:	10/11/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0265027 7010057
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay; Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		




Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	5	Shrub (>2 m)
<i>Acacia ?aptaneura</i>	2	Shrub (>2 m)
<i>Acacia minyura</i>	2	Shrub (>2 m)
<i>Acacia pachyacra</i>	1	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	0.1	Shrub (0-1 m)
<i>Eragrostis ?falcata</i>	1	Tussock grass
<i>Eremophila longifolia</i>	0.1	Shrub (>2 m)
<i>Eucalyptus kingsmillii</i>	5	Mallee (3-10 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Psyrax rigidula</i>	0.1	Shrub (>2 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Triodia basedowii</i>	25	Hummock grass

Site:	026	Phase:	1
Botanist:	Andrew Craigie	Date:	6/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0300850 6996893
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Rocky	Rocks:	Calcrete, Stones, Common (10-30%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks		




Taxa	Canopy Cover (%)	Stratum
<i>Abutilon fraseri</i>	0.1	Shrub (0-1 m)
<i>Acacia ?colletioides</i>	1	Shrub (0-1 m)
<i>Boerhavia ?coccinea</i>	0.1	Herb
<i>Casuarina pauper</i>	10	Tree (10-30 m)
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	0.1	Shrub (0-1 m)
<i>Enneapogon caerulescens</i>	0.1	Tussock grass
<i>Eremophea spinosa</i>	5	Shrub (0-1 m)
<i>Eremophila pantonii</i>	5	Shrub (>2 m)
<i>Eriochiton sclerolaenoides</i>	0.1	Herb
<i>Exocarpos aphyllus</i>	0.1	Shrub (>2 m)
<i>Olearia calcarea</i>	0.1	Shrub (0-1 m)
<i>Paspalidium gracile</i>	0.1	Tussock grass
<i>Portulaca oleracea</i>	1	Herb
<i>Ptilotus aervoides</i>	1	Herb
<i>Ptilotus nobilis</i> subsp. <i>nobilis</i>	0.1	Herb
<i>Ptilotus obovatus</i>	5	Shrub (0-1 m)
<i>Rhagodia drummondii</i>	0.1	Shrub (0-1 m)
<i>Salsola australis</i>	5	Herb
<i>Sclerolaena cuneata</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena diacantha</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena lanicuspis</i>	1	Shrub (0-1 m)
<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Zygophyllum ?eremaeum</i>	0.1	Herb


Site:	027	Phase:	2
Botanist:	Jordan Vos	Date:	10/14/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0300599 6997329
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing		
			
Taxa	Canopy Cover (%)	Stratum	
<i>?Rhodanthe charsleyae</i>	0.1	Herb	
<i>Abutilon cryptopetalum</i>	0.1	Shrub (0-1 m)	
<i>Acacia ?ramulosa</i> var. <i>linophylla</i>	1	Shrub (>2 m)	
<i>Acacia caesaneura</i> x <i>incurvaneura</i>	5	Shrub (>2 m)	
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)	
<i>Enneapogon caerulescens</i>	1	Tussock grass	
<i>Eragrostis eriopoda</i>	5	Tussock grass	
<i>Eremophea spinosa</i>	0.1	Shrub (0-1 m)	
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	1	Shrub (1-2 m)	
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	1	Shrub (0-1 m)	
<i>Eremophila longifolia</i>	0.1	Shrub (0-1 m)	
<i>Goodenia</i> sp. 1 (indet.)	0.1	Herb	
<i>Maireana ?villosa</i>	1	Shrub (0-1 m)	
<i>Maireana villosa</i>	1	Shrub (0-1 m)	
<i>Melaleuca interioris</i>	10	Shrub (>2 m)	
<i>Psydrax suaveolens</i>	1	Shrub (>2 m)	
<i>Ptilotus ?gaudichaudii</i>	0.1	Herb	
<i>Ptilotus aervoides</i>	1	Herb	
<i>Ptilotus obovatus</i>	1	Shrub (0-1 m)	
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	1	Shrub (0-1 m)	
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)	
<i>Triodia basedowii</i>	5	Hummock grass	


Site:	028	Phase:	2
Botanist:	Andrew Craigie	Date:	10/13/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0300492 6997489
Habitat:	Undulating Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose; Gravel; Rocky	Rocks:	Calcrete, Gravel/Pebble; Stones, Many (30-70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia tetragonophylla</i>	0.1	Shrub (>2 m)
<i>Boerhavia ?coccinea</i>	0.1	Herb
<i>Casuarina pauper</i>	5	Tree (<10 m)
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	0.1	Shrub (0-1 m)
<i>Enneapogon caerulescens</i>	2	Tussock grass
<i>Eremophea spinosa</i>	0.1	Shrub (0-1 m)
<i>Eriochiton sclerolaenoides</i>	1	Shrub (0-1 m)
<i>Exocarpos aphyllus</i>	2	Shrub (>2 m)
<i>Melaleuca xerophila</i>	10	Shrub (>2 m)
<i>Ptilotus nobilis</i> subsp. <i>nobilis</i>	0.1	Herb
<i>Ptilotus obovatus</i>	5	Shrub (0-1 m)
<i>Rhagodia drummondii</i>	0.1	Shrub (0-1 m)
<i>Salsola australis</i>	0.1	Herb
<i>Scaevola spinescens</i>	2	Shrub (1-2 m)
<i>Sclerolaena diacantha</i>	5	Shrub (0-1 m)
<i>Sclerolaena obliquicuspis</i>	1	Shrub (0-1 m)
<i>Senna ?artemisioides</i> subsp. <i>filifolia</i>	1	Shrub (1-2 m)
<i>Zygophyllum eremaeum</i>	0.1	Shrub (0-1 m)

Site:	029	Phase:	2
Botanist:	Andrew Craigie	Date:	10/14/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0299916 6998231
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Acacia caesaneura</i>	1	Shrub (>2 m)	
<i>Acacia tetragonophylla</i>	1	Shrub (1-2 m)	
<i>Aristida contorta</i>	0.1	Tussock grass	
<i>Cratystylis subspinescens</i>	1	Shrub (1-2 m)	
<i>Enteropogon ramosus</i>	0.1	Tussock grass	
<i>Eragrostis dielsii</i>	1	Tussock grass	
<i>Eragrostis eriopoda</i>	0.1	Tussock grass	
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	1	Shrub (0-1 m)	
<i>Eremophila maculata</i> subsp. <i>brevifolia</i>	1	Shrub (0-1 m)	
<i>Eremophila malacoides</i>	5	Shrub (0-1 m)	
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	1	Tussock grass	
<i>Frankenia laxiflora</i>	0.1	Shrub (0-1 m)	
<i>Frankenia setosa</i>	1	Shrub (0-1 m)	
<i>Hibiscus burtonii</i>	0.1	Shrub (0-1 m)	
<i>Lawrencia squamata</i>	0.1	Shrub (0-1 m)	
<i>Maireana amoena</i>	0.1	Shrub (0-1 m)	
<i>Maireana tomentosa</i> subsp. <i>tomentosa</i>	0.1	Shrub (0-1 m)	
<i>Melaleuca interioris</i>	10	Shrub (>2 m)	
<i>Melaleuca xerophila</i>	1	Shrub (>2 m)	
<i>Ptilotus obovatus</i>	1	Shrub (0-1 m)	
<i>Rhagodia drummondii</i>	0.1	Shrub (0-1 m)	
<i>Scaevola spinescens</i>	1	Shrub (0-1 m)	
<i>Sclerolaena densiflora</i>	0.1	Herb	
<i>Sclerolaena diacantha</i>	0.1	Shrub (0-1 m)	
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)	
<i>Tecticornia indica</i> subsp. <i>leiostachya</i>	1	Shrub (0-1 m)	
<i>Tribulus astrocarpus</i>	0.1	Herb	


Site:	030	Phase:	2
Botanist:	Jordan Vos	Date:	10/12/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0299201 6999292
Habitat:	Salt pan	Soil:	WhiteClay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Angianthus tomentosus</i>	0.1	Herb	
<i>Dysphania plantaginella</i>	0.1	Herb	
<i>Eragrostis ?falcata</i>	1	Tussock grass	
<i>Maireana luehmannii</i>	1	Shrub (0-1 m)	
<i>Senecio lacustrinus</i>	0.1	Herb	
<i>Tecticornia</i> sp. <i>Dennys Crossing</i> (K.A. Shepherd & J. English KS 552)	10	Shrub (0-1 m)	
<i>Tecticornia peltata</i>	1	Shrub (0-1 m)	
<i>Tecticornia</i> sp. aff. <i>undulata</i> (broad articles)	10	Shrub (0-1 m)	

Site:	031	Phase:	2
Botanist:	Jordan Vos	Date:	10/13/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0298673 7000085
Habitat:	Undulating Plain	Soil:	Orange; White, Sandy-Clay
Surface layer:	Crust	Rocks:	Quartz; Granite, Stones, Few (<10%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Acacia ?aptaneura</i>	1	Shrub (>2 m)	
<i>Acacia tetragonophylla</i>	0.1	Shrub (0-1 m)	
<i>Aristida contorta</i>	1	Tussock grass	
<i>Digitaria brownii</i>	0.1	Tussock grass	
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	0.1	Shrub (0-1 m)	
<i>Enneapogon caeruleus</i>	1	Tussock grass	
<i>Enneapogon polyphyllus</i>	0.1	Tussock grass	
<i>Eremophila galeata</i>	5	Shrub (1-2 m)	
<i>Eremophila margarethae</i>	1	Shrub (0-1 m)	
<i>Euphorbia ?drummondii</i>	0.1	Herb	
<i>Frankenia laxiflora</i>	0.1	Shrub (0-1 m)	
<i>Maireana ?villosa</i>	0.1	Shrub (0-1 m)	
<i>Maireana villosa</i>	0.1	Shrub (0-1 m)	
<i>Ptilotus obovatus</i>	1	Shrub (0-1 m)	
<i>Salsola australis</i>	1	Shrub (0-1 m)	
<i>Sclerolaena ?lanicuspis</i>	1	Shrub (0-1 m)	
<i>Sclerolaena diacantha</i>	1	Shrub (0-1 m)	
<i>Senna ?artemisioides</i> subsp. <i>x artemisioides</i>	0.1	Shrub (0-1 m)	
<i>Senna ?charlesiana</i>	0.1	Shrub (1-2 m)	
<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	0.1	Shrub (0-1 m)	
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)	
<i>Solanum nummularium</i>	0.1	Shrub (0-1 m)	
<i>Tripogon loliformis</i>	0.1	Tussock grass	

Site:	032	Phase:	2
Botanist:	Jordan Vos	Date:	10/13/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0298377 7000272
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	Quartz, Stones, Few (<10%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura</i>	5	Shrub (>2 m)
<i>Acacia pteraneura</i>	1	Shrub (1-2 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	0.1	Shrub (0-1 m)
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophila forrestii</i>	1	Shrub (1-2 m)
<i>Eremophila margarethae</i>	1	Shrub (1-2 m)
<i>Eriachne helmsii</i>	1	Tussock grass
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Ptilotus obovatus</i>	1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Triodia basedowii</i>	5	Hummock grass

Site:	033	Phase:	2
Botanist:	Andrew Craigie	Date:	10/12/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0297897 7000927
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		
			
Taxa	Canopy Cover (%)		Stratum
<i>Abutilon otocarpum</i>	0.1		Shrub (0-1 m)
<i>Acacia ?aptaneura</i>	5		Shrub (1-2 m)
<i>Acacia ?ayersiana</i>	1		Shrub (0-1 m)
<i>Acacia pachyacra</i>	1		Shrub (>2 m)
<i>Acacia pruinocarpa</i>	5		Shrub (1-2 m)
<i>Acacia pteraneura</i>	1		Shrub (0-1 m)
<i>Eragrostis eriopoda</i>	5		Tussock grass
<i>Eremophila longifolia</i>	1		Shrub (1-2 m)
<i>Eucalyptus lucasii</i>	10		Mallee (3-10 m)
<i>Ptilotus obovatus</i>	1		Shrub (0-1 m)
<i>Salsola australis</i>	2		Herb
<i>Sida ?sp. Golden calyces glabrous (H.N. Foote 32)</i>	0.1		Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	1		Shrub (0-1 m)
<i>Triodia basedowii</i>	30		Hummock grass

Site:	034	Phase:	1
Botanist:	Andrew Craigie	Date:	6/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0299682 6998607
Habitat:	Plain	Soil:	Orange;Sand
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
? <i>Lycium australe</i>	1	Shrub (0-1 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Atriplex codonocarpa</i>	0.1	Shrub (0-1 m)
<i>Calandrinia pleiopetala</i>	0.1	Herb
<i>Cratystylis subspinescens</i>	10	Shrub (0-1 m)
<i>Dactyloctenium radulans</i>	0.1	Tussock grass
<i>Enneapogon caeruleus</i>	0.1	Tussock grass
<i>Enteropogon ramosus</i>	0.1	Tussock grass
<i>Eragrostis dielsii</i>	0.1	Tussock grass
<i>Eremophila glabra</i>	0.1	Shrub (>2 m)
<i>Eremophila malacoides</i>	5	Shrub (0-1 m)
<i>Frankenia setosa</i>	0.1	Shrub (0-1 m)
<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	5	Shrub (0-1 m)
<i>Maireana amoena</i>	1	Shrub (0-1 m)
<i>Maireana carnosus</i>	1	Herb
<i>Maireana glomerifolia</i>	0.1	Shrub (0-1 m)
<i>Maireana platycarpa</i>	0.1	Shrub (0-1 m)
<i>Maireana pyramidata</i>	1	Shrub (0-1 m)
<i>Sclerolaena densiflora</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena diacantha</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena eurotioides</i>	0.1	Shrub (0-1 m)
<i>Senna</i> sp. <i>Meekatharra</i> (E. Bailey 1-26)	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Tripogon loliiformis</i>	2	Tussock grass

Site:	035	Phase:	2
Botanist:	Jordan Vos	Date:	10/13/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0293806 7006514
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years

Vegetation condition and disturbance: Good (low grazing, few weeds): Animal tracks; Grazing; Faeces




Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	5	Shrub (>2 m)
<i>Acacia ?aptaneura</i>	5	Shrub (>2 m)
<i>Acacia ayersiana</i>	5	Shrub (>2 m)
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophila forrestii</i>	0.1	Shrub (0-1 m)
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	1	Shrub (0-1 m)
<i>Psyrax suaveolens</i>	0.1	Shrub (0-1 m)
<i>Triodia basedowii</i>	5	Hummock grass

Site:	036	Phase:	2
Botanist:	Jordan Vos	Date:	10/12/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0291681 7009428
Habitat:	Plain	Soil:	Orange; BrownClay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years

Vegetation condition and disturbance: Very Good (slight disturbance): Animal tracks; Grazing; Faeces



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	10	Shrub (>2 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eragrostis kennedyae</i>	1	Tussock grass
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	1	Shrub (0-1 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1	Shrub (0-1 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Psyrax rigidula</i>	0.1	Shrub (1-2 m)
<i>Psyrax suaveolens</i>	0.1	Shrub (0-1 m)
<i>Sida</i> ?sp. dark green fruits (S. van Leeuwen 2260)	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Triodia basedowii</i>	1	Hummock grass

Site:	037	Phase:	2
Botanist:	Andrew Craigie	Date:	10/12/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0284987 7010506
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		
			
Taxa	Canopy Cover (%)		Stratum
<i>Acacia ?aptaneura</i>	5		Shrub (>2 m)
<i>Acacia ayersiana</i>	5		Shrub (>2 m)
<i>Eragrostis eriopoda</i>	10		Tussock grass
<i>Eremophila margarethae</i>	10		Shrub (0-1 m)
<i>Eriachne helmsii</i>	1		Tussock grass
<i>Grevillea sarissa</i> subsp. <i>succincta</i>	5		Shrub (>2 m)
<i>Lysiana casuarinae</i>	0.1		Shrub (0-1 m)
<i>Maireana villosa</i>	1		Shrub (0-1 m)
<i>Monachather paradoxus</i>	1		Tussock grass
<i>Sida</i> ?sp. dark green fruits (S. van Leeuwen 2260)	0.1		Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1		Shrub (0-1 m)
<i>Triodia basedowii</i>	5		Hummock grass

Site:	038	Phase:	2
Botanist:	Jordan Vos	Date:	10/12/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0286367 7010453
Habitat:	Plain	Soil:	Orange; BrownClay
Surface layer:	Crust	Rocks:	Quartz, Gravel/Pebble, Few (<10%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>?Hibiscus sturtii</i>	0.1	Shrub (0-1 m)
<i>Acacia ?aneura</i>	0.1	Shrub (1-2 m)
<i>Acacia ?aptaneura</i>	5	Shrub (>2 m)
<i>Acacia craspedocarpa</i>	0.1	Shrub (1-2 m)
<i>Acacia incurvaneura</i>	1	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	1	Shrub (>2 m)
<i>Amyema ?fitzgeraldii</i>	0.1	Climber
<i>Aristida contorta</i>	10	Tussock grass
<i>Calandrinia</i> sp. 3 (indet.)	1	Herb
<i>Digitaria brownii</i>	1	Tussock grass
<i>Eragrostis ?falcata</i>	10	Tussock grass
<i>Eremophila ?margarethae</i>	0.1	Shrub (0-1 m)
<i>Eremophila galeata</i>	0.1	Shrub (1-2 m)
<i>Eremophila margarethae</i>	1	Shrub (1-2 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Psydrax rigidula</i>	0.1	Shrub (1-2 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)
<i>Santalum ?spicatum</i>	0.1	Shrub (>2 m)
<i>Sida</i> ?sp. dark green fruits (S. van Leeuwen 2260)	0.1	Shrub (0-1 m)
<i>Sida platycalyx</i>	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Spartothamnella teucriflora</i>	0.1	Shrub (0-1 m)

Site:	039	Phase:	2
Botanist:	Andrew Craigie	Date:	10/12/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0284516 7010411
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years

Vegetation condition and disturbance: Excellent (no obvious disturbance)



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?ayersiana</i>	10	Shrub (>2 m)
<i>Acacia aptaneura</i>	10	Shrub (>2 m)
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Hakea lorea</i> subsp. <i>lorea</i>	5	Tree (<10 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Psydrax rigidula</i>	0.1	Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Spartothamnella teucriflora</i>	1	Shrub (0-1 m)
<i>Triodia basedowii</i>	50	Hummock grass

Site:	040	Phase:	2
Botanist:	Andrew Craigie	Date:	10/11/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0283939 7010537
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia aptaneura</i>	2	Shrub (1-2 m)
<i>Acacia ayersiana</i>	15	Shrub (>2 m)
<i>Acacia minyura</i>	1	Shrub (0-1 m)
<i>Dicrasyllis</i> sp. (indet.)	1	Shrub (0-1 m)
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eucalyptus lucasii</i>	10	Mallee (3-10 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Spartothamnella teucriflora</i>	1	Shrub (0-1 m)
<i>Triodia basedowii</i>	50	Hummock grass

Site:	041	Phase:	2
Botanist:	Jordan Vos	Date:	10/11/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0280105 7010303
Habitat:	Undulating Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Crust	Rocks:	Calcrete, Gravel/Pebble; Stones; Surface Plates, Common (10-30%)
Slope:	Gentle	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura</i>	1	Shrub (1-2 m)
<i>Acacia ayersiana</i>	1	Shrub (1-2 m)
<i>Acacia colletioides</i>	0.1	Shrub (1-2 m)
<i>Acacia ligulata</i>	1	Shrub (1-2 m)
<i>Acacia prainii</i>	0.1	Shrub (1-2 m)
<i>Enneapogon caeruleus</i>	1	Tussock grass
<i>Eremophila forrestii</i> subsp. <i>hastieana</i>	0.1	Shrub (0-1 m)
<i>Eremophila glabra</i> subsp. <i>glabra</i>	0.1	Shrub (0-1 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1	Shrub (1-2 m)
<i>Eremophila longifolia</i>	1	Shrub (1-2 m)
<i>Eucalyptus lucasii</i>	5	Mallee (3-10 m)
<i>Grevillea nematophylla</i>	1	Shrub (0-1 m)
<i>Grevillea nematophylla</i> subsp. <i>supraplana</i>	1	Shrub (1-2 m)
<i>Marsdenia australis</i>	0.1	Climber
<i>Paspalidium gracile</i>	0.1	Tussock grass
<i>Ptilotus aevoides</i>	0.1	Herb
<i>Ptilotus nobilis</i> subsp. <i>nobilis</i>	0.1	Herb
<i>Ptilotus obovatus</i>	1	Shrub (0-1 m)
<i>Salsola australis</i>	1	Herb
<i>Sclerolaena diacantha</i>	0.1	Shrub (0-1 m)
<i>Senna ?artemisioides</i> subsp. <i>x artemisioides</i>	0.1	Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Triodia basedowii</i>	20	Tussock grass

Site:	042	Phase:	2
Botanist:	Andrew Craigie	Date:	10/10/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0249877 7009844
Habitat:	Low Rise	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Rocky	Rocks:	Quartz; Basalt, Gravel/Pebble; Stones, Continuous (>70%)
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia burkittii</i>	15	Shrub (>2 m)
<i>Aristida contorta</i>	30	Tussock grass
<i>Eremophila ?galeata</i>	0.1	Shrub (0-1 m)
<i>Eremophila jucunda</i>	1	Shrub (0-1 m)
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	1	Tussock grass
<i>Heliotropium heteranthum</i>	0.1	Shrub (0-1 m)
<i>Indigofera monophylla</i>	2	Shrub (0-1 m)
<i>Ptilotus aevoides</i>	1	Herb
<i>Ptilotus helipteroides</i>	0.1	Herb
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena densiflora</i>	0.1	Herb
<i>Senna ?artemisioides</i> subsp. <i>filifolia</i>	0.1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	1	Shrub (0-1 m)
<i>Sida ?ectogama</i>	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)

Site:	043	Phase:	2
Botanist:	Andrew Craigie	Date:	10/10/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0257457 7010017
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	Quartz, Gravel/Pebble, Few (<10%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura</i>	10	Shrub (>2 m)
<i>Acacia ?ayersiana</i>	1	Shrub (>2 m)
<i>Acacia burkittii</i>	0.1	Shrub (1-2 m)
<i>Acacia craspedocarpa</i> (hybrid)	5	Shrub (>2 m)
<i>Acacia incurvaneura</i>	5	Shrub (1-2 m)
<i>Acacia pteraneura</i>	1	Shrub (1-2 m)
<i>Aristida contorta</i>	30	Tussock grass
<i>Eragrostis eriopoda</i>	5	Tussock grass
<i>Eremophila galeata</i>	5	Shrub (0-1 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1	Shrub (1-2 m)
<i>Eremophila margarethae</i>	1	Shrub (0-1 m)
<i>Eriachne pulchella</i>	5	Tussock grass
<i>Marsdenia australis</i>	0.1	Climber
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Psydrax rigidula</i>	0.1	Shrub (1-2 m)
<i>Psydrax suaveolens</i>	0.1	Shrub (1-2 m)
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	5	Shrub (1-2 m)
<i>Sida ectogama</i>	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)

Site:	044	Phase:	2
Botanist:	Andrew Craigie	Date:	10/13/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0295142 7004810
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	2-5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura</i>	1	Shrub (1-2 m)
<i>Acacia minyura</i>	10	Shrub (1-2 m)
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eucalyptus kingsmillii</i>	10	Mallee (3-10 m)
<i>Leptosema chambersii</i>	1	Shrub (0-1 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Psydrax suaveolens</i>	0.1	Shrub (1-2 m)
<i>Sida ?sp. Golden calyces glabrous (H.N. Foote 32)</i>	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)
<i>Triodia basedowii</i>	40	Hummock grass

Site:	045	Phase:	2
Botanist:	Andrew Craigie	Date:	10/13/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0298945 6999448
Habitat:	Upper salt lake	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		




Taxa	Canopy Cover (%)	Stratum
<i>Dactyloctenium radulans</i>	0.1	Tussock grass
<i>Dissocarpus paradoxus</i>	1	Shrub (0-1 m)
<i>Enneapogon caerulescens</i>	1	Tussock grass
<i>Eragrostis dielsii</i>	1	Tussock grass
<i>Erodium cygnorum</i>	0.1	Herb
<i>Frankenia laxiflora</i>	1	Shrub (0-1 m)
<i>Maireana pyramidata</i>	0.1	Shrub (0-1 m)
<i>Maireana tomentosa</i> subsp. <i>tomentosa</i>	0.1	Shrub (0-1 m)
<i>Melaleuca xerophila</i>	10	Shrub (1-2 m)
<i>Ptilotus aervoides</i>	0.1	Herb
<i>Sclerolaena diacantha</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena obliquicuspis</i>	0.1	Herb
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Tecticornia cymbiformis</i>	30	Shrub (0-1 m)
<i>Tecticornia indica</i> subsp. <i>bidens</i>	1	Shrub (0-1 m)
<i>Tecticornia pterygosperma</i> subsp. <i>denticulata</i>	1	Shrub (0-1 m)
<i>Trianthema triquetrum</i>	0.1	Herb

Site:	046	Phase:	2
Botanist:	Andrew Craigie	Date:	10/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0245324 7014254
Habitat:	Minor Creek (<5m)	Soil:	Orange; Brown; Sand
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		




Taxa	Canopy Cover (%)	Stratum
? <i>Dichanthium</i> sp. (indet.)	0.1	Tussock grass
<i>Abutilon cryptopetalum</i>	0.1	Shrub (1-2 m)
<i>Acacia ?aptaneura</i>	10	Shrub (>2 m)
<i>Acacia craspedocarpa</i> (hybrid)	2	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	2	Shrub (1-2 m)
<i>Alternanthera denticulata</i>	0.1	Herb
<i>Aristida contorta</i>	1	Tussock grass
<i>Centipeda thespidioides</i>	1	Herb
<i>Cymbopogon ambiguus</i>	0.1	Tussock grass
<i>Cyperus ?betchei</i>	5	Sedge
<i>Dactyloctenium radulans</i>	0.1	Tussock grass
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Eragrostis cumingii</i>	1	Tussock grass
<i>Eragrostis kennedyae</i>	0.1	Tussock grass
<i>Eriachne flaccida</i>	5	Tussock grass
<i>Gnephis tenuissima</i>	0.1	Herb
<i>Hakea francisiana</i>	1	Tree (<10 m)
<i>Helichrysum luteoalbum</i>	0.1	Herb
<i>Pterocaulon sphacelatum</i>	0.1	Herb
<i>Salsola australis</i>	0.1	Herb
<i>Santalum spicatum</i>	2	Shrub (>2 m)
<i>Senna ?artemisioides</i> subsp. <i>filifolia</i>	1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	5	Shrub (1-2 m)
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	0.1	Shrub (0-1 m)
<i>Thyridolepis xerophila</i>	0.1	Tussock grass
<i>Tripogon loliiformis</i>	0.1	Tussock grass
<i>Wahlenbergia tumidifructa</i>	0.1	Herb


Site:	047	Phase:	2
Botanist:	Andrew Craigie	Date:	10/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0236927 7025156
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)	Stratum	
<i>?Hibiscus sturtii</i>	0.1	Shrub (0-1 m)	
<i>Acacia ?aptaneura</i>	10	Shrub (>2 m)	
<i>Acacia ?ramulosa</i> var. <i>linophylla</i>	1	Shrub (1-2 m)	
<i>Acacia tetragonophylla</i>	1	Shrub (1-2 m)	
<i>Aristida contorta</i>	0.1	Tussock grass	
<i>Digitaria brownii</i>	0.1	Tussock grass	
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	0.1	Shrub (0-1 m)	
<i>Eragrostis eriopoda</i>	5	Tussock grass	
<i>Eremophila forrestii</i>	2	Shrub (1-2 m)	
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	1	Shrub (0-1 m)	
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1	Shrub (1-2 m)	
<i>Grevillea sarissa</i>	1	Shrub (1-2 m)	
<i>Maireana ?thesioides</i>	0.1	Shrub (0-1 m)	
<i>Maireana villosa</i>	0.1	Shrub (0-1 m)	
<i>Monachather paradoxus</i>	0.1	Tussock grass	
<i>Psydrax rigidula</i>	0.1	Shrub (1-2 m)	
<i>Psydrax suaveolens</i>	0.1	Shrub (1-2 m)	
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)	
<i>Rhagodia drummondii</i>	0.1	Shrub (1-2 m)	
<i>Rhyncharrhena linearis</i>	0.1	Climber	
<i>Scaevola spinescens</i>	0.1	Shrub (1-2 m)	
<i>Sclerolaena densiflora</i>	1	Shrub (0-1 m)	
<i>Sclerolaena deserticola</i>	0.1	Shrub (0-1 m)	
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)	
<i>Tribulus ?astrocarpus</i>	0.1	Herb	
<i>Triodia basedowii</i>	1	Hummock grass	

Site:	048	Phase:	2
Botanist:	Jordan Vos	Date:	10/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0237781 7023217
Habitat:	Plain	Soil:	Orange; BrownClay-Loam
Surface layer:	Rocky	Rocks:	Ironstone; Quartz, Stones, Common (10-30%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Mining Activities; Faeces; Veg. Clearing		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?macraneura</i>	10	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	5	Shrub (>2 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	0.1	Tussock grass
<i>Hibiscus burtonii</i>	0.1	Shrub (0-1 m)
<i>Maireana triptera</i>	0.1	Shrub (0-1 m)
<i>Maireana villosa</i>	0.1	Shrub (1-2 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Ptilotus ?schwartzii</i>	0.1	Shrub (0-1 m)
<i>Ptilotus helipteroides</i>	0.1	Shrub (0-1 m)
<i>Ptilotus nobilis</i> subsp. <i>nobilis</i>	0.1	Shrub (0-1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena cuneata</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena densiflora</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena diacantha</i>	0.1	Shrub (0-1 m)
<i>Sclerolaena microcarpa</i>	1	Shrub (0-1 m)
<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)

Site:	049	Phase:	2
Botanist:	Andrew Craigie	Date:	10/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0239097 7020639
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)		Stratum
<i>Acacia ?aptaneura</i>	5		Shrub (>2 m)
<i>Acacia ?ramulosa</i> var. <i>linophylla</i>	1		Shrub (>2 m)
<i>Acacia pteraneura</i>	15		Shrub (>2 m)
<i>Aristida contorta</i>	15		Tussock grass
<i>Eragrostis eriopoda</i>	1		Tussock grass
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	1		Shrub (>2 m)
<i>Eremophila spectabilis</i> subsp. <i>brevis</i>	2		Shrub (0-1 m)
<i>Eriachne helmsii</i>	1		Tussock grass
<i>Hibiscus burtonii</i>	0.1		Shrub (0-1 m)
<i>Monachather paradoxus</i>	5		Tussock grass
<i>Psyrax rigidula</i>	0.1		Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	0.1		Shrub (0-1 m)
<i>Thyridolepis xerophila</i>	0.1		Tussock grass
<i>Tribulus astrocarpus</i>	0.1		Herb

Site:	050	Phase:	2
Botanist:	Andrew Craigie	Date:	10/11/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0276171 7010128
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		
			
Taxa	Canopy Cover (%)		Stratum
<i>Acacia ?aptaneura</i>	15		Shrub (>2 m)
<i>Acacia ?macraneura</i>	1		Shrub (1-2 m)
<i>Acacia ?ramulosa</i> var. <i>linophylla</i>	15		Shrub (>2 m)
<i>Acacia caesaneura</i>	5		Shrub (>2 m)
<i>Acacia caesaneura</i> (narrow phyllode variant)	5		Shrub (>2 m)
<i>Eragrostis eriopoda</i>	1		Tussock grass
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	2		Shrub (1-2 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	1		Shrub (>2 m)
<i>Monachather paradoxus</i>	1		Tussock grass
<i>Solanum lasiophyllum</i>	0.1		Shrub (0-1 m)
<i>Triodia basedowii</i>	20		Hummock grass

Site:	051	Phase:	2
Botanist:	Jordan Vos	Date:	10/11/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0276686 7010139
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years

Vegetation condition and disturbance: Very Good (slight disturbance): Animal tracks



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	5	Shrub (>2 m)
<i>Acacia ?ramulosa</i> var. <i>linophylla</i>	5	Shrub (>2 m)
<i>Acacia caesaneura</i>	0.1	Shrub (1-2 m)
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	0.1	Shrub (0-1 m)
<i>Maireana ?villosa</i>	1	Shrub (0-1 m)
<i>Melaleuca interioris</i>	1	Shrub (1-2 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Triodia basedowii</i>	15	Tussock grass

Site:	052	Phase:	2
Botanist:	Jordan Vos	Date:	10/11/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0278196 7010201
Habitat:	Plain	Soil:	Orange; Brown; Sand
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>?Enchylaena tomentosa</i>	0.1	Shrub (0-1 m)
<i>Acacia caesaneura</i>	5	Shrub (>2 m)
<i>Acacia colletioides</i>	0.1	Shrub (1-2 m)
<i>Acacia pteraneura</i>	1	Shrub (>2 m)
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila glabra</i> subsp. <i>glabra</i>	1	Shrub (0-1 m)
<i>Marsdenia australis</i>	0.1	Climber
<i>Melaleuca interioris</i>	30	Shrub (>2 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)
<i>Scaevola spinescens</i>	0.1	Shrub (1-2 m)
<i>Triodia basedowii</i>	1	Tussock grass

Site:	053	Phase:	2
Botanist:	Andrew Craigie	Date:	10/11/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0277695 7010245
Habitat:	Plain	Soil:	Orange; Brown; Sand
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Atriplex codonocarpa</i>	0.1	Herb
<i>Boerhavia</i> sp.	0.1	Herb
<i>Calandrinia</i> sp. 4 (indet.)	0.1	Herb
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	1	Shrub (0-1 m)
<i>Enteropogon ramosus</i>	0.1	Tussock grass
<i>Eragrostis dielsii</i>	2	Tussock grass
<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	5	Shrub (0-1 m)
<i>Maireana amoena</i>	5	Shrub (0-1 m)
<i>Melaleuca interioris</i>	5	Shrub (>2 m)
<i>Melaleuca xerophila</i>	20	Shrub (>2 m)
<i>Paspalidium</i> sp. 1 (indet.)	0.1	Tussock grass
<i>Rhagodia drummondii</i>	0.1	Shrub (0-1 m)
<i>Salsola australis</i>	0.1	Herb
<i>Sclerolaena cuneata</i>	5	Shrub (0-1 m)
<i>Sclerolaena densiflora</i>	1	Herb
<i>Sclerolaena deserticola</i>	1	Shrub (0-1 m)
<i>Sclerolaena diacantha</i>	5	Shrub (0-1 m)

Site:	054	Phase:	2
Botanist:	Jordan Vos	Date:	10/12/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0285525 7010572
Habitat:	Plain	Soil:	Orange; BrownClay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years

Vegetation condition and disturbance: Very Good (slight disturbance): Animal tracks; Faeces




Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura</i>	20	Shrub (>2 m)
<i>Acacia craspedocarpa</i>	0.1	Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	5	Shrub (>2 m)
<i>Aristida contorta</i>	1	Tussock grass
<i>Bidens bipinnata</i>	0.1	Herb
<i>Calandrinia</i> sp. 1 (indet.)	0.1	Herb
<i>Calandrinia</i> sp. 2 (indet.)	0.1	Herb
<i>Digitaria brownii</i>	5	Tussock grass
<i>Eragrostis pergracilis</i>	20	Tussock grass
<i>Eremophila galeata</i>	0.1	Shrub (1-2 m)
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	1	Shrub (0-1 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1	Shrub (0-1 m)
<i>Eremophila margarethae</i>	0.1	Shrub (0-1 m)
<i>Eriachne helmsii</i>	0.1	Tussock grass
<i>Goodenia</i> sp. 1 (indet.)	1	Herb
<i>Psydrax suaveolens</i>	0.1	Shrub (1-2 m)
<i>Ptilotus ?gaudichaudii</i>	1	Herb
<i>Santalum ?spicatum</i>	0.1	Shrub (1-2 m)
<i>Sida</i> ?sp. verrucose glands (F.H. Mollemans 2423)	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Spartothamnella teucriflora</i>	1	Shrub (0-1 m)


Site:	055	Phase:	2
Botanist:	Andrew Craigie	Date:	10/13/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0298865 6999742
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence


Vegetation condition and disturbance: Excellent (no obvious disturbance)



Taxa	Canopy Cover (%)	Stratum
<i>?Enchylaena tomentosa</i>	0.1	Shrub (0-1 m)
<i>Abutilon otocarpum</i>	0.1	Herb
<i>Acacia ?aptaneura</i>	2	Shrub (>2 m)
<i>Acacia ayersiana</i>	0.1	Shrub (0-1 m)
<i>Acacia pteraneura</i>	2	Shrub (>2 m)
<i>Acacia pteraneura</i>	1	Shrub (0-1 m)
<i>Acacia tetragonophylla</i>	1	Shrub (>2 m)
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	5	Tussock grass
<i>Eremophila forrestii</i> subsp. <i>hastieana</i>	1	Shrub (0-1 m)
<i>Eremophila margarethae</i>	5	Shrub (0-1 m)
<i>Eriachne helmsii</i>	0.1	Tussock grass
<i>Hibiscus burtonii</i>	0.1	Shrub (0-1 m)
<i>Melaleuca interioris</i>	5	Shrub (1-2 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)
<i>Santalum spicatum</i>	0.1	Shrub (>2 m)
<i>Sida</i> ?sp. Golden calyces glabrous (H.N. Foote 32)	0.1	Shrub (0-1 m)
<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	0.1	Shrub (0-1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)
<i>Tribulus astrocarpus</i>	0.1	Herb

Site:	056	Phase:	2
Botanist:	Andrew Craigie	Date:	10/14/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0300030 6997905
Habitat:	Lower saline depression	Soil:	Brown; White, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Atriplex codonocarpa</i>	0.1	Herb	
<i>Eragrostis ?pergracilis</i>	0.1	Tussock grass	
<i>Eragrostis dielsii</i>	1	Tussock grass	
<i>Maireana amoena</i>	1	Shrub (0-1 m)	
<i>Ptilotus obovatus</i>	0.1	Shrub (0-1 m)	
<i>Sclerolaena cuneata</i>	5	Herb	
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)	
<i>Tecticornia indica</i>	50	Shrub (0-1 m)	
<i>Tecticornia indica</i> subsp. <i>leiostachya</i>	10	Shrub (0-1 m)	
<i>Trianthema triquetrum</i>	0.1	Herb	
<i>Tribulus terrestris</i>	0.1	Herb	


Site:	057	Phase:	2
Botanist:	Andrew Craigie	Date:	10/14/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0299468 6999043
Habitat:	Lower saline depression	Soil:	Brown; White, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Dysphania plantaginella</i>	0.1	Herb	
<i>Eragrostis dielsii</i>	1	Tussock grass	
<i>Eragrostis pergracilis</i>	1	Tussock grass	
<i>Frankenia cinerea sens. lat.</i>	1	Shrub (0-1 m)	
<i>Maireana luehmannii</i>	0.1	Shrub (0-1 m)	
<i>Tecticornia peltata</i>	25	Shrub (0-1 m)	
<i>Tecticornia sp. aff. undulata (broad articles)</i>	1	Shrub (0-1 m)	


Site:	058	Phase:	2
Botanist:	Jordan Vos	Date:	10/14/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0301046 6996695
Habitat:	Plain	Soil:	OrangeClay
Surface layer:	Crust	Rocks:	Calcrete, Stones, Few (<10%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Acacia ?aneura</i>	1	Shrub (1-2 m)	
<i>Acacia pteraneura</i>	0.1	Shrub (1-2 m)	
<i>Acacia tetragonophylla</i>	5	Shrub (>2 m)	
<i>Eragrostis ?pergracilis</i>	10	Tussock grass	
<i>Eremophila forrestii</i>	1	Shrub (1-2 m)	
<i>Eremophila longifolia</i>	0.1	Shrub (0-1 m)	
<i>Exocarpos aphyllus</i>	1	Shrub (>2 m)	
<i>Maireana ?villosa</i>	0.1	Shrub (0-1 m)	
<i>Marsdenia australis</i>	0.1	Climber	
<i>Ptilotus aevoides</i>	1	Herb	
<i>Ptilotus obovatus</i>	1	Shrub (0-1 m)	
<i>Rhagodia drummondii</i>	1	Shrub (1-2 m)	
<i>Sclerolaena densiflora</i>	1	Shrub (0-1 m)	
<i>Sclerolaena diacantha</i>	0.1	Shrub (0-1 m)	
<i>Sida</i> sp. verrucose glands (F.H. Mollemans 2423)	1	Shrub (0-1 m)	
<i>Solanum lasiophyllum</i>	1	Shrub (0-1 m)	
<i>Solanum nummularium</i>	0.1	Shrub (0-1 m)	

Site:	059	Phase:	2
Botanist:	Jordan Vos	Date:	10/9/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0239810 7020257
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Crust	Rocks:	Ironstone; Quartz, Stones, Few (<10%)
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Litter; Faeces		



Taxa	Canopy Cover (%)	Stratum
? <i>Enchylaena tomentosa</i>	0.1	Shrub (0-1 m)
<i>Acacia ?aneura</i>	5	Shrub (1-2 m)
<i>Acacia ?aptaneura</i>	1	Shrub (>2 m)
<i>Acacia caesaneura x incurvaneura</i>	10	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	1	Shrub (>2 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	1	Shrub (1-2 m)
<i>Eremophila spectabilis</i> subsp. <i>brevis</i>	0.1	Shrub (0-1 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Psyrax suaveolens</i>	0.1	Shrub (>2 m)
<i>Ptilotus ?schwartzii</i>	0.1	Shrub (0-1 m)
<i>Sida ?sp.</i> dark green fruits (S. van Leeuwen 2260)	0.1	Shrub (0-1 m)

Site:	060	Phase:	2
Botanist:	Andrew Craigie	Date:	10/12/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0290538 7010489
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Poor (moderate grazing, weeds): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)		Stratum
<i>Acacia ?aneura</i>	20		Shrub (>2 m)
<i>Acacia minyura</i>	2		Shrub (>2 m)
<i>Acacia pteraneura</i>	5		Shrub (1-2 m)
<i>Aristida contorta</i>	1		Tussock grass
<i>Eragrostis eriopoda</i>	1		Tussock grass
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	1		Shrub (0-1 m)
<i>Eremophila spectabilis</i> subsp. <i>brevis</i>	5		Shrub (0-1 m)
<i>Eriachne helmsii</i>	1		Tussock grass
<i>Monachather paradoxus</i>	1		Tussock grass
<i>Psyrax rigidula</i>	1		Shrub (1-2 m)
<i>Triodia basedowii</i>	1		Hummock grass

Site:	061	Phase:	2
Botanist:	Jordan Vos	Date:	10/13/2014
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0300306 6997525
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Faeces		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Acacia ?ramulosa</i> var. <i>linophylla</i>	0.1	Shrub (1-2 m)	
<i>Acacia caesaneura</i> (narrow phyllode variant)	0.1	Shrub (>2 m)	
<i>Cratystylis subspinescens</i>	5	Shrub (1-2 m)	
<i>Eragrostis eriopoda</i>	0.1	Tussock grass	
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	0.1	Shrub (0-1 m)	
<i>Eremophila malacoides</i>	1	Shrub (0-1 m)	
<i>Eremophila pantonii</i>	1	Shrub (1-2 m)	
<i>Eriachne pulchella</i> subsp. <i>pulchella</i>	1	Tussock grass	
<i>Frankenia setosa</i>	5	Shrub (0-1 m)	
<i>Maireana ?villosa</i>	0.1	Shrub (0-1 m)	
<i>Maireana villosa</i>	1	Shrub (0-1 m)	
<i>Melaleuca interioris</i>	5	Shrub (>2 m)	
<i>Ptilotus obovatus</i>	1	Shrub (0-1 m)	
<i>Scaevola spinescens</i>	1	Shrub (1-2 m)	
<i>Scaevola spinescens</i>	0.1	Shrub (0-1 m)	
<i>Sclerolaena ?diacantha</i>	1	Shrub (0-1 m)	
<i>Sclerolaena densiflora</i>	1	Shrub (0-1 m)	
<i>Solanum lasiophyllum</i>	0.1	Shrub (0-1 m)	
<i>Trianthema triquetrum</i>	0.1	Herb	
<i>Triodia basedowii</i>	1	Hummock grass	

Site:	101	Phase:	4
Botanist:	Melissa Hay	Date:	23/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0247032 7011756
Habitat:	Plain	Soil:	Dark Red; Sandy-Clay;
Surface layer:	Rocky;	Rocks:	Ironstone; Gravel/Pebble; Stones; Continuous (>70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing;		



Taxa	Canopy Cover (%)	Stratum
<i>Abutilon fraseri</i>	0.1	Shrub (<1 m)
<i>Acacia ?aneura</i>	20	Tree (<10 m)
<i>Acacia aptaneura (short/broad phyllode variant)</i>	2	Shrub (>2 m)
<i>Acacia minyura</i>	0.1	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	3	Tree (<10 m)
<i>Eremophila latrobei subsp. latrobei</i>	0.1	Shrub (<1 m)
<i>Eremophila spectabilis subsp. brevis</i>	15	Shrub (1-2 m); Shrub (<1 m)
<i>Maireana villosa</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	10	Tussock grass
<i>Psydrax suaveolens</i>	0.1	Shrub (1-2 m)
<i>Ptilotus schwartzii</i>	0.1	Shrub (<1 m)
<i>Sida sp. Excedentifolia (J.L. Egan 1925)</i>	1	Shrub (<1 m)
<i>Solanum cleistogamum</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)

Site:	102	Phase:	4
Botanist:	Melissa Hay	Date:	23/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0248123 7011272
Habitat:	Undulating Plain	Soil:	Dark Red; Sandy-Clay;
Surface layer:	Rocky;	Rocks:	Ironstone; Gravel/Pebble; Stones; Continuous (>70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing;		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	15	Tree (<10 m)
<i>Acacia minyura</i>	0.1	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	3	Tree (<10 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Boerhavia sp.</i>	0.1	Herb
<i>Eragrostis falcata</i>	0.1	Tussock grass
<i>Maireana sp.</i>	0.1	Shrub (<1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
<i>Ptilotus roei</i>	0.1	Herb
<i>Ptilotus schwartzii</i>	0.1	Shrub (<1 m)
<i>Santalum lanceolatum</i>	0.1	Shrub (<1 m)
<i>Scaevola spinescens</i>	0.1	Shrub (1-2 m)
<i>Senna glaucifolia</i>	0.1	Shrub (1-2 m)
<i>Sida ectogama</i>	1	Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)

Site:	104	Phase:	4
Botanist:	Melissa Hay	Date:	23/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0249128 7011261
Habitat:	Hillslope - Ridgetop	Soil:	Dark Red; Sandy-Clay;
Surface layer:	Rocky;	Rocks:	Ironstone; Gravel/Pebble; Stones; Continuous (>70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance);		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura x incurvaneura</i>	2	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (<1 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Eremophila compacta subsp. compacta</i>	0.1	Shrub (<1 m)
<i>Eremophila oppositifolia subsp. angustifolia</i>	0.1	Shrub (>2 m)
<i>Eremophila pantonii</i>	5	Shrub (>2 m); Shrub (1-2 m)
<i>Hakea leucoptera subsp. sericipes</i>	2	Shrub (>2 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
<i>Ptilotus roei</i>	0.1	Herb
<i>Scaevola spinescens</i>	0.1	Shrub (1-2 m)
<i>Sclerolaena ?diacantha</i>	0.1	Shrub (<1 m)
<i>Senna artemisioides subsp. helmsii</i>	0.1	Shrub (<1 m)
<i>Senna sp. Meekatharra (E. Bailey 1-26)</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Acacia ?aneura x incurvaneura</i>	2	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (<1 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Eremophila compacta subsp. compacta</i>	0.1	Shrub (<1 m)
<i>Eremophila oppositifolia subsp. angustifolia</i>	0.1	Shrub (>2 m)
<i>Eremophila pantonii</i>	5	Shrub (>2 m); Shrub (1-2 m)
<i>Hakea leucoptera subsp. sericipes</i>	2	Shrub (>2 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
<i>Ptilotus roei</i>	0.1	Herb
<i>Scaevola spinescens</i>	0.1	Shrub (1-2 m)
<i>Sclerolaena ?diacantha</i>	0.1	Shrub (<1 m)
<i>Senna artemisioides subsp. helmsii</i>	0.1	Shrub (<1 m)
<i>Senna sp. Meekatharra (E. Bailey 1-26)</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)

Site:	105	Phase:	4
Botanist:	Melissa Hay	Date:	23/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0248706 7011333
Habitat:	Hillslope - Ridgetop	Soil:	Dark Red; Sandy-Clay;
Surface layer:	Rocky;	Rocks:	Ironstone; Gravel/Pebble; Stones; Continuous (>70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance);		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?macraneura</i>	20	Tree (<10 m)
<i>Acacia minyura</i>	0.1	Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)
<i>Aristida contorta</i>	2	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eragrostis lanipes</i>	0.1	Tussock grass
<i>Eremophila enata</i>	0.1	Shrub (1-2 m)
<i>Eremophila forrestii</i>	0.1	Shrub (1-2 m)
<i>Eremophila galeata</i>	0.1	Shrub (1-2 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1	Shrub (<1 m)
<i>Goodenia ?microptera</i>	0.1	Herb
<i>Hibiscus leptocladus</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Psyrax rigidula</i>	0.1	Shrub (<1 m)
<i>Ptilotus schwartzii</i>	1	Shrub (<1 m)
<i>Scaevola spinescens</i>	0.1	Shrub (1-2 m)
<i>Senna glaucifolia</i>	0.1	Shrub (<1 m)
<i>Senna</i> sp. <i>Meekatharra</i> (E. Bailey 1-26)	0.1	Shrub (1-2 m)
<i>Sida ectogama</i>	0.1	Shrub (1-2 m)
<i>Sida</i> sp. <i>Excedentifolia</i> (J.L. Egan 1925)	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)

Site:	106	Phase:	4
Botanist:	Melissa Hay	Date:	23/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0250006 7011194
Habitat:	Plain	Soil:	Dark Red; Sandy-Clay;
Surface layer:	Crust; Rocky;	Rocks:	Ironstone; Quartz; Gravel/Pebble; Stones; Continuous (>70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing;		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	4	Shrub (>2 m)
<i>Acacia ?aptaneura (short/broad phyllode variant)</i>	0.1	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	2	Tree (<10 m)
<i>Aristida contorta</i>	5	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila galeata</i>	0.1	Shrub (1-2 m)
<i>Eremophila latrobei subsp. latrobei</i>	0.1	Shrub (<1 m)
<i>Hibiscus burtonii</i>	0.1	Shrub (<1 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Maireana villosa</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	10	Tussock grass
<i>Psyrax latifolia</i>	0.1	Shrub (<1 m)
<i>Ptilotus roei</i>	0.1	Herb
<i>Ptilotus schwartzii</i>	2	Shrub (<1 m)
<i>Rhyncharhena linearis</i>	0.1	Climber
<i>Senna artemisioides subsp. sturtii</i>	0.1	Shrub (1-2 m)
<i>Senna glaucifolia</i>	1	Shrub (1-2 m)
<i>Sida ?sp. Golden calyces glabrous (H.N. Foote 32)</i>	0.1	Shrub (<1 m)
<i>Solanum cleistogamum</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)

Site:	107	Phase:	4
Botanist:	Melissa Hay	Date:	23/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0250862 7011339
Habitat:	Hillslope - Midslope	Soil:	Dark Red; Sandy-Clay;
Surface layer:	Rocky;	Rocks:	Ironstone; Quartz; Gravel/Pebble; Stones; Continuous (>70%)
Slope:	Gentle;	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing;		



Taxa	Canopy Cover (%)	Stratum
<i>Abutilon fraseri</i>	0.1	Shrub (<1 m)
<i>Acacia ?aneura</i>	0.1	Shrub (1-2 m)
<i>Acacia burkittii</i>	8	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (<1 m)
<i>Aristida contorta</i>	15	Tussock grass
<i>Duperreya commixta</i>	0.1	Shrub (<1 m)
<i>Eremophila compacta subsp. compacta</i>	0.1	Shrub (<1 m)
<i>Eremophila galeata</i>	0.1	Shrub (<1 m)
<i>Hakea lorea subsp. lorea</i>	1	Tree (<10 m)
<i>Indigofera monophylla</i>	1	Shrub (<1 m)
<i>Marsdenia sp.</i>	0.1	Climber
<i>Senna artemisioides subsp. helmsii</i>	2	Shrub (1-2 m)
<i>Senna artemisioides subsp. x artemisioides</i>	1	Shrub (1-2 m)
<i>Senna sp. Meekatharra (E. Bailey 1-26)</i>	0.1	Shrub (<1 m)
<i>Sida ectogama</i>	0.1	Shrub (<1 m)
<i>Solanum cleistogamum</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)

Site:	108	Phase:	4
Botanist:	Melissa Hay	Date:	23/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0251917 7011315
Habitat:	Drainage Line	Soil:	Red; Orange; Sand; Sandy-Clay;
Surface layer:	Loose; Crust; Rocky;	Rocks:	Ironstone; Quartz; Granite; Gravel/Pebble; Stones; Common (10-30%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing;		




Taxa	Canopy Cover (%)	Stratum
<i>Abutilon otocarpum</i>	0.1	Shrub (<1 m)
<i>Acacia ?aneura</i>	15	Tree (<10 m)
<i>Acacia craspedocarpa</i>	1	Shrub (>2 m)
<i>Acacia burkittii</i>	5	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (>2 m)
<i>Aristida contorta</i>	10	Tussock grass
<i>Bidens bipinnata</i>	0.1	Herb
<i>Boerhavia sp.</i>	0.1	Herb
<i>Cheilanthes sieberi subsp. sieberi</i>	0.1	Herb
<i>Cyperus betchei subsp. commiscens</i>	0.1	Sedge
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Duperreya sericea</i>	0.1	Climber
<i>Enteropogon ramosus</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eragrostis kennedyae</i>	0.1	Tussock grass
<i>Eremophila clarkei</i>	0.1	Shrub (<1 m)
<i>Eremophila compacta subsp. compacta</i>	0.1	Shrub (<1 m)
<i>Eremophila galeata</i>	0.1	Shrub (1-2 m)
<i>Fimbristylis dichotoma</i>	1	Sedge
<i>Glycine canescens</i>	1	Herb
<i>Goodenia microptera</i>	0.1	Herb
<i>Hibiscus burtonii</i>	0.1	Tussock grass
<i>Indigofera monophylla</i>	0.1	Shrub (<1 m)
<i>Paspalidium gracile</i>	0.1	Tussock grass
<i>Pluchea dentex</i>	0.1	Shrub (<1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
<i>Rhyncharrhena linearis</i>	0.1	Shrub (1-2 m)
<i>Sclerolaena ?diacantha</i>	0.1	Shrub (<1 m)
<i>Senna artemisioides subsp. helmsii</i>	0.1	Shrub (1-2 m)
<i>Senna artemisioides subsp. sturtii</i>	1	Shrub (1-2 m)
<i>Senna artemisioides subsp. x artemisioides</i>	8	Shrub (<1 m)
<i>Senna glaucifolia</i>	2	Shrub (1-2 m)
<i>Setaria dielsii</i>	0.1	Tussock grass
<i>Sida ?sp. verrucose glands (F.H. Mollemans 2423)</i>	0.1	Shrub (<1 m)
<i>Sida ectogama</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Themeda triandra</i>	0.1	Tussock grass

Site:	109	Phase:	4
Botanist:	Melissa Hay	Date:	23/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0251577 7011118
Habitat:	Drainage Line	Soil:	Red; Orange; Sand; Sandy-Clay; Clay;
Surface layer:	Loose; Crust; Rocky;	Rocks:	Ironstone; Quartz; Granite; Gravel/Pebble; Stones; Many (30-70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Grazing;		



Taxa	Canopy Cover (%)	Stratum
<i>Abutilon otocarpum</i>	0.1	Shrub (<1 m)
<i>Abutilon sp.</i>	0.1	Shrub (<1 m)
<i>Acacia ?aneura</i>	2	Shrub (>2 m)
<i>Acacia ?aptaneura</i>	12	Tree (<10 m)
<i>Acacia craspedocarpa</i>	0.1	Shrub (<1 m)
<i>Acacia burkittii</i>	0.1	Shrub (<1 m)
<i>Acacia tetragonophylla</i>	2	Shrub (>2 m)
<i>Amphipogon caricinus var. caricinus</i>	0.1	Tussock grass
<i>Aristida contorta</i>	15	Tussock grass
<i>Bidens bipinnata</i>	0.1	Herb
<i>Boerhavia sp.</i>	0.1	Herb
<i>Bulbostylis barbata</i>	0.1	Sedge
<i>Cheilanthes sieberi subsp. sieberi</i>	0.1	Herb
<i>Cucumis sp.</i>	0.1	Herb
<i>Cyperus betchei subsp. commiscens</i>	1	Sedge
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Eremophila ?clarkei</i>	0.1	Shrub (<1 m)
<i>Eremophila compacta subsp. compacta</i>	0.1	Shrub (<1 m)
<i>Eremophila galeata</i>	1	Shrub (1-2 m)
<i>Glycine canescens</i>	3	Herb
<i>Goodenia microptera</i>	0.1	Herb
<i>Halgania cyanea</i>	0.1	Herb
<i>Indigofera monophylla</i>	0.1	Shrub (<1 m)
<i>Paspalidium gracile</i>	0.1	Tussock grass
<i>Pluchea dentex</i>	0.1	Shrub (<1 m)
<i>Portulaca oleracea</i>	0.1	Herb
<i>Psydrax rigidula</i>	0.1	Shrub (>2 m)
<i>Santalum sp.</i>	0.1	Shrub (<1 m)
<i>Sclerolaena ?diacantha</i>	0.1	Shrub (<1 m)
<i>Sclerolaena cornishiana</i>	0.1	Shrub (<1 m)
<i>Senna artemisioides subsp. x artemisioides</i>	10	Shrub (1-2 m)
<i>Senna glaucifolia</i>	0.1	Shrub (1-2 m)
<i>Setaria dielsii</i>	0.1	Tussock grass
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Synaptantha tillaeacea</i>	0.1	Herb
<i>Themeda triandra</i>	1	Tussock grass
<i>Thyridolepis multiculmis</i>	0.1	Tussock grass

Site:	110	Phase:	4
Botanist:	Melissa Hay	Date:	23/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0252158 7011336
Habitat:	Plain	Soil:	Red; Orange; Sandy-Clay;
Surface layer:	Rocky;	Rocks:	Ironstone; Quartz; Gravel/Pebble; Stones; Continuous (>70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing;		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Acacia ?aneura</i>	0.1	Shrub (1-2 m)	
<i>Aristida contorta</i>	15	Tussock grass	
<i>Eragrostis eriopoda</i>	0.1	Tussock grass	
<i>Eremophila compacta subsp. compacta</i>	0.1	Shrub (<1 m)	
<i>Eremophila galeata</i>	1	Shrub (1-2 m)	
<i>Maireana sp.</i>	0.1	Shrub (<1 m)	
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)	
<i>Monachather paradoxus</i>	0.1	Tussock grass	
<i>Ptilotus roei</i>	0.1	Herb	
<i>Senna artemisioides subsp. helmsii</i>	0.1	Shrub (<1 m)	
<i>Senna sp. Meekatharra (E. Bailey 1-26)</i>	0.1	Shrub (<1 m)	
<i>Sida sp.</i>	0.1	Shrub (<1 m)	
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)	

Site:	111	Phase:	4
Botanist:	Melissa Hay	Date:	24/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0253153 7011297
Habitat:	Plain	Soil:	Red; Orange; Sandy-Clay;
Surface layer:	Crust; Rocky;	Rocks:	Quartz; Gravel/Pebble; Stones; Continuous (>70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing;		





Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	1	Shrub (>2 m); Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (<1 m)
<i>Aristida contorta</i>	4	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila galeata</i>	2	Shrub (1-2 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	0.1	Shrub (<1 m)
<i>Eremophila spectabilis</i> subsp. <i>brevis</i>	1	Shrub (<1 m)
<i>Eriachne mucronata</i>	0.1	Tussock grass
<i>Goodenia microptera</i>	0.1	Herb
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Paraneurachne muelleri</i>	0.1	Tussock grass
<i>Psyrax latifolia</i>	0.1	Shrub (1-2 m)
<i>Psyrax rigidula</i>	0.1	Shrub (<1 m)
<i>Ptilotus roei</i>	0.1	Herb
<i>Ptilotus schwartzii</i>	0.1	Shrub (<1 m)
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1	Shrub (1-2 m)
<i>Sida ectogama</i>	0.1	Shrub (<1 m)
<i>Sida fibulifera</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	3	Shrub (<1 m)
<i>Tribulus hirsutus</i>	0.1	Herb

Site:	112	Phase:	4
Botanist:	Melissa Hay	Date:	24/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0256192 7011284
Habitat:	Plain	Soil:	Orange; Sandy-Clay;
Surface layer:	Loose; Crust;	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing;		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	15	Tree (<10 m)
<i>Acacia craspedocarpa</i>	0.1	Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (<1 m)
<i>Eragrostis eriopoda</i>	5	Tussock grass
<i>Eremophila galeata</i>	0.1	Shrub (1-2 m)
<i>Eremophila spectabilis subsp. brevis</i>	5	Shrub (<1 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Marsdenia australis</i>	0.1	Climber
<i>Monachather paradoxus</i>	10	Tussock grass
<i>Psyrax rigidula</i>	0.1	Shrub (<1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
<i>Sida ectogama</i>	0.1	Shrub (<1 m)
<i>Sida ectogama</i>	0.1	Shrub (<1 m)
<i>Solanum cleistogamum</i>	0.1	Shrub (<1 m)
<i>Solanum coactiliferum</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)


Site:	113	Phase:	4
Botanist:	Melissa Hay	Date:	24/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0254763 7011169
Habitat:	Plain	Soil:	Orange; Sandy-Clay;
Surface layer:	Loose; Crust;	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing;		
			
Taxa	Canopy Cover (%)		Stratum
<i>Acacia ?aneura</i>	15		Tree (<10 m)
<i>Acacia minyura</i>	1		Tree (<10 m)
<i>Eragrostis eriopoda</i>	5		Tussock grass
<i>Eremophila spectabilis subsp. brevis</i>	10		Shrub (<1 m)
<i>Maireana villosa</i>	0.1		Shrub (<1 m)
<i>Monachather paradoxus</i>	20		Tussock grass
<i>Psydrax rigidula</i>	0.1		Shrub (>2 m)
<i>Solanum lasiophyllum</i>	0.1		Shrub (<1 m)

Site:	114	Phase:	4
Botanist:	Melissa Hay	Date:	26/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0261744 7011205
Habitat:	Plain	Soil:	Orange; Sand; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance);		
			
Taxa	Canopy Cover (%)		Stratum
<i>Acacia ?aneura</i>	10		Tree (<10 m)
<i>Acacia ?caesaneura</i>	1		Tree (<10 m)
<i>Acacia caesaneura</i>	10		Tree (<10 m)
<i>Acacia pruinocarpa</i>	0.1		Shrub (>2 m)
<i>Eragrostis eriopoda</i>	0.1		Tussock grass
<i>Eremophila forrestii</i>	1		Shrub (1-2 m)
<i>Eucalyptus lucasii</i>	5		Mallee (3-10 m)
<i>Monachather paradoxus</i>	0.1		Tussock grass
<i>Psyrax rigidula</i>	0.1		Shrub (1-2 m)
<i>Psyrax suaveolens</i>	0.1		Shrub (1-2 m)
<i>Ptilotus obovatus</i>	0.1		Shrub (<1 m)
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	0.1		Shrub (<1 m)
<i>Sida calyxhymenia</i>	0.1		Shrub (<1 m)
<i>Sida sp. verrucose glands (F.H. Mollemans 2423)</i>	0.1		Shrub (<1 m)
<i>Solanum coactiliferum</i>	0.1		Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1		Shrub (<1 m)
<i>Thyridolepis mitchelliana</i>	0.1		Tussock grass
<i>Triodia basedowii</i>	30		Hummock grass

Site:	115	Phase:	4
Botanist:	Melissa Hay	Date:	24/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0270709 7009260
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance);		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	20	Tree (<10 m)
<i>Acacia ?aptaneura (short/broad phyllode variant)</i>	10	Tree (<10 m)
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila forrestii</i>	20	Shrub (<1 m)
<i>Eremophila glabra subsp. glabra</i>	0.1	Shrub (1-2 m)
<i>Eremophila latrobei subsp. latrobei</i>	0.1	Shrub (<1 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Sida fibulifera</i>	0.1	Shrub (<1 m)
<i>Sida sp. Excedentifolia (J.L. Egan 1925)</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Triodia basedowii</i>	10	Hummock grass

Site:	116	Phase:	4
Botanist:	Melissa Hay	Date:	24/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0274197 7008567
Habitat:	Plain	Soil:	Orange; Sand; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance);		
			
Taxa	Canopy Cover (%)		Stratum
<i>Abutilon ?cryptopetalum</i>	0.1		Shrub (<1 m)
<i>Acacia ?aneura</i>	5		Tree (<10 m)
<i>Acacia ?caesaneura</i>	15		Tree (<10 m)
<i>Acacia tetragonophylla</i>	0.1		Shrub (>2 m)
<i>Aristida contorta</i>	0.1		Tussock grass
<i>Eragrostis eriopoda</i>	0.1		Tussock grass
<i>Eremophila forrestii</i>	0.1		Shrub (1-2 m)
<i>Eremophila gilesii</i>	0.1		Shrub (<1 m)
<i>Eucalyptus kingsmillii</i>	6		Mallee (3-10 m)
<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	0.1		Shrub (<1 m)
<i>Maireana thesioides</i>	0.1		Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1		Tussock grass
<i>Paraneurachne muelleri</i>	0.1		Tussock grass
<i>Psyrax suaveolens</i>	0.1		Shrub (1-2 m)
<i>Ptilotus obovatus</i>	0.1		Shrub (<1 m)
<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	0.1		Shrub (<1 m)
<i>Sida fibulifera</i>	0.1		Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1		Shrub (<1 m)
<i>Triodia basedowii</i>	15		Hummock grass

Site:	118	Phase:	4
Botanist:	Melissa Hay	Date:	22/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0279357 7007193
Habitat:	Plain	Soil:	Red; Orange; Sand; Sandy-Clay;
Surface layer:	Loose;	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance);		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia heteroneura</i> var. <i>jutsonii</i>	2	Shrub (>2 m)
<i>Acacia pachyacra</i>	1	Shrub (>2 m)
<i>Aluta aspera</i> subsp. <i>hesperia</i>	0.1	Shrub (<1 m)
<i>Amphipogon caricinus</i> var. <i>caricinus</i>	0.1	Tussock grass
<i>Androcalva luteiflora</i>	0.1	Shrub (<1 m)
<i>Bonamia erecta</i>	0.1	Shrub (<1 m)
<i>Enekbatus eremaeus</i>	20	Shrub (<1 m)
<i>Eragrostis falcata</i>	0.1	Tussock grass
<i>Eriachne helmsii</i>	0.1	Tussock grass
<i>Grevillea acacioides</i>	1	Shrub (1-2 m)
<i>Hakea minyma</i>	3	Shrub (>2 m); Shrub (1-2 m)
<i>Halgania cyanea</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Prostanthera wilkieana</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Triodia basedowii</i>	15	Hummock grass

Site:	119	Phase:	4
Botanist:	Melissa Hay	Date:	22/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0282159 7006599
Habitat:	Plain	Soil:	Red; Orange; Sand; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence

Vegetation condition and disturbance: Excellent (no obvious disturbance): Grazing;



Taxa	Canopy Cover (%)	Stratum
<i>Acacia jamesiana</i>	3	Shrub (>2 m); Shrub (1-2 m)
<i>Acacia ligulata</i>	1	Shrub (1-2 m)
<i>Acacia minyura</i>	1	Shrub (>2 m); Shrub (1-2 m)
<i>Aluta aspera subsp. hesperia</i>	0.1	Shrub (<1 m)
<i>Amphipogon caricinus var. caricinus</i>	0.1	Tussock grass
<i>Androcalva luteiflora</i>	0.1	Shrub (<1 m)
<i>Bonamia erecta</i>	0.1	Shrub (<1 m)
<i>Dianella revoluta var. revoluta</i>	0.1	Sedge
<i>Enekbatus eremaeus</i>	8	Shrub (<1 m)
<i>Eragrostis falcata</i>	0.1	Tussock grass
<i>Eremophila forrestii</i>	0.1	Shrub (<1 m)
<i>Eremophila margarethae</i>	0.1	Shrub (<1 m)
<i>Eriachne helmsii</i>	0.1	Tussock grass
<i>Eucalyptus kingsmillii</i>	5	Mallee (3-10 m)
<i>Grevillea acacioides</i>	1	Shrub (1-2 m)
<i>Hakea minyma</i>	0.1	Shrub (>2 m)
<i>Halgania cyanea</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Psydrax rigidula</i>	1	Shrub (>2 m)
<i>Triodia basedowii</i>	30	Hummock grass

Site:	120	Phase:	4
Botanist:	Melissa Hay	Date:	22/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0284485 7006043
Habitat:	Plain	Soil:	Red; Orange; Sand; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	2-5 years

Vegetation condition and disturbance: Excellent (no obvious disturbance)



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura (short/broad phyllode variant)</i>	0.1	Shrub (>2 m)
<i>Acacia ?ayersiana hybrid</i>	0.1	Shrub (1-2 m)
<i>Acacia jamesiana</i>	6	Shrub (1-2 m)
<i>Acacia ligulata</i>	4	Shrub (>2 m)
<i>Acacia ramulosa var. ramulosa</i>	0.1	Shrub (1-2 m)
<i>Androcalva luteiflora</i>	0.1	Shrub (<1 m)
<i>Bonamia erecta</i>	0.1	Shrub (<1 m)
<i>Eucalyptus kingsmillii</i>	2	Mallee (3-10 m)
<i>Grevillea sarissa subsp. sarissa</i>	0.1	Shrub (1-2 m)
<i>Hakea minyma</i>	0.1	Shrub (1-2 m)
<i>Halgania cyanea</i>	0.1	Shrub (<1 m)
<i>Solanum centrale</i>	0.1	Shrub (<1 m)
<i>Solanum terraneum</i>	0.1	Shrub (<1 m)
<i>Triodia basedowii</i>	40	Hummock grass

Site:	121	Phase:	4
Botanist:	Melissa Hay	Date:	22/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0288631 7005157
Habitat:	Plain	Soil:	Red; Orange; Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	2-5 years

Vegetation condition and disturbance: Excellent (no obvious disturbance): Grazing



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	2	Tree (<10 m)
<i>Acacia ?caesaneura</i>	5	Tree (<10 m)
<i>Acacia aneura</i>	10	Tree (<10 m)
<i>Acacia minyura</i>	0.1	Shrub (1-2 m)
<i>Acacia pachyacra</i>	0.1	Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	1	Shrub (<1 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Enneapogon polyphyllus</i>	0.1	Tussock grass
<i>Enteropogon ramosus</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	2	Tussock grass
<i>Eremophila gilesii</i>	0.1	Shrub (<1 m)
<i>Eremophila longifolia</i>	0.1	Shrub (>2 m)
<i>Eremophila malacoides</i>	0.1	Shrub (<1 m)
<i>Eremophila margarethae</i>	10	Shrub (<1 m)
<i>Grevillea sarissa</i>	0.1	Shrub (1-2 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Ptilotus divaricatus</i>	0.1	Shrub (<1 m)
<i>Scaevola spinescens</i>	0.1	Shrub (<1 m)
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	0.1	Shrub (<1 m)
<i>Sida fibulifera</i>	0.1	Shrub (<1 m)
<i>Triodia basedowii</i>	15	Hummock grass

Site:	122	Phase:	4
Botanist:	Melissa Hay	Date:	22/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0289133 7004961
Habitat:	Drainage Line	Soil:	Orange; Brown; White; Sandy-Clay; Clay-Loam; Clay
Surface layer:	Crust; Cracking Clay	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces;		




Taxa	Canopy Cover (%)	Stratum
<i>Abutilon otocarpum</i>	1	Shrub (<1 m)
<i>Acacia aneura</i>	15	Tree (<10 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (>2 m)
<i>Amphipogon caricinus</i> var. <i>caricinus</i>	10	Tussock grass
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Cyperus iria</i>	0.1	Sedge
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Eremophila gilesii</i>	0.1	Shrub (<1 m)
<i>Eremophila margarethae</i>	0.1	Shrub (<1 m)
<i>Eremophila serrulata</i>	0.1	Shrub (<1 m)
<i>Eucalyptus lucasii</i>	15	Mallee (10-30 m)
<i>Fimbristylis ?dichotoma</i>	0.1	Sedge
<i>Fimbristylis dichotoma</i>	5	Sedge
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Marsilea hirsuta</i>	5	Herb
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Paspalidium gracile</i>	0.1	Tussock grass
<i>Psyrax rigidula</i>	0.1	Shrub (<1 m)
<i>Psyrax suaveolens</i>	0.1	Shrub (<1 m)
<i>Ptilotus divaricatus</i>	0.1	Climber
<i>Rhyncharrhena linearis</i>	0.1	Climber
<i>Sida ?sp. verrucose glands (F.H. Mollemans 2423)</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)
<i>Solanum nummularium</i>	0.1	Shrub (<1 m)
<i>Solanum sp.</i>	0.1	Shrub (<1 m)

Site:	123	Phase:	4
Botanist:	Melissa Hay	Date:	22/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0289389 7004921
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance);		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?paptaneura (short/broad phyllode variant)</i>	10	Tree (<10 m)
<i>Acacia aneura</i>	5	Tree (<10 m)
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Grevillea eriostachya</i>	1	Shrub (>2 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Psydrax suaveolens</i>	0.1	Shrub (<1 m)
<i>Rhyncharhena linearis</i>	0.1	Climber
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	0.1	Shrub (<1 m)
<i>Sida fibulifera</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Spartothamnella teucriflora</i>	0.1	Shrub (<1 m)
<i>Triodia basedowii</i>	35	Hummock grass

Site:	124	Phase:	4
Botanist:	Melissa Hay	Date:	21/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0290275 7004603
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Abutilon ?cryptopetalum</i>	0.1	Shrub (<1 m)	
<i>Acacia ?aneura</i>	20	Tree (<10 m)	
<i>Acacia ayersiana</i>	10	Tree (<10 m)	
<i>Aristida contorta</i>	0.1	Tussock grass	
<i>Eragrostis eriopoda</i>	5	Tussock grass	
<i>Eremophila forrestii</i>	0.1	Shrub (1-2 m)	
<i>Eremophila gilesii</i>	1	Shrub (<1 m)	
<i>Eremophila spectabilis subsp. brevis</i>	5	Shrub (1-2 m)	
<i>Eriachne mucronata</i>	0.1	Tussock grass	
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)	
<i>Monachather paradoxus</i>	0.1	Tussock grass	
<i>Psychdrax suaveolens</i>	0.1	Shrub (<1 m)	
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)	
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	0.1	Shrub (<1 m)	
<i>Sida fibulifera</i>	0.1	Shrub (<1 m)	
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)	
<i>Spartothamnella teucriflora</i>	0.1	Shrub (<1 m)	
<i>Tribulus hirsutus</i>	0.1	Shrub (<1 m)	
<i>Triodia basedowii</i>	0.1	Hummock grass	
<i>Triodia melvillei</i>	0.1	Hummock grass	

Site:	125	Phase:	4
Botanist:	Melissa Hay	Date:	21/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0291061 7004446
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	5	Tree (<10 m)
<i>Acacia ?aptaneura (short/broad phyllode variant)</i>	5	Tree (<10 m)
<i>Acacia minyura</i>	10	Shrub (>2 m); Shrub (1-2 m)
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila gilesii</i>	1	Shrub (<1 m)
<i>Eremophila margarethae</i>	2	Shrub (<1 m)
<i>Eremophila spectabilis subsp. brevis</i>	20	Shrub (1-2 m)
<i>Grevillea deflexa</i>	1	Shrub (>2 m)
<i>Grevillea nematophylla subsp. supraplana</i>	2	Tree (<10 m)
<i>Maireana ?villosa</i>	0.1	Shrub (<1 m)
<i>Maireana villosa</i>	0.1	Shrub (<1 m)
<i>Melaleuca hamata</i>	0.1	Shrub (>2 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Paraneurachne muelleri</i>	0.1	Tussock grass
<i>Psyrax suaveolens</i>	0.1	Shrub (1-2 m)
<i>Rhagodia drummondii</i>	0.1	Shrub (<1 m)
<i>Scaevola spinescens</i>	0.1	Shrub (<1 m)
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Spartothamnella teucriflora</i>	0.1	Shrub (<1 m)
<i>Triodia basedowii</i>	40	Hummock grass

Site:	126	Phase:	4
Botanist:	Melissa Hay	Date:	22/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0282896 7006317
Habitat:	Plain	Soil:	Orange; Sand; Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence

Vegetation condition and disturbance: Excellent (no obvious disturbance)



Taxa	Canopy Cover (%)	Stratum
<i>Acacia jamesiana</i>	5	Shrub (1-2 m)
<i>Acacia ligulata</i>	0.1	Shrub (1-2 m)
<i>Acacia pachyacra</i>	0.1	Shrub (1-2 m)
<i>Amphipogon caricinus</i> var. <i>caricinus</i>	0.1	Tussock grass
<i>Bonamia erecta</i>	0.1	Shrub (<1 m)
<i>Calandrinia balonensis</i>	0.1	Herb
<i>Enekbatus eremaeus</i>	0.1	Shrub (<1 m)
<i>Eragrostis falcata</i>	0.1	Tussock grass
<i>Eriachne helmsii</i>	0.1	Tussock grass
<i>Hakea lorea</i> subsp. <i>lorea</i>	2	Shrub (>2 m)
<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>	0.1	Shrub (<1 m)
<i>Leptosema chambersii</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Prostanthera wilkieana</i>	1	Shrub (<1 m)
<i>Triodia basedowii</i>	35	Hummock grass

Site:	127	Phase:	4
Botanist:	Melissa Hay	Date:	22/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0289212 7004794
Habitat:	Drainage Line	Soil:	Orange; Brown; White; Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence

Vegetation condition and disturbance: Very Good (slight disturbance): Grazing





Taxa	Canopy Cover (%)	Stratum
<i>Abutilon cryptopetalum</i>	0.1	Shrub (<1 m)
<i>Abutilon otocarpum</i>	10	Shrub (<1 m)
<i>Acacia ?aneura</i>	30	Tree (<10 m)
<i>Acacia ?aptaneura (short/broad phyllode variant)</i>	2	Tree (<10 m)
<i>Acacia tetragonophylla</i>	1	Shrub (1-2 m)
<i>Amphipogon caricinus var. caricinus</i>	5	Tussock grass
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Cyperus iria</i>	0.1	Sedge
<i>Digitaria brownii</i>	1	Tussock grass
<i>Eragrostis kennedyae</i>	0.1	Tussock grass
<i>Eremophila gilesii</i>	0.1	Shrub (<1 m)
<i>Eucalyptus lucasii</i>	10	Tree (<10 m)
<i>Fimbristylis ?dichotoma</i>	0.1	Sedge
<i>Fimbristylis dichotoma</i>	5	Sedge
<i>Indigofera monophylla</i>	0.1	Shrub (<1 m)
<i>Leptosema chambersii</i>	0.1	Shrub (<1 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Marsilea hirsuta</i>	10	Herb
<i>Paspalidium gracile</i>	1	Tussock grass
<i>Psydrax suaveolens</i>	0.1	Shrub (<1 m)
<i>Ptilotus polystachyus</i>	0.1	Herb
<i>Rhyncharrhena linearis</i>	0.1	Climber
<i>Sida ?sp. verrucose glands (F.H. Mollemans 2423)</i>	0.1	Shrub (<1 m)
<i>Solanum cleistogamum</i>	0.1	Shrub (<1 m)
<i>Solanum coactiliferum</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)
<i>Solanum nummularium</i>	0.1	Shrub (<1 m)
<i>Solanum sp.</i>	0.1	Shrub (<1 m)

Site:	128	Phase:	4
Botanist:	Melissa Hay	Date:	25/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0292168 7003998
Habitat:	Plain	Soil:	Dark Red; Sand; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	15	Tree (<10 m)
<i>Acacia ?caesaneura</i>	0.1	Tree (<10 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	3	Shrub (1-2 m)
<i>Eremophila margarethae</i>	0.1	Shrub (<1 m)
<i>Hakea lorea</i> subsp. <i>lorea</i>	0.1	Tree (<10 m)
<i>Hibiscus burtonii</i>	0.1	Shrub (<1 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Rhagodia drummondii</i>	0.1	Shrub (<1 m)
<i>Sida fibulifera</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Triodia basedowii</i>	25	Hummock grass

Site:	129	Phase:	4
Botanist:	Melissa Hay	Date:	25/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0292704 7003775
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Acacia ?aptaneura (short/broad phyllode variant)</i>	0.1	Shrub (1-2 m)	
<i>Calandrinia sp.</i>	0.1	Herb	
<i>Cratystylis subspinescens</i>	5	Shrub (<1 m)	
<i>Enteropogon ramosus</i>	0.1	Tussock grass	
<i>Eragrostis dielsii</i>	0.1	Tussock grass	
<i>Eragrostis falcata</i>	0.1	Tussock grass	
<i>Eremophila malacoides</i>	4	Shrub (<1 m)	
<i>Frankenia laxiflora</i>	10	Shrub (<1 m)	
<i>Lawrenca densiflora</i>	0.1	Herb	
<i>Maireana amoena</i>	0.1	Shrub (<1 m)	
<i>Maireana triptera</i>	0.1	Shrub (<1 m)	
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)	
<i>Sclerolaena ?diacantha</i>	3	Shrub (<1 m)	
<i>Sclerolaena cuneata</i>	0.1	Shrub (<1 m)	
<i>Sclerolaena sp.</i>	0.1	Shrub (<1 m)	
<i>Senna sp. Meekatharra (E. Bailey 1-26)</i>	0.1	Shrub (<1 m)	
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)	

Site:	130	Phase:	4
Botanist:	Melissa Hay	Date:	25/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0292982 7003411
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)		Stratum
<i>Cratystylis subspinescens</i>	5		Shrub (<1 m)
<i>Enteropogon ramosus</i>	0.1		Tussock grass
<i>Eragrostis falcata</i>	0.1		Tussock grass
<i>Eremophila malacoides</i>	10		Shrub (<1 m)
<i>Frankenia fecunda</i>	4		Shrub (<1 m)
<i>Maireana amoena</i>	0.1		Shrub (<1 m)
<i>Ptilotus obovatus</i>	0.1		Shrub (<1 m)
<i>Sclerolaena ?diacantha</i>	3		Shrub (<1 m)
<i>Sclerolaena cuneata</i>	0.1		Shrub (<1 m)
<i>Sclerolaena sp.</i>	0.1		Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1		Shrub (<1 m)
<i>Trianthema triquetra</i>	0.1		Herb
<i>Tripogon loliiformis</i>	0.1		Tussock grass

Site:	131	Phase:	4
Botanist:	Melissa Hay	Date:	21/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0296953 7000404
Habitat:	Plain	Soil:	Orange; Sandy-Clay; Clay
Surface layer:	Crust	Rocks:	Quartz; Gravel/Pebble; Few (<10%)
Slope:	Negligible	Time since fire:	No evidence

Vegetation condition and disturbance: Excellent (no obvious disturbance): Grazing



Taxa	Canopy Cover (%)	Stratum
<i>Abutilon cryptopetalum</i>	0.1	Shrub (<1 m)
<i>Acacia ?caesaneura</i>	5	Tree (<10 m)
<i>Acacia aneura</i>	1	Tree (<10 m)
<i>Acacia incurvaneura</i>	8	Tree (<10 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Atriplex bunburyana</i>	0.1	Shrub (<1 m)
<i>Enteropogon ramosus</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila margarethae</i>	3	Shrub (<1 m)
<i>Exocarpos aphyllus</i>	0.1	Shrub (<1 m)
<i>Maireana pyramidata</i>	3	Shrub (<1 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Maireana triptera</i>	10	Shrub (<1 m)
<i>Melaleuca interioris</i>	20	Shrub (>2 m); Shrub (1-2 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Prostanthera althoferi subsp. althoferi</i>	4	Shrub (1-2 m)
<i>Ptilotus obovatus</i>	0.1	Tussock grass
<i>Scaevola spinescens</i>	0.1	Shrub (<1 m)
<i>Sclerolaena ?diacantha</i>	0.1	Shrub (<1 m)
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	0.1	Shrub (<1 m)
<i>Sida ectogama</i>	0.1	Shrub (1-2 m)
<i>Sida sp. Excedentifolia (J.L. Egan 1925)</i>	0.1	Shrub (<1 m)
<i>Sida sp. verrucose glands (F.H. Mollemans 2423)</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Tripogon loliiformis</i>	0.1	Tussock grass

Site:	132	Phase:	4
Botanist:	Melissa Hay	Date:	21/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0296216 7000906
Habitat:	Plain	Soil:	Orange; Sand; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence

Vegetation condition and disturbance: Excellent (no obvious disturbance): Grazing



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	20	Tree (<10 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophila margarethae</i>	6	Shrub (<1 m)
<i>Hakea lorea subsp. lorea</i>	1	Tree (<10 m)
<i>Maireana ?villosa</i>	0.1	Shrub (<1 m)
<i>Maireana villosa</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Psydrax suaveolens</i>	0.1	Shrub (1-2 m)
<i>Rhyncharrhena linearis</i>	0.1	Climber
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	0.1	Shrub (<1 m)
<i>Sida fibulifera</i>	0.1	Shrub (<1 m)
<i>Solanum cleistogamum</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Triodia basedowii</i>	40	Hummock grass

Site:	133	Phase:	4
Botanist:	Melissa Hay	Date:	21/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0298358 6999250
Habitat:	Plain	Soil:	Brown; Clay
Surface layer:	Crust; Rocky	Rocks:	Quartz; Stones; Many (30-70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	1	Tree (<10 m)
<i>Acacia paraneura</i>	2	Tree (<10 m)
<i>Acacia tetragonophylla</i>	2	Shrub (1-2 m)
<i>Alternanthera denticulata</i>	0.1	Herb
<i>Anthobolus leptomerioides</i>	0.1	Shrub (<1 m)
<i>Aristida contorta</i>	1	Tussock grass
<i>Atriplex amnicola</i>	0.1	Shrub (<1 m)
<i>Austrostipa ?elegantissima</i>	0.1	Tussock grass
<i>Cratystylis subspinescens</i>	8	Shrub (<1 m)
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Duperreya sericea</i>	0.1	Climber
<i>Enchylaena tomentosa var. tomentosa</i>	0.1	Shrub (<1 m)
<i>Eremophila gilesii</i>	0.1	Shrub (<1 m)
<i>Maireana triptera</i>	8	Shrub (<1 m)
<i>Marsilea hirsuta</i>	1	Herb
<i>Melaleuca hamata</i>	15	Shrub (>2 m)
<i>Melaleuca xerophila</i>	0.1	Shrub (<1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
<i>Scaevola spinescens</i>	0.1	Shrub (<1 m)
<i>Senna artemisioides subsp. petiolaris</i>	0.1	Shrub (1-2 m)
<i>Senna sp. Austin (A. Strid 20210)</i>	0.1	Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Tripogon loliiformis</i>	0.1	Tussock grass

Site:	134	Phase:	4
Botanist:	Melissa Hay	Date:	25/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0299782 6998026
Habitat:	Plain	Soil:	Orange; White; Sandy-Clay; Clay
Surface layer:	Crust; Rocky	Rocks:	Calcrete; Gravel/Pebble; Many (30-70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia tetragonophylla</i>	0.1	Shrub (<1 m)
<i>Amphipogon caricinus</i> var. <i>caricinus</i>	0.1	Tussock grass
<i>Boerhavia</i> sp.	0.1	Herb
<i>Cratystylis subspinescens</i>	0.1	Shrub (<1 m)
<i>Enneapogon caerulescens</i>	0.1	Tussock grass
<i>Eragrostis dielsii</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Exocarpos aphyllus</i>	0.1	Shrub (1-2 m)
<i>Hibiscus burtonii</i>	0.1	Shrub (<1 m)
<i>Maireana ?villosa</i>	0.1	Shrub (<1 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Melaleuca hamata</i>	0.1	Shrub (<1 m)
<i>Melaleuca xerophila</i>	15	Shrub (>2 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
<i>Rhagodia drummondii</i>	0.1	Shrub (<1 m)
<i>Scaevola spinescens</i>	0.1	Shrub (1-2 m)
<i>Sclerolaena cornishiana</i>	10	Shrub (<1 m)
<i>Senna artemisioides</i> subsp. <i>petiolaris</i>	0.1	Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)

Site:	135	Phase:	4
Botanist:	Melissa Hay	Date:	21/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0298034 6999535
Habitat:	Plain	Soil:	Red; Orange; Sandy-Clay
Surface layer:	Crust; Rocky	Rocks:	Quartz; Gravel/Pebble; Stones; Common (10-30%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)
<i>Amyema microphylla</i>	0.1	Climber
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Atriplex amnicola</i>	0.1	Shrub (<1 m)
<i>Cratystylis subspinescens</i>	20	Shrub (<1 m)
<i>Enchylaena tomentosa var. tomentosa</i>	0.1	Shrub (<1 m)
<i>Enteropogon ramosus</i>	0.1	Tussock grass
<i>Eremophila gilesii</i>	0.1	Shrub (<1 m)
<i>Frankenia sp.</i>	0.1	Shrub (<1 m)
<i>Maireana ?villosa</i>	0.1	Shrub (<1 m)
<i>Maireana ?villosa</i>	0.1	Shrub (<1 m)
<i>Maireana pyramidata</i>	2	Shrub (<1 m)
<i>Maireana triptera</i>	15	Shrub (<1 m)
<i>Melaleuca hamata</i>	3	Shrub (>2 m); Shrub (1-2 m)
<i>Melaleuca xerophila</i>	5	Shrub (>2 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
<i>Rhagodia drummondii</i>	0.1	Shrub (<1 m)
<i>Rhagodia drummondii</i>	0.1	Shrub (<1 m)
<i>Sclerolaena cuneata</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Solanum nummularium</i>	0.1	Shrub (<1 m)
<i>Spartothamnella teucriflora</i>	0.1	Shrub (<1 m)

Site:	140	Phase:	4
Botanist:	Melissa Hay	Date:	24/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0275005 7008206
Habitat:	Plain	Soil:	Orange; Sand; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		




Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?caesaneura</i>	2	Tree (<10 m)
<i>Acacia ?ramulosa var. ramulosa</i>	0.1	Tree (<10 m)
<i>Acacia jamesiana</i>	2	Shrub (1-2 m)
<i>Acacia ligulata</i>	1	Shrub (1-2 m)
<i>Acacia pruinocarpa</i>	0.1	Shrub (<1 m)
<i>Acacia ramulosa var. linophylla</i>	5	Tree (<10 m)
<i>Acacia sibirica</i>	0.1	Shrub (1-2 m)
<i>Eucalyptus ?clelandii</i>	2	Mallee (3-10 m)
<i>Exocarpos sparteus</i>	0.1	Shrub (1-2 m)
<i>Halgania cyanea</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Triodia basedowii</i>	30	Hummock grass

Site:	141	Phase:	4
Botanist:	Melissa Hay	Date:	25/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0298993 6998927
Habitat:	Floodplain	Soil:	Orange; Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance): Grazing		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia tetragonophylla</i>	0.1	Shrub (<1 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Boerhavia sp.</i>	0.1	Herb
<i>Cyperus betchei</i> subsp. <i>commiscens</i>	0.1	Sedge
<i>Dactyloctenium radulans</i>	0.1	Tussock grass
<i>Enteropogon ramosus</i>	0.1	Tussock grass
<i>Eragrostis falcata</i>	0.1	Tussock grass
<i>Eremophila malacoides</i>	0.1	Shrub (<1 m)
<i>Eremophila serrulata</i>	0.1	Shrub (<1 m)
<i>Euphorbia drummondii</i>	0.1	Herb
<i>Frankenia laxiflora</i>	0.1	Shrub (<1 m)
<i>Maireana amoena</i>	0.1	Shrub (<1 m)
<i>Maireana pyramidata</i>	0.1	Shrub (<1 m)
<i>Maireana sp.</i>	0.1	Shrub (<1 m)
<i>Melaleuca xerophila</i>	0.1	Shrub (1-2 m)
<i>Portulaca oleracea</i>	0.1	Herb
<i>Sclerolaena ?diacantha</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Tecticornia disarticulata</i>	0.1	Shrub (<1 m)
<i>Tecticornia laevigata</i>	35	Shrub (<1 m)
<i>Tripogon loliiformis</i>	0.1	Tussock grass

Site:	142	Phase:	4
Botanist:	Melissa Hay	Date:	25/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0300048 6998020
Habitat:	Floodplain, depression	Soil:	Orange; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Aristida contorta</i>	0.1	Tussock grass	
<i>Boerhavia sp.</i>	0.1	Herb	
<i>Cyperus betchei subsp. commiscens</i>	0.1	Sedge	
<i>Eragrostis falcata</i>	0.1	Tussock grass	
<i>Eremophila malacoides</i>	0.1	Shrub (<1 m)	
<i>Frankenia laxiflora</i>	5	Shrub (<1 m)	
<i>Maireana amoena</i>	0.1	Shrub (<1 m)	
<i>Melaleuca xerophila</i>	0.1	Shrub (<1 m)	
<i>Paspalidium gracile</i>	0.1	Tussock grass	
<i>Setaria dielsii</i>	0.1	Tussock grass	
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)	
<i>Surreya ?diandra</i>	0.1	Herb	
<i>Tecticornia laevigata</i>	20	Shrub (<1 m)	

Site:	143	Phase:	4
Botanist:	Melissa Hay	Date:	26/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0306974 6991089
Habitat:	Floodplain	Soil:	Orange; Sandy-Clay; Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence

Vegetation condition and disturbance: Very Good (slight disturbance): Animal tracks; Grazing; Faeces



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	0.1	Shrub (<1 m)
<i>Aristida contorta</i>	0.1	Tussock grass
<i>Atriplex codonocarpa</i>	0.1	Shrub (<1 m)
<i>Boerhavia sp.</i>	0.1	Herb
<i>Calandrinia sp.</i>	0.1	Herb
<i>Cratystylis subspinescens</i>	20	Shrub (1-2 m)
<i>Cyperus betchei subsp. commiscens</i>	0.1	Sedge
<i>Dactyloctenium radulans</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eragrostis falcata</i>	0.1	Tussock grass
<i>Euphorbia drummondii</i>	0.1	Herb
<i>Fimbristylis dichotoma</i>	0.1	Sedge
<i>Frankenia fecunda</i>	0.1	Shrub (<1 m)
<i>Hakea preissii</i>	0.1	Shrub (>2 m)
<i>Maireana amoena</i>	1	Shrub (<1 m)
<i>Maireana lobiflora</i>	0.1	Shrub (<1 m)
<i>Sclerolaena ?diacantha</i>	0.1	Shrub (<1 m)
<i>Sclerolaena cuneata</i>	0.1	Tussock grass
<i>Setaria dielsii</i>	0.1	Tussock grass
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Tecticornia disarticulata</i>	0.1	Shrub (<1 m)
<i>Triodia melvillei</i>	0.1	Hummock grass

Site:	144	Phase:	4
Botanist:	Melissa Hay	Date:	26/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0307397 6990680
Habitat:	Floodplain	Soil:	Orange; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Good (low grazing, few weeds): Animal tracks; Grazing; Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Calandrinia sp.</i>	0.1	Herb
<i>Cratystylis subspinescens</i>	20	Shrub (1-2 m)
<i>Cyperus betchei subsp. commiscens</i>	0.1	Sedge
<i>Eragrostis falcata</i>	0.1	Tussock grass
<i>Euphorbia drummondii</i>	0.1	Herb
<i>Fimbristylis dichotoma</i>	0.1	Sedge
<i>Frankenia fecunda</i>	0.1	Shrub (<1 m)
<i>Hakea preissii</i>	0.1	Shrub (>2 m)
<i>Maireana amoena</i>	2	Shrub (<1 m)
<i>Maireana lobiflora</i>	0.1	Shrub (<1 m)
<i>Rhagodia drummondii</i>	0.1	Shrub (<1 m)
<i>Sclerolaena ?diacantha</i>	0.1	Shrub (<1 m)
<i>Surreya ?diandra</i>	0.1	Shrub (<1 m)
<i>Tecticornia disarticulata</i>	0.1	Shrub (<1 m)
<i>Tripogon loliiformis</i>	0.1	Tussock grass

Site:	145	Phase:	4
Botanist:	Melissa Hay	Date:	26/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0280718 7006801
Habitat:	Plain	Soil:	Orange;Sand
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	2-5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia jamesiana</i>	10	Shrub (1-2 m)
<i>Acacia ligulata</i>	5	Shrub (1-2 m)
<i>Alyogyne pinoniana</i>	0.1	Shrub (<1 m)
<i>Androcalva luteiflora</i>	0.1	Shrub (<1 m)
<i>Bonamia erecta</i>	0.1	Shrub (<1 m)
<i>Dianella revoluta</i> var. <i>revoluta</i>	0.1	Sedge
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Hakea lorea</i> subsp. <i>lorea</i>	0.1	Shrub (1-2 m)
<i>Hakea minyma</i>	0.1	Shrub (>2 m)
<i>Halgania cyanea</i>	0.1	Shrub (<1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
<i>Triodia basedowii</i>	35	Hummock grass

Site:	146	Phase:	4
Botanist:	Melissa Hay	Date:	26/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0260417 7011235
Habitat:	Plain	Soil:	Orange; Sand; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura (short/broad phyllode variant)</i>	5	Shrub (>2 m)
<i>Acacia ?caesaneura</i>	5	Tree (<10 m)
<i>Acacia ?incurvaneura</i>	10	Tree (<10 m)
<i>Acacia pruinocarpa</i>	2	Tree (<10 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila forrestii</i>	2	Shrub (1-2 m)
<i>Eucalyptus lucasii</i>	7	Mallee (3-10 m)
<i>Euphorbia tannensis subsp. eremophila</i>	0.1	Shrub (<1 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Psyrax rigidula</i>	0.1	Shrub (1-2 m)
<i>Rhyncharrhena linearis</i>	0.1	Climber
<i>Scaevola spinescens</i>	0.1	Shrub (1-2 m)
<i>Senna artemisioides subsp. helmsii</i>	0.1	Shrub (1-2 m)
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Triodia basedowii</i>	35	Hummock grass

Site:	147	Phase:	4
Botanist:	Melissa Hay	Date:	26/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0249118 7011133
Habitat:	Hillslope - Midslope	Soil:	Dark Red; Sandy-Clay
Surface layer:	Rocky	Rocks:	Ironstone; Gravel/Pebble; Stones; Continuous (>70%)
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	5	Tree (<10 m)
<i>Acacia burkittii</i>	15	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (1-2 m)
<i>Aristida contorta</i>	20	Tussock grass
<i>Cheilanthes sieberi subsp. sieberi</i>	0.1	Herb
<i>Digitaria brownii</i>	0.1	Tussock grass
<i>Eremophila compacta subsp. compacta</i>	5	Shrub (1-2 m)
<i>Eremophila galeata</i>	0.1	Shrub (<1 m)
<i>Eremophila oldfieldii subsp. angustifolia</i>	0.1	Shrub (>2 m)
<i>Eremophila pantonii</i>	0.1	Shrub (<1 m)
<i>Hibiscus leptocladus</i>	0.1	Shrub (<1 m)
<i>Indigofera monophylla</i>	0.1	Shrub (<1 m)
<i>Maireana thesioides</i>	0.1	Shrub (<1 m)
<i>Monachather paradoxus</i>	0.1	Tussock grass
<i>Psyrax latifolia</i>	0.1	Shrub (<1 m)
<i>Scaevola spinescens</i>	0.1	Shrub (<1 m)
<i>Senna glaucifolia</i>	4	Shrub (1-2 m)
<i>Sida ectogama</i>	0.1	Shrub (1-2 m)
<i>Sida sp. Excedentifolia (J.L. Egan 1925)</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)

Site:	148	Phase:	4
Botanist:	Melissa Hay	Date:	26/3/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0248992 7011349
Habitat:	Hillslope - Midslope	Soil:	Dark Red; Sandy-Clay
Surface layer:	Rocky	Rocks:	Ironstone; Quartz; Gravel/Pebble; Stones; Continuous (>70%)
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Abutilon otocarpum</i>	0.1	Shrub (<1 m)
<i>Acacia aneura</i>	8	Tree (<10 m)
<i>Acacia burkittii</i>	15	Shrub (>2 m)
<i>Acacia tetragonophylla</i>	0.1	Shrub (<1 m)
<i>Aristida contorta</i>	15	Tussock grass
<i>Enneapogon caerulescens</i>	0.1	Tussock grass
<i>Eragrostis eriopoda</i>	0.1	Tussock grass
<i>Eremophila compacta</i> subsp. <i>compacta</i>	5	Shrub (1-2 m)
<i>Eremophila forrestii</i>	0.1	Shrub (1-2 m)
<i>Eremophila galeata</i>	0.1	Shrub (1-2 m)
<i>Eremophila oldfieldii</i> subsp. <i>angustifolia</i>	0.1	Shrub (>2 m)
<i>Hibiscus leptocladus</i>	0.1	Shrub (<1 m)
<i>Indigofera monophylla</i>	0.1	Shrub (<1 m)
<i>Ptilotus obovatus</i>	0.1	Shrub (<1 m)
? <i>Maireana</i> sp.	0.1	Shrub (<1 m)
<i>Scaevola spinescens</i>	0.1	Shrub (1-2 m)
<i>Sclerolaena cuneata</i>	0.1	Shrub (<1 m)
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	0.1	Shrub (<1 m)
<i>Senna glaucifolia</i>	0.1	Shrub (<1 m)
<i>Senna</i> sp. <i>Meekatharra</i> (E. Bailey 1-26)	0.1	Shrub (<1 m)
<i>Sida ectogama</i>	0.1	Shrub (<1 m)
<i>Solanum cleistogamum</i>	0.1	Shrub (<1 m)

Site:	201	Phase:	3
Botanist:	Mel Hay	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0236654 7027566
Habitat:	Plain	Soil:	Brown, Sandy-Clay; Clay
Surface layer:	Crust; Rocky	Rocks:	Calcrete, Gravel/Pebble; Stones, Many (30-70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Grazing		



Taxa	Canopy Cover (%)	Stratum
<i>Eragrostis falcata</i>	0.1	Tussock grass
<i>Eremophea spinosa</i>	20	Shrub (<1 m)
<i>Lysiana casuarinae</i>	0	Climber
<i>Melaleuca xerophila</i>	10	Shrub (>2 m)
<i>Salsola australis</i>	0.1	Herb
<i>Sclerolaena obliquicuspis</i>	50	Shrub (<1 m)

Site:	202	Phase:	3
Botanist:	Andrew Craigie	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0237304 7027736
Habitat:	Plain	Soil:	Orange; Brown; White, Sandy-Clay
Surface layer:	Loose	Rocks:	Calcrete, Gravel/Pebble, Common (10-30%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia burkittii</i>	2	Shrub (1-2 m)
<i>Enneapogon caeruleus</i>	1	Tussock grass
<i>Eragrostis dielsii</i>	1	Tussock grass
<i>Eremophea spinosa</i>	5	Shrub (<1 m)
<i>Eremophila pantonii</i>	1	Shrub (1-2 m)
<i>Maireana carnos</i>	1	Shrub (<1 m)
<i>Melaleuca xerophila</i>	20	Tree (<10 m)
<i>Salsola australis</i>	1	Herb
<i>Sclerolaena obliquicuspis</i>	15	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)

Site:	203	Phase:	3
Botanist:	Andrew Craigie	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0236202 7027296
Habitat:	Lake edge	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	Calcrete, Gravel/Pebble, Few (<10%)
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks		



Taxa	Canopy Cover (%)	Stratum
<i>Atriplex codonocarpa</i>	0.1	Herb
<i>Eragrostis dielsii</i>	1	Tussock grass
<i>Eragrostis falcata</i>	1	Tussock grass
<i>Frankenia confusa</i> (cupular bracteole sheath variant)	1	Shrub (<1 m)
<i>Goodenia maideniana</i>	1	Herb
<i>Maireana luehmannii</i>	1	Shrub (<1 m)
<i>Minuria cunninghamii</i>	1	Shrub (<1 m)
<i>Scaevola spinescens</i>	0.1	Climber
<i>Sclerolaena cuneata</i>	5	Shrub (<1 m)
<i>Sclerolaena diacantha</i>	1	Shrub (<1 m)
<i>Sporobolus caroli</i>	1	Herb
<i>Stackhousia clementii</i>	0.1	Herb
<i>Tecticornia calyptrata</i>	0.1	Shrub (<1 m)
<i>Tecticornia doleiformis</i>	1	Shrub (<1 m)
<i>Tecticornia</i> aff. <i>halocnemoides</i> s.l. 'large ovate seed aggregate'	1	Shrub (<1 m)
<i>Tecticornia indica</i> subsp. <i>bidens</i>	1	Shrub (<1 m)
<i>Tecticornia indica</i> subsp. <i>leiostachya</i>	1	Shrub (<1 m)
<i>Tecticornia tenuis</i>	15	Shrub (<1 m)
<i>Tecticornia</i> sp. <i>Burnerbinmah</i> (D. Edinger et al. 101)	5	Shrub (<1 m)

Site:	204	Phase:	3
Botanist:	Mel Hay	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0237395 7027478
Habitat:	Floodplain, edge of lake tributary	Soil:	Orange; BrownClay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing		



Taxa	Canopy Cover (%)	Stratum
<i>Eragrostis dielsii</i>	0.1	Tussock grass
<i>Goodenia maideniana</i>	0.1	Herb
<i>Lawrenia densiflora</i>	0.1	Shrub (<1 m)
<i>Maireana luehmannii</i>	0.1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	0.1	Shrub (<1 m)
<i>Tecticornia</i> sp. aff. <i>globulifera</i> (small)	0.1	Shrub (<1 m)
<i>Tecticornia laevigata</i>	0.1	Shrub (<1 m)
<i>Tecticornia</i> sp. aff. <i>Burnerbinmah</i> (inflated fruit)	0.1	Shrub (<1 m)
<i>Tecticornia</i> sp. <i>Burnerbinmah</i> (D. Edinger et al. 101)	20	Shrub (<1 m)
<i>Zygophyllum ?eremaeum</i>	0.1	Herb

Site:	205	Phase:	3
Botanist:	Christopher Parker	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0236381 7026626
Habitat:	Floodplain	Soil:	OrangeSand
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence

Vegetation condition and disturbance: Excellent (no obvious disturbance)



Taxa	Canopy Cover (%)	Stratum
<i>Acacia caesaneura</i>	2	Shrub (<1 m)
<i>Aristida contorta</i>	2	Tussock grass
<i>Calandrinia sp.</i>	1	Herb
<i>Eragrostis falcata</i>	1	Tussock grass
<i>Eremophila malacoides</i>	1	Shrub (<1 m)
<i>Frankenia sp. aff. fecunda (glabrous leaf variant)</i>	1	Shrub (<1 m)
<i>Gunniopsis quadrifida</i>	1	Shrub (<1 m)
<i>Maireana amoena</i>	1	Shrub (<1 m)
<i>Muellerolimon salicorniaceum</i>	15	Shrub (<1 m)
<i>Podolepis capillaris</i>	1	Herb
<i>Rhagodia drummondii</i>	1	Shrub (<1 m)
<i>Scaevola spinescens</i>	1	Shrub (<1 m)
<i>Sclerolaena deserticola</i>	1	Shrub (<1 m)
<i>Sclerolaena diacantha</i>	1	Shrub (<1 m)
<i>Tecticornia disarticulata</i>	2	Shrub (<1 m)
<i>Tecticornia calyptrata</i>	4	Shrub (<1 m)
<i>Tecticornia sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)</i>	2	Shrub (<1 m)
<i>Tecticornia indica subsp. leiostachya</i>	15	Shrub (<1 m)

Site:	207	Phase:	3
Botanist:	Renee Young	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0237823 7023504
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Loose; Rocky	Rocks:	Ironstone; Quartz, Gravel/Pebble; Stones, Many (30-70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?macraneura</i>	1	Shrub (1-2 m)
<i>Acacia incurvaneura</i>	5	Shrub (>2 m)
<i>Acacia pruinocarpa</i>	1	Shrub (1-2 m)
<i>Eragrostis eriopoda</i>	2	Tussock grass
<i>Eremophila ?galeata</i>	1	Shrub (1-2 m)
<i>Eremophila spectabilis subsp. brevis</i>	2	Shrub (1-2 m)
<i>Monachather paradoxus</i>	2	Tussock grass
<i>Ptilotus schwartzii</i>	1	Herb
<i>Sida sp. dark green fruits (S. van Leeuwen 2260)</i>	1	Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)

Site:	208	Phase:	3
Botanist:	Christopher Parker	Date:	10/1/2015
Quadrat size:	15 x 60 m	NW corner (GDA94):	51J 0245555 7014527
Habitat:	Minor Creek (<5m)	Soil:	Orange Sand; Loam
Surface layer:	Loose; Crust	Rocks:	Granite; Basalt, Gravel/Pebble; Stones; Boulders, Common (10-30%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks		



Taxa	Canopy Cover (%)	Stratum
<i>?Digitaria brownii</i>	3	Tussock grass
<i>Abutilon cryptopetalum</i>	1	Shrub (<1 m)
<i>Acacia craspedocarpa</i>	2	Shrub (1-2 m)
<i>Acacia craspedocarpa (hybrid)</i>	10	Tree (10-30 m); Tree (<10 m)
<i>Acacia pteraneura</i>	25	Tree (<10 m)
<i>Acacia tetragonophylla</i>	2	Tree (<10 m)
<i>Aristida contorta</i>	2	Tussock grass
<i>Centipeda thespidioides</i>	1	Herb
<i>Cheilanthes sieberi subsp. sieberi</i>	1	Herb
<i>Cyperus ?betchei</i>	1	Sedge
<i>Duperreya commixta</i>	1	Climber
<i>Eragrostis eriopoda</i>	2	Tussock grass
<i>Eremophila ?spectabilis</i>	1	Shrub (<1 m)
<i>Eremophila forrestii</i>	1	Shrub (<1 m)
<i>Eriachne ?mucronata</i>	2	Tussock grass
<i>Hibiscus burtonii</i>	1	Shrub (<1 m)
<i>Ptilotus obovatus</i>	1	Shrub (<1 m)
<i>Santalum ?spicatum</i>	2	Tree (<10 m)
<i>Senna artemisioides subsp. helmsii</i>	1	Shrub (1-2 m)
<i>Senna artemisioides subsp. x artemisioides</i>	1	Shrub (1-2 m)
<i>Sida ?sp. verrucose glands (F.H. Mollemans 2423)</i>	1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)
<i>Tripogon loliiformis</i>	1	Tussock grass

Site:	209	Phase:	3
Botanist:	Renee Young	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0277525 7010231
Habitat:	Floodplain	Soil:	Orange; Brown; White, Sandy-Clay; Clay-Loam
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Good (low grazing, few weeds): Grazing; Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Boerhavia schomburgkiana</i>	2	Herb
<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	2	Shrub (1-2 m)
<i>Eremophila glabra</i> subsp. <i>glabra</i>	2	Shrub (1-2 m)
<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	25	Shrub (1-2 m)
<i>Maireana amoena</i>	1	Shrub (1-2 m)
<i>Melaleuca interioris</i>	1	Shrub (1-2 m)
<i>Melaleuca xerophila</i>	3	Shrub (1-2 m)
<i>Portulaca oleracea</i>	5	Herb
<i>Rhagodia drummondii</i>	2	Shrub (1-2 m)
<i>Sclerolaena cuneata</i>	5	Shrub (1-2 m)
<i>Sclerolaena diacantha</i>	1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (1-2 m)
<i>Solanum nummularium</i>	1	Shrub (1-2 m)
<i>Trianthema triquetrum</i>	2	Herb

Site:	210	Phase:	3
Botanist:	Renee Young	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0279015 7010375
Habitat:	Plain	Soil:	Orange; Brown; White, Sandy-Clay; Clay-Loam
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Faeces		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia caesaneura</i>	8	Tree (<10 m)
<i>Enteropogon ramosus</i>	1	Tussock grass
<i>Eragrostis ?falcata</i>	1	Tussock grass
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	2	Shrub (1-2 m)
<i>Eremophila glabra</i>	1	Shrub (1-2 m)
<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	1	Shrub (1-2 m)
<i>Maireana villosa</i>	1	Shrub (1-2 m)
<i>Melaleuca interioris</i>	30	Shrub (1-2 m)
<i>Psychodra suaveolens</i>	1	Shrub (1-2 m)
<i>Ptilotus obovatus</i>	2	Shrub (<1 m)
<i>Rhagodia ?drummondii</i>	1	Shrub (1-2 m)
<i>Scaevola spinescens</i>	1	Shrub (<1 m)
<i>Sclerolaena alata</i>	2	Shrub (1-2 m)
<i>Sclerolaena deserticola</i>	1	Shrub (<1 m)
<i>Sclerolaena diacantha</i>	1	Tree (<10 m)
<i>Sida ?sp. verrucose glands</i> (F.H. Mollemans 2423)	1	Shrub (<1 m)
<i>Sida sp. verrucose glands</i> (F.H. Mollemans 2423)	1	Herb
<i>Triodia basedowii</i>	3	Hummock grass

Site:	211	Phase:	3
Botanist:	Christopher Parker	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0280711 7010248
Habitat:	Undulating Plain	Soil:	Red; Orange; Sandy-Clay
Surface layer:	Crust; Gravel	Rocks:	Calcrete, Gravel/Pebble; Stones, Common (10-30%)
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		




Taxa	Canopy Cover (%)	Stratum
<i>Abutilon otocarpum</i>	1	Herb
<i>Acacia ?aneura</i>	2	Shrub (1-2 m)
<i>Acacia ?pteraneura</i>	7	Tree (<10 m)
<i>Acacia burkittii</i>	12	Shrub (>2 m)
<i>Acacia ligulata</i>	1	Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	1	Shrub (<1 m)
<i>Enchylaena tomentosa</i>	2	Shrub (<1 m)
<i>Enneapogon caeruleus</i>	1	Tussock grass
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophea spinosa</i>	2	Shrub (<1 m)
<i>Eremophila glabra subsp. glabra</i>	2	Shrub (1-2 m)
<i>Eremophila latrobei subsp. latrobei</i>	1	Shrub (1-2 m)
<i>Eremophila sp.</i>	1	Shrub (1-2 m)
<i>Ptilotus nobilis subsp. nobilis</i>	1	Herb
<i>Ptilotus obovatus</i>	1	Shrub (<1 m)
<i>Salsola australis</i>	1	Shrub (<1 m)
<i>Senna ?artemisioides subsp. filifolia</i>	2	Shrub (1-2 m)
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)
<i>Triodia basedowii</i>	15	Hummock grass

Site:	212	Phase:	3
Botanist:	Christopher Parker	Date:	12/1/2015
Quadrat size:	15 x 60 m	NW corner (GDA94):	51J 0298935 7000215
Habitat:	Low Rise	Soil:	Orange; White Sand; Clay
Surface layer:	Loose; Crust	Rocks:	Quartz, Gravel/Pebble; Stones, Few (<10%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Vehicle Tracks		




Taxa	Canopy Cover (%)	Stratum
<i>Aristida contorta</i>	1	Tussock grass
<i>Atriplex vesicaria</i>	3	Shrub (<1 m)
<i>Enneapogon caerulescens</i>	2	Tussock grass
<i>Enneapogon polyphyllus</i>	1	Tussock grass
<i>Eragrostis falcata</i>	1	Tussock grass
<i>Eremophila ?margarethae</i>	1	Shrub (<1 m)
<i>Eremophila galeata</i>	2	Shrub (1-2 m)
<i>Euphorbia drummondii</i>	1	Herb
<i>Frankenia laxiflora</i>	1	Shrub (<1 m)
<i>Maireana ?pyramidata</i>	5	Shrub (<1 m)
<i>Maireana ?villosa</i>	1	Shrub (<1 m)
<i>Sclerolaena diacantha</i>	1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)
<i>Solanum nummularium</i>	1	Shrub (<1 m)
<i>Tecticornia indica</i>	2	Shrub (<1 m)
<i>Tecticornia indica subsp. leiostachya</i>	3	Shrub (<1 m)
<i>Tragus australianus</i>	1	Tussock grass

Site:	213	Phase:	3
Botanist:	Renee Young	Date:	12/1/2015
Quadrat size:	15 x 60 m	NW corner (GDA94):	51J 0299790 6997639
Habitat:	Floodplain	Soil:	Orange; White, Sandy-Clay; Clay-Loam
Surface layer:	Gravel	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		
			
Taxa	Canopy Cover (%)		Stratum
<i>Eragrostis dielsii</i>	2		Tussock grass
<i>Frankenia laxiflora</i>	8		Shrub (<1 m)
<i>Maireana ?tomentosa</i>	1		Shrub (<1 m)
<i>Maireana amoena</i>	2		Shrub (<1 m)
<i>Rhagodia ?eremaea</i>	2		Shrub (1-2 m)
<i>Sclerolaena diacantha</i>	1		Shrub (<1 m)
<i>Tecticornia indica subsp. leiostachya</i>	20		Shrub (1-2 m)

Site:	214	Phase:	3
Botanist:	Christopher Parker	Date:	12/1/2015
Quadrat size:	15 x 60 m	NW corner (GDA94):	51J 0299892 6999527
Habitat:	Drainage Line	Soil:	Orange Clay-Loam
Surface layer:	Crust	Rocks:	No rocks
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Aristida contorta</i>	1	Tussock grass
<i>Dactyloctenium radulans</i>	1	Tussock grass
<i>Enneapogon ?caerulescens</i>	1	Tussock grass
<i>Enneapogon caerulescens</i>	1	Tussock grass
<i>Eragrostis dielsii</i>	1	Tussock grass
<i>Euphorbia drummondii</i>	1	Herb
<i>Maireana ?tomentosa</i>	1	Shrub (<1 m)
<i>Maireana amoena</i>	1	Shrub (<1 m)
<i>Portulaca ?oleracea (sterile)</i>	1	Herb
<i>Sida ?sp. verrucose glands (F.H. Mollemans 2423)</i>	1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)
<i>Tecticornia cymbiformis</i>	5	Shrub (<1 m)
<i>Tecticornia doleiformis</i>	1	Shrub (<1 m)
<i>Tecticornia sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)</i>	8	Shrub (<1 m)
<i>Tecticornia indica subsp. bidens</i>	15	Shrub (<1 m)
<i>Tecticornia indica subsp. leiostachya</i>	10	Shrub (<1 m)
<i>?Tecticornia undulata</i>	3	Shrub (<1 m)
<i>Tragus australianus</i>	1	Tussock grass
<i>Trianthema triquetrum</i>	1	Herb

Site:	215	Phase:	3
Botanist:	Christopher Parker	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0300148 6999061
Habitat:	Undulating Plain	Soil:	Red; OrangeClay-Loam
Surface layer:	Crust	Rocks:	No rocks
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Grazing; Faeces		
			
Taxa	Canopy Cover (%)		Stratum
<i>?Maireana villosa</i>	1		Shrub (<1 m)
<i>?Minuria sp.</i>	1		Herb
<i>Aristida contorta</i>	1		Tussock grass
<i>Atriplex vesicaria</i>	3		Shrub (<1 m)
<i>Enteropogon ramosus</i>	1		Tussock grass
<i>Eragrostis dielsii</i>	2		Tussock grass
<i>Eremophila malacoides</i>	6		Shrub (<1 m)
<i>Frankenia sp. aff. fecunda (glabrous leaf variant)</i>	1		Shrub (<1 m)
<i>Maireana ?villosa</i>	5		Shrub (<1 m)
<i>Maireana tomentosa</i>	1		Shrub (<1 m)
<i>Portulaca ?oleracea</i>	1		Herb
<i>Rhagodia drummondii</i>	1		Shrub (<1 m)
<i>Scaevola spinescens</i>	4		Shrub (<1 m)
<i>Sclerolaena diacantha</i>	1		Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1		Shrub (<1 m)

Site:	216	Phase:	3
Botanist:	Renee Young	Date:	12/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0300447 6997706
Habitat:	Plain	Soil:	Orange Sand
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		




Taxa	Canopy Cover (%)	Stratum
<i>Acacia ayersiana</i>	10	Shrub (>2 m)
<i>Enchylaena tomentosa</i>	1	Shrub (1-2 m)
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Melaleuca interioris</i>	15	Shrub (>2 m)Shrub (1-2 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Ptilotus obovatus</i>	1	Shrub (1-2 m)
<i>Triodia basedowii</i>	30	Hummock grass

Site:	217	Phase:	3
Botanist:	Renee Young	Date:	12/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0301422 6996014
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose	Rocks:	Calcrete, Gravel/Pebble; Stones, Many (30-70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Grazing; Faeces		




Taxa	Canopy Cover (%)	Stratum
<i>Acacia nyssophylla</i>	3	Shrub (1-2 m)
<i>Acacia victoriae</i>	2	Shrub (1-2 m)
<i>Casuarina pauper</i>	15	Tree (<10 m)
<i>Cratystylis centralis</i>	0.1	Shrub (<1 m)
<i>Cratystylis subspinescens</i>	1	Shrub (1-2 m)
<i>Eremophea spinosa</i>	1	Shrub (<1 m)
<i>Eremophila pantonii</i>	5	Shrub (1-2 m)
<i>Eriochiton sclerolaenoides</i>	2	Shrub (<1 m)
<i>Exocarpos aphyllus</i>	2	Shrub (1-2 m)
<i>Paspalidium basicladum</i>	1	Tussock grass
<i>Ptilotus obovatus</i>	1	Shrub (1-2 m)
<i>Salsola australis</i>	1	Shrub (<1 m)
<i>Scaevola spinescens</i>	2	Shrub (1-2 m)
<i>Sclerolaena diacantha</i>	2	Shrub (<1 m)
<i>Sclerolaena obliquicuspis</i>	2	Shrub (<1 m)
<i>Senna ?artemisioides subsp. filifolia</i>	3	Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)

Site:	218	Phase:	3
Botanist:	Renee Young	Date:	12/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0302040 6995521
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		
			
Taxa	Canopy Cover (%)		Stratum
<i>?Enteropogon ramosus</i>	2		Tussock grass
<i>Acacia ?aneura</i>	5		Shrub (1-2 m)
<i>Acacia tetragonophylla</i>	1		Shrub (1-2 m)
<i>Aristida contorta</i>	1		Tussock grass
<i>Dactyloctenium radulans</i>	1		Tussock grass
<i>Eremophila malacoides</i>	30		Shrub (<1 m)
<i>Exocarpos aphyllus</i>	1		Shrub (1-2 m)
<i>Frankenia sp. aff. fecunda (glabrous leaf variant)</i>	2		Shrub (<1 m)
<i>Maireana ?villosa</i>	2		Shrub (<1 m)
<i>Maireana amoena</i>	3		Shrub (<1 m)
<i>Portulaca ?oleracea (sterile)</i>	1		Herb
<i>Ptilotus obovatus</i>	3		Shrub (<1 m)
<i>Sclerolaena cuneata</i>	1		Shrub (<1 m)
<i>Sclerolaena densiflora</i>	2		Herb
<i>Sclerolaena eriacantha</i>	2		Shrub (<1 m)
<i>Senna ?artemisioides subsp. filifolia</i>	1		Shrub (1-2 m)
<i>Solanum lasiophyllum</i>	1		Shrub (1-2 m)
<i>Solanum nummularium</i>	1		Shrub (<1 m)
<i>Trianthema triquetrum</i>	1		Herb
<i>?Enteropogon ramosus</i>	2		Tussock grass

Site:	219	Phase:	3
Botanist:	Christopher Parker	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0303745 6995693
Habitat:	Undulating Plain	Soil:	Orange; WhiteClay-Loam
Surface layer:	Crust	Rocks:	Calcrete; Quartz; Granite, Gravel/Pebble; Stones, Common (10-30%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ligulata</i>	1	Shrub (1-2 m)
<i>Acacia nyssophylla</i>	1	Shrub (1-2 m)
<i>Acacia pteraneura</i>	1	Shrub (1-2 m)
<i>Atriplex vesicaria</i>	3	Shrub (<1 m)
<i>Casuarina pauper</i>	5	Tree (<10 m)
<i>Enchylaena tomentosa</i>	1	Shrub (<1 m)
<i>Enneapogon ?caerulescens</i>	1	Tussock grass
<i>Eremophea spinosa</i>	1	Shrub (<1 m)
<i>Eremophila ?forrestii</i>	1	Shrub (1-2 m)
<i>Eremophila ?latrobei</i>	2	Shrub (1-2 m)
<i>Eremophila longifolia</i>	2	Shrub (1-2 m)
<i>Eucalyptus striatocalyx</i>	10	Tree (<10 m)
<i>Exocarpos aphyllus</i>	1	Shrub (1-2 m)
<i>Maireana ?carnosa</i>	1	Tree (<10 m)
<i>Paspalidium basicladum</i>	1	Tussock grass
<i>Ptilotus nobilis subsp. nobilis</i>	1	Herb
<i>Rhagodia drummondii</i>	1	Shrub (<1 m)
<i>Scaevola spinescens</i>	2	Shrub (1-2 m)
<i>Sclerolaena obliquicuspis</i>	1	Shrub (<1 m)
<i>Senna ?artemisioides subsp. filifolia</i>	2	Shrub (1-2 m)
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)
<i>Solanum nummularium</i>	1	Shrub (<1 m)
<i>Tribulus terrestris</i>	1	Herb

Site:	220	Phase:	3
Botanist:	Renee Young	Date:	12/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0305047 6996679
Habitat:	Plain	Soil:	Orange; Brown, Sandy-Clay
Surface layer:	Loose; Crust; Rocky	Rocks:	Calcrete, Gravel/Pebble, Many (30-70%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Faeces		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Acacia nyssophylla</i>	2	Shrub (1-2 m)	
<i>Atriplex codonocarpa</i>	2	Shrub (1-2 m)	
<i>Atriplex vesicaria</i>	3	Shrub (1-2 m)	
<i>Casuarina pauper</i>	5	Tree (<10 m)	
<i>Cratystylis centralis</i>	3	Shrub (1-2 m)	
<i>Cratystylis subspinescens</i>	3	Shrub (1-2 m)	
<i>Enneapogon ?caerulescens</i>	1	Herb	
<i>Eremophila ?latrobei</i>	1	Shrub (1-2 m)	
<i>Eremophila falcata</i>	1	Shrub (1-2 m)	
<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	2	Shrub (1-2 m)	
<i>Eremophila longifolia</i>	1	Shrub (1-2 m)	
<i>Euphorbia australis</i> complex	1	Herb	
<i>Maireana ?tomentosa</i>	2	Shrub (<1 m)	
<i>Maireana ?villosa</i>	1	Shrub (1-2 m)	
<i>Paspalidium basicladum</i>	1	Tussock grass	
<i>Ptilotus obovatus</i>	1	Shrub (1-2 m)	
<i>Scaevola spinescens</i>	1	Shrub (1-2 m)	
<i>Sclerolaena diacantha</i>	1	Shrub (<1 m)	
<i>Senna ?artemisioides</i> subsp. <i>filifolia</i>	10	T2 (10-30 m);	

Site:	221	Phase:	3
Botanist:	Christopher Parker	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0311598 6990640
Habitat:	Hillslope - Ridgetop	Soil:	Orange; White Clay-Loam
Surface layer:	Crust; Rocky	Rocks:	Calcrete, Gravel/Pebble; Stones; Surface Plates, Continuous (>70%)
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Eragrostis falcata</i>	1	Tussock grass
<i>Eucalyptus striatocalyx</i>	20	Tree (<10 m)
<i>Grevillea didymobotrya</i> subsp. <i>didymobotrya</i>	3	Shrub (1-2 m)
<i>Lawrencia helmsii</i>	4	Herb
<i>Maireana pentatropis</i>	1	Shrub (<1 m)
<i>Sclerolaena clelandii</i>	1	Shrub (<1 m)
<i>Sclerolaena fimbriolata</i>	1	Shrub (<1 m)
<i>Zygophyllum ?eremaeum</i>	1	Herb

Site:	222	Phase:	3
Botanist:	Christopher Parker	Date:	11/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0314429 7007715
Habitat:	Undulating Plain	Soil:	Red; Orange; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	Ironstone, Gravel/Pebble, Few (<10%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aneura</i>	12	Shrub (>2 m)
<i>Acacia ?aptaneura</i>	10	Shrub (>2 m)
<i>Acacia burkittii</i>	2	Shrub (1-2 m)
<i>Aristida contorta</i>	1	Tussock grass
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophila forrestii</i>	1	Shrub (<1 m)
<i>Eremophila gilesii subsp. variabilis</i>	3	Shrub (<1 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Sida ?sp. verrucose glands (F.H. Mollemans 2423)</i>	1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)
<i>Triodia basedowii</i>	5	Hummock grass

Site:	223	Phase:	3
Botanist:	Christopher Parker	Date:	11/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0315334 7008495
Habitat:	Undulating Plain	Soil:	Orange; Sandy-Clay; Loam
Surface layer:	Loose; Crust	Rocks:	Ironstone; Calcrete, Gravel/Pebble, Common (10-30%)
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		




Taxa	Canopy Cover (%)	Stratum
<i>Acacia ?aptaneura</i>	20	Shrub (>2 m)
<i>Acacia ?macraneura</i>	2	Shrub (1-2 m)
<i>Aristida contorta</i>	1	Tussock grass
<i>Enneapogon caerulescens</i>	1	Tussock grass
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophila forrestii</i>	10	Shrub (1-2 m)
<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	1	Shrub (<1 m)
<i>Eriachne helmsii</i>	1	Tussock grass
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Rhagodia drummondii</i>	1	Shrub (1-2 m)
<i>Sida ?sp. dark green fruits (S. van Leeuwen 2260)</i>	1	S3 (0-1 m);
<i>Sida sp. dark green fruits (S. van Leeuwen 2260)</i>	1	Shrub (<1 m)
<i>Sida sp. verrucose glands (F.H. Mollemans 2423)</i>	1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)
<i>Spartothamnella teucriflora</i>	1	Shrub (1-2 m)
<i>Triodia basedowii</i>	7	Hummock grass

Site:	225	Phase:	3
Botanist:	Renee Young	Date:	11/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0313012 7003103
Habitat:	Plain	Soil:	Orange; Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	2-5 years

Vegetation condition and disturbance: Excellent (no obvious disturbance)




Taxa	Canopy Cover (%)	Stratum
<i>?Hibiscus sturtii</i>	1	Shrub (<1 m)
<i>Abutilon otocarpum</i>	0	Shrub (<1 m)
<i>Acacia ?aptaneura</i>	5	Shrub (1-2 m)
<i>Acacia ?prainii</i>	1	Shrub (1-2 m)
<i>Acacia pruinocarpa</i>	1	Shrub (1-2 m)
<i>Codonocarpus cotinifolius</i>	5	Shrub (1-2 m)
<i>Dicrastylis brunnea</i>	2	Shrub (1-2 m)
<i>Eragrostis eriopoda</i>	1	Tussock grass
<i>Eremophila ?galeata</i>	1	T2 (10-30 m);
<i>Eremophila forrestii</i>	1	Shrub (1-2 m)
<i>Hakea lorea</i> subsp. <i>lorea</i>	1	Shrub (1-2 m)
<i>Senna ?artemisioides</i> subsp. <i>filifolia</i>	3	Shrub (1-2 m)
<i>Sida</i> sp. <i>Golden calyces glabrous</i> (H.N. Foote 32)	1	Shrub (<1 m)
<i>Triodia basedowii</i>	5	Hummock grass


Site:	226	Phase:	3
Botanist:	Renee Young	Date:	11/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0315999 7010748
Habitat:	Plain	Soil:	Orange Sand; Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		
			
Taxa	Canopy Cover (%)		Stratum
<i>Androcalva loxophylla</i>	2		Shrub (1-2 m)
<i>Hakea lorea subsp. lorea</i>	2		Shrub (1-2 m)
<i>Triodia basedowii</i>	30		Hummock grass

Site:	301	Phase:	3
Botanist:	Renee Young	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0236224 7026775
Habitat:	Salt pan fringe	Soil:	Orange; White, Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Gentle	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		



Taxa	Canopy Cover (%)	Stratum
<i>Bergia perennis</i>	1	Herb
<i>Eragrostis falcata</i>	1	Tussock grass
<i>Frankenia laxiflora</i>	25	Shrub (1-2 m)
<i>Maireana amoena</i>	2	Shrub (1-2 m)
<i>Melaleuca interioris</i>	1	Shrub (1-2 m)
<i>Tecticornia indica subsp. leiostachya</i>	2	Shrub (1-2 m)

Site:	302	Phase:	3
Botanist:	Christopher Parker	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0236291 7026829
Habitat:	Floodplain, minor depression	Soil:	Orange Sand
Surface layer:	Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Excellent (no obvious disturbance)		
			
Taxa	Canopy Cover (%)	Stratum	
<i>Aristida contorta</i>	3	Tussock grass	
<i>Atriplex codonocarpa</i>	1	Shrub (<1 m)	
<i>Calandrinia sp.</i>	1	Herb	
<i>Eragrostis falcata</i>	1	Tussock grass	
<i>Frankenia fecunda</i>	1	Shrub (<1 m)	
<i>Maireana amoena</i>	1	Shrub (<1 m)	
<i>Muellerolimon salicorniaceum</i>	20	Shrub (<1 m)	
<i>Scaevola spinescens</i>	1	Shrub (<1 m)	
<i>Sclerolaena deserticola</i>	1	Shrub (<1 m)	
<i>Sclerolaena diacantha</i>	1	Shrub (<1 m)	
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)	
<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	1	Herb	
<i>Tecticornia calyptata</i>	2	Shrub (<1 m)	
<i>Tecticornia sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)</i>	3	Shrub (<1 m)	
<i>Tecticornia indica</i> subsp. <i>bidens</i>	15	Shrub (<1 m)	

Site:	305	Phase:	3
Botanist:	Renee Young	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0236393 7026125
Habitat:	Plain	Soil:	Orange; White, Sandy-Clay
Surface layer:	Loose	Rocks:	No rocks
Slope:	Negligible	Time since fire:	No evidence
Vegetation condition and disturbance:	Very Good (slight disturbance): Animal tracks; Faeces		
			
Taxa	Canopy Cover (%)		Stratum
<i>Acacia tetragonophylla</i>	1		Shrub (<1 m)
<i>Angianthus cornutus</i>	1		Herb
<i>Aristida contorta</i>	2		Tussock grass
<i>Atriplex codonocarpa</i>	1		Shrub (<1 m)
<i>Eragrostis falcata</i>	2		Tussock grass
<i>Eremophila malacoides</i>	1		Shrub (1-2 m)
<i>Frankenia sp. aff. fecunda (glabrous leaf variant)</i>	5		Shrub (1-2 m)
<i>Gunniopsis quadrifida</i>	1		Shrub (1-2 m)
<i>Maireana amoena</i>	2		Shrub (1-2 m)
<i>Scaevola spinescens</i>	1		Shrub (1-2 m)
<i>Sclerolaena diacantha</i>	1		Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1		Shrub (1-2 m)
<i>Tecticornia disarticulata</i>	7		Shrub (1-2 m)
<i>Tecticornia pergranulata</i>	2		Shrub (1-2 m)

Site:	801	Phase:	3
Botanist:	Christopher Parker	Date:	10/1/2015
Quadrat size:	30 x 30 m	NW corner (GDA94):	51J 0311024 7000200
Habitat:	Undulating Plain	Soil:	Orange Sand; Sandy-Clay
Surface layer:	Loose; Crust	Rocks:	No rocks
Slope:	Negligible	Time since fire:	> 5 years

Vegetation condition and disturbance: Excellent (no obvious disturbance)



Taxa	Canopy Cover (%)	Stratum
<i>Acacia pachyacra</i>	10	Shrub (1-2 m)
<i>Alyogyne pinoniana</i>	3	Shrub (<1 m)
<i>Androcalva loxophylla</i>	3	Shrub (<1 m)
<i>Aristida holathera</i>	1	Tussock grass
<i>Dicrastylis brunnea</i>	1	Shrub (<1 m)
<i>Dicrastylis flexuosa</i>	2	Shrub (<1 m)
<i>Eragrostis ?periopoda</i>	2	Tussock grass
<i>Leptosema chambersii</i>	2	Shrub (<1 m)
<i>Melaleuca eleuterostachya</i>	3	Shrub (1-2 m)
<i>Monachather paradoxus</i>	1	Tussock grass
<i>Scaevola parvifolia</i>	2	Shrub (<1 m)
<i>Sida ?sp. verrucose glands (F.H. Mollemans 2423)</i>	1	Shrub (<1 m)
<i>Sida cardiophylla</i>	1	Shrub (<1 m)
<i>Solanum lasiophyllum</i>	1	Shrub (<1 m)
<i>Solanum sturtianum</i>	1	Shrub (<1 m)
<i>Triodia basedowii</i>	8	Hummock grass

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APPENDIX D ELECTRONIC APPENDICIES

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Provided Electronically

D.1: Site by species matrix – this study

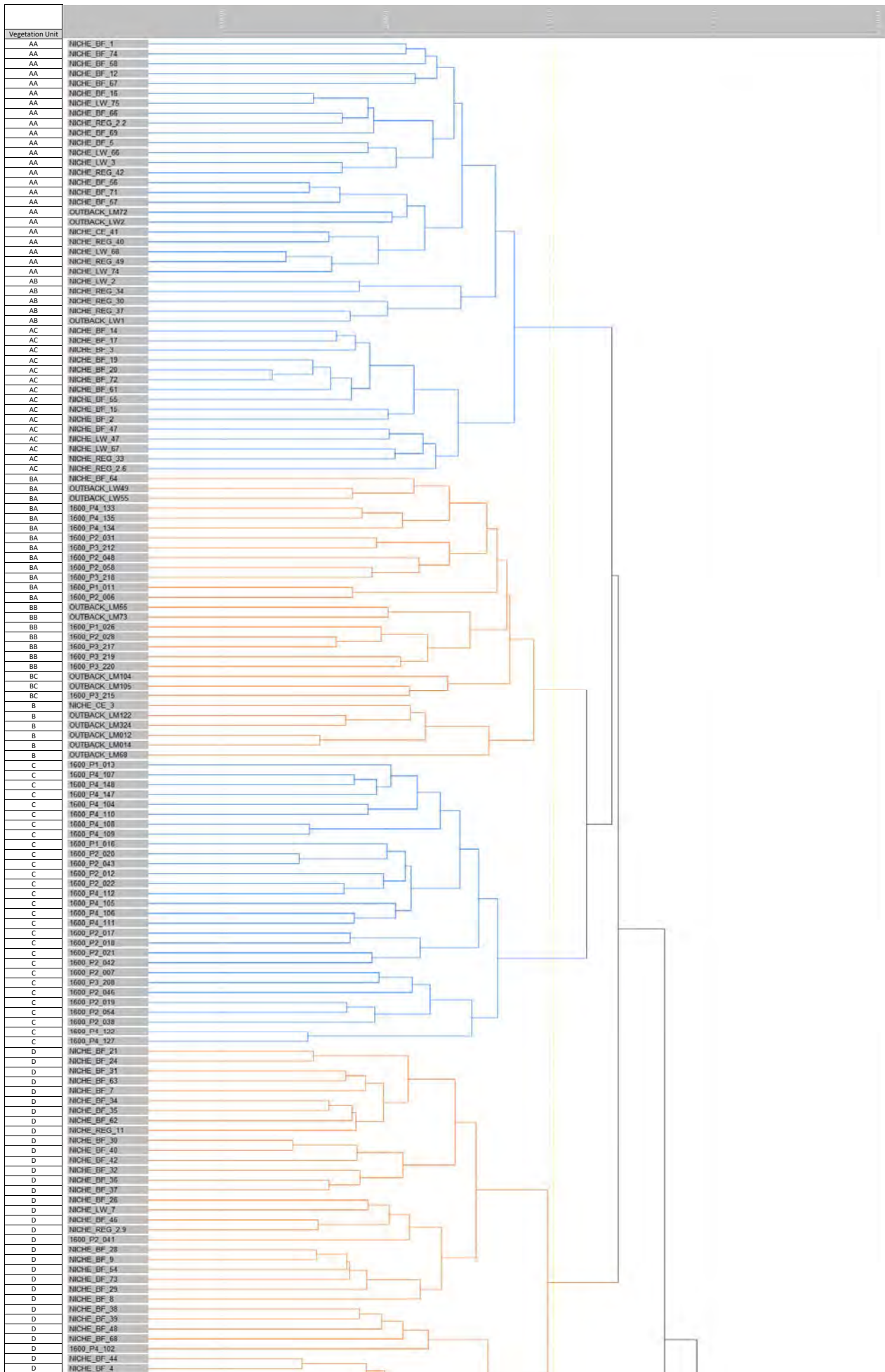
D.2: Site by species matrix – regional

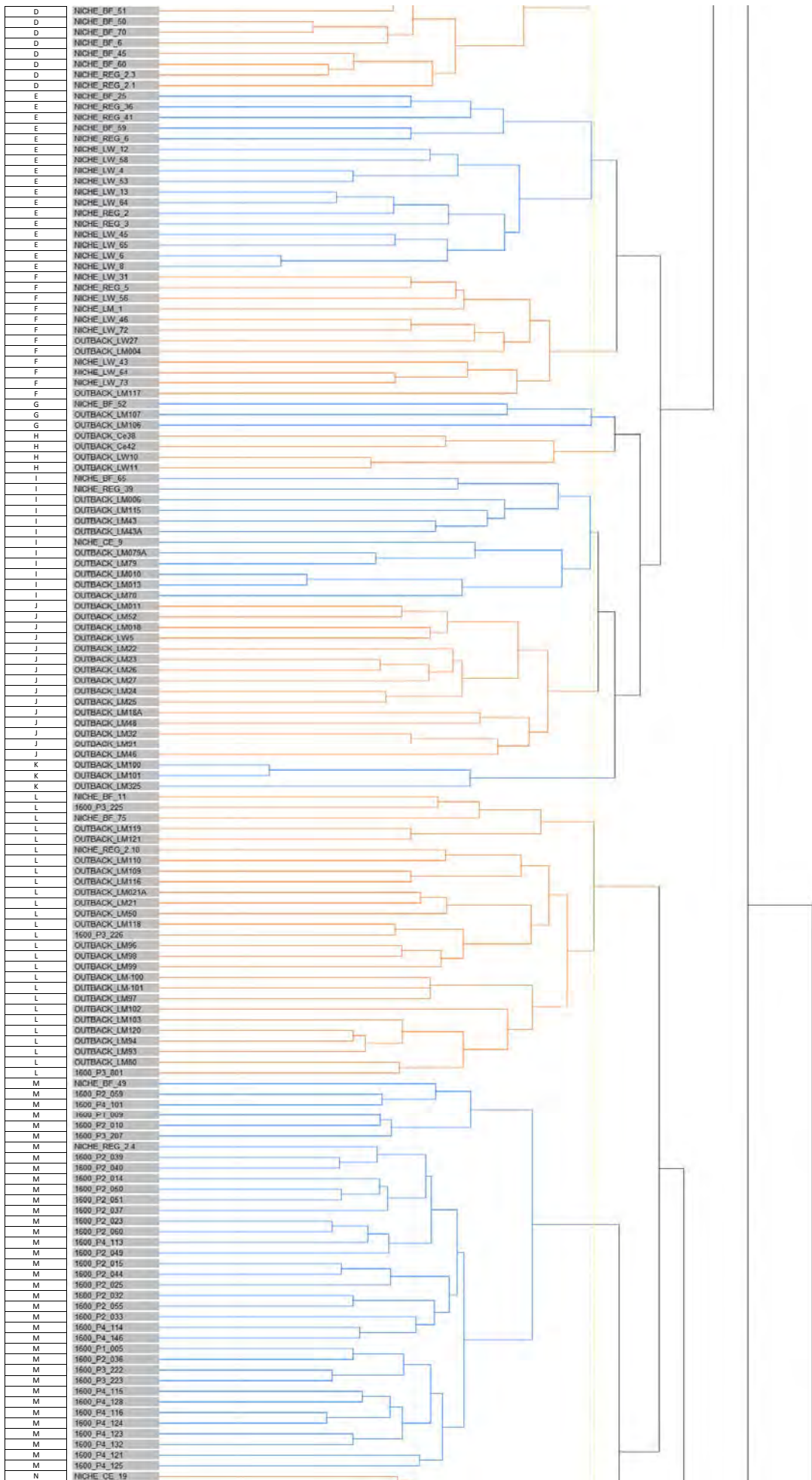
D.3: Quadrat data and photographs

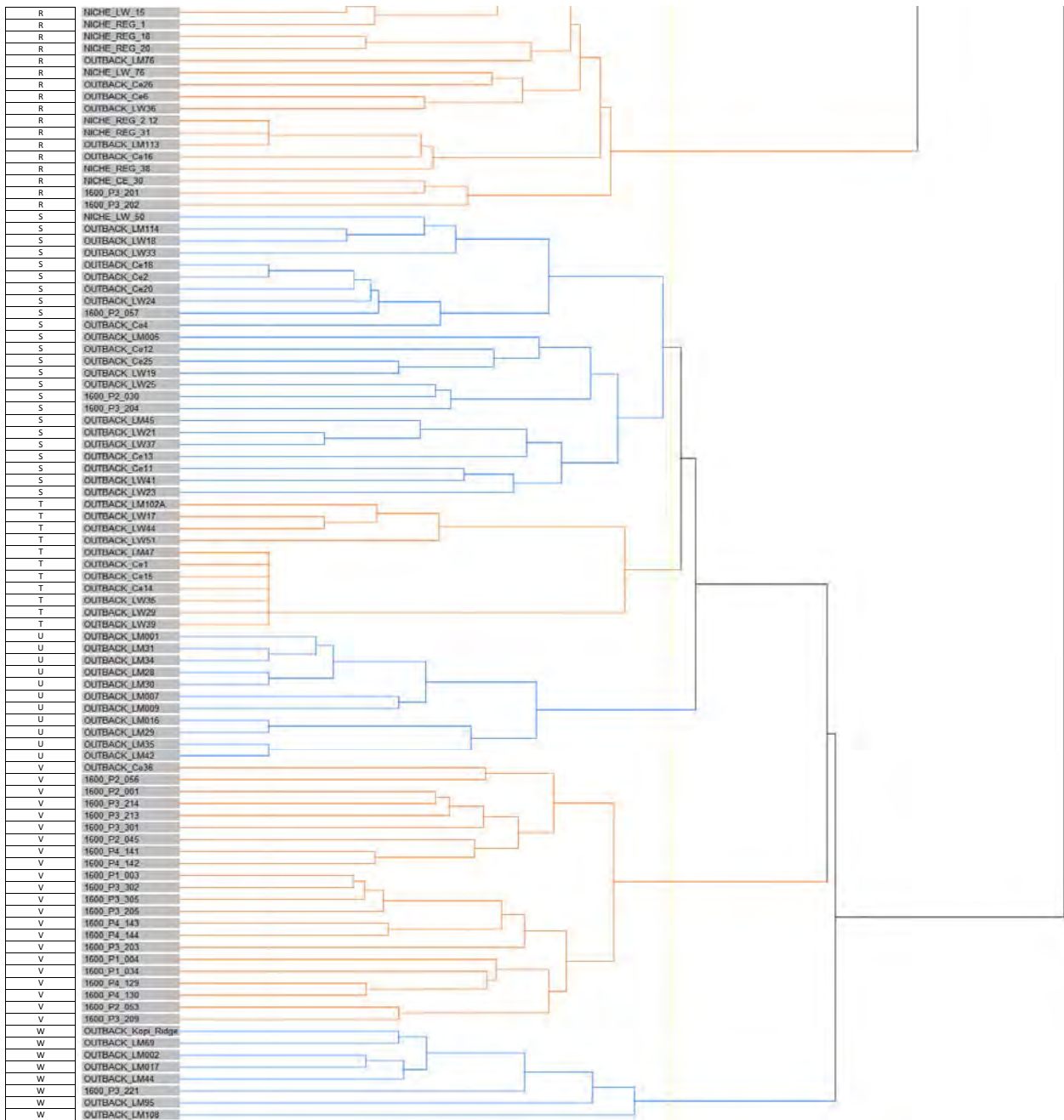
D.4: Shapefiles: significant flora, introduced flora, quadrat locations, vegetation mapping

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APPENDIX E REGIONAL DENDROGRAM







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APPENDIX F FLORA SPECIES LIST

Family	Taxa (^ = not included in counts)	Study Area	Regional	Status
Aizoaceae	<i>Disphyma crassifolium</i>		X	
Aizoaceae	<i>Gunniopsis quadrifida</i>		X	
Aizoaceae	<i>Trianthera triquetrum</i>	X	X	
Amaranthaceae	<i>Alternanthera denticulata</i>	X		
Amaranthaceae	<i>Ptilotus aervooides</i>		X	
Amaranthaceae	<i>Ptilotus ?chamaecladus</i>		X	
Amaranthaceae	<i>Ptilotus divaricatus</i>	X		
Amaranthaceae	<i>Ptilotus ?drummondii</i>		X	
Amaranthaceae	<i>Ptilotus ?gaudichaudii</i>		X	
Amaranthaceae	<i>Ptilotus helipteroides</i>	X	X	
Amaranthaceae	<i>Ptilotus nobilis</i> subsp. <i>nobilis</i>	X	X	
Amaranthaceae	<i>Ptilotus obovatus</i>	X	X	
Amaranthaceae	<i>Ptilotus polystachyus</i>	X		
Amaranthaceae	<i>Ptilotus roei</i>	X	X	
Amaranthaceae	<i>Ptilotus ?roei</i> [^]		X	
Amaranthaceae	<i>Ptilotus rotundifolius</i>		X	
Amaranthaceae	<i>Ptilotus schwartzii</i>	X	X	
Amaranthaceae	<i>Ptilotus ?schwartzii</i> [^]	X		
Amaranthaceae	<i>Surreya ?diandra</i>		X	Atypical
Apocynaceae	<i>Marsdenia australis</i>	X	X	
Apocynaceae	<i>Rhyncharrhena linearis</i>	X	X	
Asteraceae	<i>Angianthus cornutus</i>		X	
Asteraceae	<i>Angianthus tomentosus</i>		X	
Asteraceae	<i>Bidens bipinnata</i>	X	X	Introduced
Asteraceae	<i>Brachyscome ciliaris</i>		X	
Asteraceae	<i>Centipeda thespidioides</i>	X	X	
Asteraceae	<i>Chrysocephalum eremaeum</i>		X	
Asteraceae	<i>Cratystylis centralis</i>		X	Priority 3
Asteraceae	<i>Cratystylis subspinescens</i>	X	X	
Asteraceae	<i>Gnephosis tenuissima</i>	X		
Asteraceae	<i>Helichrysum luteoalbum</i>	X		
Asteraceae	<i>Minuria cunninghamii</i>		X	
Asteraceae	<i>?Minuria sp.</i> [^]		X	
Asteraceae	<i>Olearia calcarea</i>		X	
Asteraceae	<i>Pluchea dentex</i>	X		
Asteraceae	<i>Podolepis capillaris</i>		X	
Asteraceae	<i>Pterocaulon sphacelatum</i>	X		
Asteraceae	<i>?Rhodanthe charsleyae</i>		X	
Asteraceae	<i>Senecio lacustrinus</i>		X	
Boraginaceae	<i>?Halganina cyanea</i> [^]		X	
Boraginaceae	<i>Halganina cyanea</i>	X		
Boraginaceae	<i>Heliotropium heteranthum</i>		X	
Brassicaceae	<i>Lepidium platypetalum</i>	X	X	
Campanulaceae	<i>Wahlenbergia tumidiflora</i>	X		
Casuarinaceae	<i>Casuarina pauper</i>	X	X	
Celastraceae	<i>Stackhousia clementii</i>		X	Priority 3
Chenopodiaceae	<i>Atriplex amnicola</i>	X		
Chenopodiaceae	<i>Atriplex bunburyana</i>	X		
Chenopodiaceae	<i>Atriplex codonocarpa</i>	X	X	
Chenopodiaceae	<i>Atriplex vesicaria</i>		X	
Chenopodiaceae	<i>Dissocarpus paradoxus</i>	X	X	
Chenopodiaceae	<i>Dysphania plantaginella</i>		X	
Chenopodiaceae	<i>?Enchylaena tomentosa</i> [^]	X	X	
Chenopodiaceae	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	X	X	
Chenopodiaceae	<i>Eremophea spinosa</i>	X	X	
Chenopodiaceae	<i>Eriochiton sclerolaenoides</i>	X	X	
Chenopodiaceae	<i>Maireana amoena</i>	X	X	
Chenopodiaceae	<i>Maireana carnosa</i>	X	X	
Chenopodiaceae	<i>Maireana ?carnosa</i> [^]		X	
Chenopodiaceae	<i>Maireana georgei</i>	X	X	
Chenopodiaceae	<i>Maireana ?georgei</i> [^]		X	
Chenopodiaceae	<i>Maireana glomerifolia</i>		X	
Chenopodiaceae	<i>Maireana lobiflora</i>		X	Range extension
Chenopodiaceae	<i>Maireana luehmannii</i>		X	Range extension

Family	Taxa (^ = not included in counts)	Study Area	Regional	Status
Chenopodiaceae	<i>Maireana melanocoma</i>		X	
Chenopodiaceae	<i>Maireana pentatropis</i>		X	
Chenopodiaceae	<i>Maireana platycarpa</i>		X	
Chenopodiaceae	<i>Maireana pyramidata</i>	X	X	
Chenopodiaceae	<i>Maireana ?pyramidata</i> [^]		X	
Chenopodiaceae	<i>?Maireana sp.</i> [^]	X		
Chenopodiaceae	<i>Maireana sp.</i> [^]	X		
Chenopodiaceae	<i>Maireana suaedifolia</i>		X	
Chenopodiaceae	<i>Maireana ?thesioides</i> [^]	X	X	
Chenopodiaceae	<i>Maireana thesioides</i>	X		
Chenopodiaceae	<i>Maireana ?tomentosa</i> [^]		X	
Chenopodiaceae	<i>Maireana tomentosa subsp. tomentosa</i>	X	X	
Chenopodiaceae	<i>Maireana triptera</i>	X		
Chenopodiaceae	<i>Maireana villosa</i>	X	X	
Chenopodiaceae	<i>Maireana ?villosa</i> [^]	X	X	
Chenopodiaceae	<i>Rhagodia drummondii</i>	X	X	
Chenopodiaceae	<i>Rhagodia ?drummondii</i> [^]		X	
Chenopodiaceae	<i>Rhagodia ?eremaea</i>		X	
Chenopodiaceae	<i>Salsola australis</i>	X	X	
Chenopodiaceae	<i>Sclerolaena alata</i>	X	X	
Chenopodiaceae	<i>Sclerolaena clelandii</i>		X	Range extension
Chenopodiaceae	<i>Sclerolaena cornishiana</i>	X		
Chenopodiaceae	<i>Sclerolaena cuneata</i>	X	X	
Chenopodiaceae	<i>Sclerolaena densiflora</i>	X	X	
Chenopodiaceae	<i>Sclerolaena deserticola</i>	X	X	
Chenopodiaceae	<i>Sclerolaena diacantha</i>	X	X	
Chenopodiaceae	<i>Sclerolaena ?diacantha</i> [^]	X	X	
Chenopodiaceae	<i>Sclerolaena ericantha</i>	X	X	
Chenopodiaceae	<i>Sclerolaena eurotioides</i>		X	
Chenopodiaceae	<i>Sclerolaena fimbriolata</i>		X	
Chenopodiaceae	<i>Sclerolaena lanicuspis</i>		X	
Chenopodiaceae	<i>Sclerolaena ?lanicuspis</i> [^]		X	
Chenopodiaceae	<i>Sclerolaena microcarpa</i>	X		
Chenopodiaceae	<i>Sclerolaena obliquicuspis</i>	X	X	
Chenopodiaceae	<i>Sclerolaena sp.</i> [^]	X		
Chenopodiaceae	<i>Tecticornia sp. (sterile)</i> [^]	X	X	
Chenopodiaceae	<i>Tecticornia aff halocnemoides s.l. 'large ovate seed aggregate'</i>		X	
Chenopodiaceae	<i>?Tecticornia aff halocnemoides s.l. 'tuberculate seed'</i>		X	
Chenopodiaceae	<i>Tecticornia calyptrata</i>		X	
Chenopodiaceae	<i>Tecticornia cymbiformis</i>		X	Priority 3
Chenopodiaceae	<i>Tecticornia disarticulata</i>	X	X	
Chenopodiaceae	<i>Tecticornia doleiformis</i>		X	
Chenopodiaceae	<i>Tecticornia indica</i> [^]	X	X	
Chenopodiaceae	<i>Tecticornia indica subsp. bidens</i>	X	X	
Chenopodiaceae	<i>Tecticornia indica subsp. leiostachya</i>	X	X	
Chenopodiaceae	<i>Tecticornia laevigata</i>	X	X	
Chenopodiaceae	<i>Tecticornia peltata</i>		X	
Chenopodiaceae	<i>Tecticornia pergranulata</i>		X	
Chenopodiaceae	<i>Tecticornia pruinosa</i>		X	
Chenopodiaceae	<i>Tecticornia pterygosperma subsp. denticulata</i>		X	
Chenopodiaceae	<i>Tecticornia sp. aff globulifera (small)</i>		X	
Chenopodiaceae	<i>Tecticornia sp. aff laevigata (non-rotated fruitlets)</i>		X	
Chenopodiaceae	<i>Tecticornia sp. aff. undulata (broad articles)</i>		X	
Chenopodiaceae	<i>Tecticornia sp. Burnerbinmah (D. Edinger et al. 101)</i>		X	
Chenopodiaceae	<i>Tecticornia sp. Dennys Crossing (K.A. Shepherd & J. English KS 552)</i>		X	
Chenopodiaceae	<i>Tecticornia tenuis</i>		X	
Chenopodiaceae	<i>Tecticornia sp. Sunshine Lake (K.A. Shepherd et al. KS 867)</i>		X	Priority 3
Convolvulaceae	<i>Bonamia erecta</i>	X		
Convolvulaceae	<i>Duperreya commixta</i>	X	X	
Convolvulaceae	<i>Duperreya sericea</i>	X		
Cucurbitaceae	<i>Citrullus ?lanatus</i>	X		Introduced
Cyperaceae	<i>Bulbostylis barbata</i>	X		
Cyperaceae	<i>Cyperus ?betchei subsp. commiscens</i> [^]	X	X	
Cyperaceae	<i>Cyperus betchei subsp. commiscens</i>	X	X	

Family	Taxa (^ = not included in counts)	Study Area	Regional	Status
Cyperaceae	<i>Cyperus iria</i>	X		
Cyperaceae	<i>Fimbristylis dichotoma</i>	X	X	
Cyperaceae	<i>Fimbristylis ?dichotoma</i> [^]	X		
Elatinaceae	<i>Bergia perennis</i>		X	
Euphorbiaceae	<i>Euphorbia australis</i>		X	
Euphorbiaceae	<i>Euphorbia drummondii</i>	X	X	
Euphorbiaceae	<i>Euphorbia ?drummondii</i> [^]		X	
Euphorbiaceae	<i>Euphorbia tannensis</i> subsp. <i>eremophila</i>	X		
Fabaceae	<i>Acacia ?aneura</i> [^]	X	X	
Fabaceae	<i>Acacia aneura</i>	X		
Fabaceae	<i>Acacia ?aneura</i> x <i>incurvaneura</i>	X		
Fabaceae	<i>Acacia aptaneura</i>		X	
Fabaceae	<i>Acacia ?aptaneura</i> [^]	X	X	
Fabaceae	<i>Acacia aptaneura</i> (short/broad phyllode variant)	X		
Fabaceae	<i>Acacia ?aptaneura</i> (short/broad phyllode variant) [^]	X		
Fabaceae	<i>Acacia ayersiana</i>	X	X	
Fabaceae	<i>Acacia ?ayersiana</i> [^]	X	X	
Fabaceae	<i>Acacia burkittii</i>	X	X	
Fabaceae	<i>Acacia caesaneura</i>	X	X	
Fabaceae	<i>Acacia ?caesaneura</i> [^]	X		
Fabaceae	<i>Acacia caesaneura</i> (narrow phyllode variant)		X	
Fabaceae	<i>Acacia caesaneura</i> x <i>incurvaneura</i>	X	X	
Fabaceae	<i>Acacia colletioides</i>	X	X	
Fabaceae	<i>Acacia ?colletioides</i> [^]		X	
Fabaceae	<i>Acacia craspedocarpa</i>	X	X	
Fabaceae	<i>Acacia ?cuthbertsonii</i>		X	
Fabaceae	<i>Acacia heteroneura</i> var. <i>jutsonii</i>	X		Range extension
Fabaceae	<i>Acacia incurvaneura</i>	X	X	
Fabaceae	<i>Acacia ?incurvaneura</i> [^]	X		
Fabaceae	<i>Acacia jamesiana</i>	X		
Fabaceae	<i>Acacia ligulata</i>	X	X	
Fabaceae	<i>Acacia ?macraneura</i>	X	X	
Fabaceae	<i>Acacia minyura</i>	X	X	
Fabaceae	<i>Acacia nyssophylla</i>		X	
Fabaceae	<i>Acacia pachyacra</i>	X	X	
Fabaceae	<i>Acacia paraneura</i>	X		
Fabaceae	<i>Acacia prainii</i>		X	
Fabaceae	<i>Acacia ?prainii</i> [^]		X	
Fabaceae	<i>Acacia pruinocarpa</i>	X	X	
Fabaceae	<i>Acacia pteraneura</i>	X	X	
Fabaceae	<i>Acacia ?pteraneura</i> [^]		X	
Fabaceae	<i>Acacia ?ramulosa</i> var. <i>linophylla</i> [^]	X	X	
Fabaceae	<i>Acacia ramulosa</i> var. <i>linophylla</i>	X		
Fabaceae	<i>Acacia ramulosa</i> var. <i>ramulosa</i>	X		
Fabaceae	<i>Acacia ?ramulosa</i> var. <i>ramulosa</i> [^]	X		
Fabaceae	<i>Acacia sibirica</i>	X		
Fabaceae	<i>Acacia tetragonophylla</i>	X	X	
Fabaceae	<i>Acacia victoriae</i>		X	
Fabaceae	<i>Glycine canescens</i>	X	X	
Fabaceae	<i>Indigofera monophylla</i>	X	X	
Fabaceae	<i>Indigofera</i> sp. [^]		X	
Fabaceae	<i>Leptosema chambersii</i>	X	X	
Fabaceae	<i>Senna ?artemisioides</i> subsp. <i>filifolia</i> [^]	X	X	
Fabaceae	<i>Senna artemisioides</i> subsp. <i>filifolia</i>	X		
Fabaceae	<i>Senna artemisioides</i> subsp. <i>helmsii</i>	X	X	
Fabaceae	<i>Senna artemisioides</i> subsp. <i>petiolaris</i>	X		
Fabaceae	<i>Senna artemisioides</i> subsp. <i>x artemisioides</i>	X	X	
Fabaceae	<i>Senna ?artemisioides</i> subsp. <i>x artemisioides</i> [^]		X	
Fabaceae	<i>Senna artemisioides</i> subsp. <i>x sturtii</i>	X	X	
Fabaceae	<i>Senna ?artemisioides</i> subsp. <i>x sturtii</i> [^]		X	
Fabaceae	<i>Senna ?charlesiana</i>		X	
Fabaceae	<i>Senna glaucifolia</i>	X		
Fabaceae	<i>Senna glutinosa</i> subsp. <i>chatelainiana</i>	X		
Fabaceae	<i>Senna</i> sp. <i>Austin</i> (A. Strid 20210)	X		

Family	Taxa (^ = not included in counts)	Study Area	Regional	Status
Fabaceae	<i>Senna</i> sp. <i>Meekatharra</i> (E. Bailey 1-26)	X	X	
Fabaceae	<i>Swainsona</i> ? <i>microphylla</i>		X	
Frankeniaceae	<i>Frankenia cinerea</i>		X	
Frankeniaceae	<i>Frankenia confusa</i>		X	Priority 4
Frankeniaceae	<i>Frankenia fecunda</i>	X	X	
Frankeniaceae	<i>Frankenia laxiflora</i>	X	X	
Frankeniaceae	<i>Frankenia setosa</i>	X	X	
Frankeniaceae	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)		X	
Geraniaceae	<i>Erodium cygnorum</i>		X	
Goodeniaceae	<i>Goodenia maideniana</i>		X	
Goodeniaceae	<i>Goodenia microptera</i>	X		
Goodeniaceae	<i>Goodenia</i> ? <i>microptera</i> ^	X		
Goodeniaceae	<i>Goodenia</i> sp.^		X	
Goodeniaceae	<i>Scaevola amblyanthera</i> var. <i>centralis</i>	X		
Goodeniaceae	<i>Scaevola parvifolia</i>		X	
Goodeniaceae	<i>Scaevola spinescens</i>	X	X	
Gyrostemonaceae	<i>Codonocarpus cotinifolius</i>		X	
Hemerocallidaceae	<i>Dianella revoluta</i> var. <i>divaricata</i>	X	X	
Lamiaceae	<i>Dicrasyllis brunnea</i>		X	
Lamiaceae	<i>Dicrasyllis flexuosa</i>		X	
Lamiaceae	? <i>Newcastelia</i> sp.		X	
Lamiaceae	<i>Prostanthera</i> ? <i>althoferi</i> subsp. <i>althoferi</i> ^		X	
Lamiaceae	<i>Prostanthera althoferi</i> subsp. <i>althoferi</i>	X		
Lamiaceae	<i>Prostanthera wilkieana</i>	X		
Lamiaceae	<i>Spartothamnella teucriflora</i>	X	X	
Loranthaceae	<i>Amyema</i> ? <i>fitzgeraldii</i>		X	
Loranthaceae	<i>Amyema microphylla</i>	X		
Loranthaceae	<i>Lysiana casuarinae</i>		X	
Malvaceae	<i>Abutilon cryptopetalum</i>	X	X	
Malvaceae	<i>Abutilon</i> ? <i>cryptopetalum</i> ^	X		
Malvaceae	<i>Abutilon fraseri</i>	X	X	
Malvaceae	<i>Abutilon otocarpum</i>	X	X	
Malvaceae	<i>Abutilon</i> sp.^	X		
Malvaceae	<i>Alyogyne pinoniana</i>	X	X	
Malvaceae	<i>Androcalva loxophylla</i>		X	
Malvaceae	<i>Androcalva luteiflora</i>	X		
Malvaceae	<i>Hibiscus burtonii</i>	X	X	
Malvaceae	<i>Hibiscus sturtii</i>		X	
Malvaceae	? <i>Hibiscus sturtii</i> ^	X	X	
Malvaceae	<i>Keraudrenia velutina</i> subsp. <i>elliptica</i>	X		
Malvaceae	<i>Lawrencia densiflora</i>	X	X	
Malvaceae	<i>Lawrencia helmsii</i>		X	
Malvaceae	<i>Lawrencia squamata</i>	X		
Malvaceae	<i>Sida calyxhymenia</i>	X		
Malvaceae	<i>Sida cardiophylla</i>		X	
Malvaceae	<i>Sida ectogama</i>	X	X	
Malvaceae	<i>Sida</i> ? <i>ectogama</i> ^		X	
Malvaceae	<i>Sida fibulifera</i>	X		
Malvaceae	<i>Sida platycalyx</i>		X	
Malvaceae	<i>Sida</i> sp.^	X		
Malvaceae	<i>Sida</i> ?sp. dark green fruits (S. van Leeuwen 2260)^	X	X	
Malvaceae	<i>Sida</i> sp. dark green fruits (S. van Leeuwen 2260)	X	X	
Malvaceae	<i>Sida</i> sp. <i>Excedentifolia</i> (J.L. Egan 1925)	X		
Malvaceae	<i>Sida</i> sp. <i>Golden calyces glabrous</i> (H.N. Foote 32)	X	X	
Malvaceae	<i>Sida</i> ?sp. <i>Golden calyces glabrous</i> (H.N. Foote 32)^	X	X	
Malvaceae	<i>Sida</i> sp. <i>verrucose glands</i> (F.H. Mollemans 2423)	X	X	
Malvaceae	<i>Sida</i> ?sp. <i>verrucose glands</i> (F.H. Mollemans 2423)^	X	X	
Malvaceae	<i>Sida</i> ? <i>trichopoda</i>		X	
Marsileaceae	<i>Marsilea hirsuta</i>	X		
Molluginaceae	<i>Mollugo cerviana</i>	X		Range extension
Myrtaceae	<i>Aluta aspera</i> subsp. <i>hesperia</i>	X		
Myrtaceae	<i>Calytrix desolata</i>		X	
Myrtaceae	? <i>Calytrix</i> sp.^		X	
Myrtaceae	<i>Enekbatus eremaeus</i>	X		

Family	Taxa (^ = not included in counts)	Study Area	Regional	Status
Myrtaceae	<i>Eucalyptus ?clelandii</i>	X		
Myrtaceae	<i>Eucalyptus kingsmillii</i>	X	X	
Myrtaceae	<i>Eucalyptus lucasii</i>	X	X	
Myrtaceae	<i>Eucalyptus striaticalyx</i>		X	
Myrtaceae	<i>Melaleuca eleuterostachya</i>		X	
Myrtaceae	<i>Melaleuca hamata</i>	X		
Myrtaceae	<i>Melaleuca interioris</i>	X	X	
Myrtaceae	<i>Melaleuca xerophila</i>	X	X	
Nyctaginaceae	<i>Boerhavia ?coccinea</i>	X	X	
Nyctaginaceae	<i>Boerhavia schomburgkiana</i>		X	
Nyctaginaceae	<i>Boerhavia ?schomburgkiana^</i>	X		
Nyctaginaceae	<i>Boerhavia sp.^</i>	X	X	
Plumbaginaceae	<i>Muellerolimon salicorniaceum</i>		X	
Poaceae	<i>Amphipogon caricinus var. caricinus</i>	X		
Poaceae	<i>Aristida contorta</i>	X	X	
Poaceae	<i>Aristida holathera var. holathera</i>		X	
Poaceae	<i>Austrostipa ?elegantissima</i>	X		
Poaceae	<i>Cymbopogon ambiguus</i>	X		
Poaceae	<i>Dactyloctenium radulans</i>	X	X	
Poaceae	<i>?Dichanthium sp.</i>	X		
Poaceae	<i>Digitaria brownii</i>	X	X	
Poaceae	<i>?Digitaria brownii^</i>		X	
Poaceae	<i>Enneapogon caerulescens</i>	X	X	
Poaceae	<i>Enneapogon ?caerulescens^</i>		X	
Poaceae	<i>Enneapogon polyphyllus</i>	X	X	
Poaceae	<i>Enteropogon ramosus</i>	X	X	
Poaceae	<i>?Enteropogon ramosus^</i>		X	
Poaceae	<i>Eragrostis cumingii</i>	X		
Poaceae	<i>Eragrostis dielsii</i>	X	X	
Poaceae	<i>Eragrostis eriopoda</i>	X	X	
Poaceae	<i>Eragrostis ?eriopoda^</i>		X	
Poaceae	<i>Eragrostis falcata</i>	X	X	
Poaceae	<i>Eragrostis ?falcata^</i>		X	
Poaceae	<i>Eragrostis kennedyae</i>	X	X	
Poaceae	<i>Eragrostis lanipes</i>	X		
Poaceae	<i>Eragrostis pergracilis</i>		X	
Poaceae	<i>Eragrostis ?pergracilis^</i>	X	X	
Poaceae	<i>Eriachne flaccida</i>	X		
Poaceae	<i>Eriachne helmsii</i>	X	X	
Poaceae	<i>Eriachne mucronata</i>	X	X	
Poaceae	<i>Eriachne ?mucronata^</i>		X	
Poaceae	<i>Eriachne pulchella subsp. pulchella</i>	X	X	
Poaceae	<i>Monachather paradoxus</i>	X	X	
Poaceae	<i>Paraneurachne muelleri</i>	X		
Poaceae	<i>Paspalidium basicladum</i>		X	
Poaceae	<i>Paspalidium gracile</i>	X	X	Range extension
Poaceae	<i>Paspalidium sp.^</i>		X	
Poaceae	<i>Setaria dielsii</i>	X	X	
Poaceae	<i>Sporobolus caroli</i>		X	
Poaceae	<i>Themeda triandra</i>	X		
Poaceae	<i>Thyridolepis mitchelliana</i>	X	X	
Poaceae	<i>Thyridolepis multiculmis</i>	X		
Poaceae	<i>Thyridolepis xerophila</i>	X	X	Range extension
Poaceae	<i>Tragus australianus</i>		X	
Poaceae	<i>Triodia basedowii</i>	X	X	
Poaceae	<i>Triodia melvillei</i>	X	X	
Poaceae	<i>Triodia plurinervata</i>		X	Range extension
Poaceae	<i>Tripogon loliiformis</i>	X	X	
Portulacaceae	<i>Calandrinia balonensis</i>	X		
Portulacaceae	<i>Calandrinia ?eremaea</i>		X	
Portulacaceae	<i>Calandrinia pleiopetala</i>		X	
Portulacaceae	<i>Calandrinia sp.^</i>	X	X	
Portulacaceae	<i>Calandrinia sp. 1 (indet.)</i>		X	
Portulacaceae	<i>Calandrinia sp. 2 (indet.)</i>		X	

Family	Taxa (^ = not included in counts)	Study Area	Regional	Status
Portulacaceae	<i>Calandrinia</i> sp. 3 (indet.)		X	
Portulacaceae	<i>Calandrinia</i> sp. 4 (indet.)		X	
Portulacaceae	<i>Calandrinia</i> sp. The Pink Hills (F. Obbens FO 19/06)	X	X	
Portulacaceae	<i>Calandrinia</i> ?sp. The Pink Hills (F. Obbens FO 19/06)^		X	
Portulacaceae	<i>Calandrinia translucens</i>		X	
Portulacaceae	<i>Calandrinia</i> ? <i>translucens</i> ^		X	
Portulacaceae	<i>Portulaca oleracea</i>	X	X	
Portulacaceae	<i>Portulaca</i> ? <i>oleracea</i> ^	X	X	
Proteaceae	<i>Grevillea acacioides</i>	X		
Proteaceae	<i>Grevillea deflexa</i>	X	X	
Proteaceae	<i>Grevillea didymobotrya</i> subsp. <i>didymobotrya</i>		X	
Proteaceae	<i>Grevillea eriostachya</i>	X		
Proteaceae	<i>Grevillea nematophylla</i> subsp. <i>supraplana</i>	X	X	
Proteaceae	<i>Grevillea sarissa</i> ^	X		
Proteaceae	<i>Grevillea sarissa</i> subsp. <i>sarissa</i>	X	X	
Proteaceae	<i>Grevillea sarissa</i> subsp. <i>succincta</i>		X	
Proteaceae	<i>Hakea francisiana</i>	X		
Proteaceae	<i>Hakea leucoptera</i> subsp. <i>sericipes</i>	X		
Proteaceae	<i>Hakea lorea</i> subsp. <i>lorea</i>	X	X	
Proteaceae	<i>Hakea</i> ? <i>minyma</i> ^		X	
Proteaceae	<i>Hakea minyma</i>	X		
Proteaceae	<i>Hakea preissii</i>	X	X	
Pteridaceae	<i>Cheilanthes brownii</i>		X	
Pteridaceae	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	X	X	
Rubiaceae	<i>Psydrax latifolia</i>	X	X	
Rubiaceae	<i>Psydrax rigidula</i>	X	X	
Rubiaceae	<i>Psydrax suaveolens</i>	X	X	
Rubiaceae	<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>	X	X	
Santalaceae	<i>Anthobolus leptomerioides</i>	X		
Santalaceae	<i>Exocarpos aphyllus</i>	X	X	
Santalaceae	<i>Exocarpos sparteus</i>	X		
Santalaceae	<i>Santalum lanceolatum</i>	X	X	
Santalaceae	<i>Santalum</i> sp.^	X		
Santalaceae	<i>Santalum spicatum</i>	X	X	
Santalaceae	<i>Santalum</i> ? <i>spicatum</i> ^		X	
Sapindaceae	<i>Dodonaea petiolaris</i>	X		
Scrophulariaceae	<i>Eremophila clarkei</i>	X		
Scrophulariaceae	<i>Eremophila</i> ? <i>clarkei</i> ^	X		
Scrophulariaceae	<i>Eremophila compacta</i> subsp. <i>compacta</i>	X		
Scrophulariaceae	<i>Eremophila enata</i>	X		
Scrophulariaceae	<i>Eremophila ericalyx</i>	X		
Scrophulariaceae	<i>Eremophila exilifolia</i>		X	
Scrophulariaceae	<i>Eremophila falcata</i>		X	
Scrophulariaceae	<i>Eremophila</i> ? <i>flabellata</i>	X		
Scrophulariaceae	<i>Eremophila forrestii</i> ^	X	X	
Scrophulariaceae	<i>Eremophila</i> ? <i>forrestii</i> ^		X	
Scrophulariaceae	<i>Eremophila forrestii</i> subsp. <i>forrestii</i>	X	X	
Scrophulariaceae	<i>Eremophila forrestii</i> subsp. <i>hastieana</i>		X	
Scrophulariaceae	<i>Eremophila galeata</i>	X	X	
Scrophulariaceae	<i>Eremophila</i> ? <i>galeata</i> ^		X	
Scrophulariaceae	<i>Eremophila gilesii</i> ^	X		
Scrophulariaceae	<i>Eremophila gilesii</i> subsp. <i>gilesii</i>	X		
Scrophulariaceae	<i>Eremophila gilesii</i> subsp. <i>variabilis</i>	X	X	
Scrophulariaceae	<i>Eremophila glabra</i>	X	X	
Scrophulariaceae	<i>Eremophila jucunda</i> ^		X	
Scrophulariaceae	<i>Eremophila jucunda</i> subsp. <i>pulcherrima</i>		X	
Scrophulariaceae	<i>Eremophila</i> ? <i>latrobei</i> ^		X	
Scrophulariaceae	<i>Eremophila latrobei</i> subsp. <i>latrobei</i>	X	X	
Scrophulariaceae	<i>Eremophila longifolia</i>	X	X	
Scrophulariaceae	<i>Eremophila</i> ? <i>longifolia</i> ^		X	
Scrophulariaceae	<i>Eremophila maculata</i> subsp. <i>brevifolia</i>	X		
Scrophulariaceae	<i>Eremophila malacoides</i>	X	X	
Scrophulariaceae	<i>Eremophila margarethae</i>	X	X	
Scrophulariaceae	<i>Eremophila</i> ? <i>margarethae</i> ^		X	

Family	Taxa (^ = not included in counts)	Study Area	Regional	Status
Scrophulariaceae	<i>Eremophila oldfieldii</i> subsp. <i>angustifolia</i>	X	X	
Scrophulariaceae	<i>Eremophila oppositifolia</i> subsp. <i>angustifolia</i>	X		
Scrophulariaceae	<i>Eremophila pantonii</i>	X	X	
Scrophulariaceae	<i>Eremophila pungens</i>	X		Priority 4
Scrophulariaceae	<i>Eremophila serrulata</i>	X		
Scrophulariaceae	? <i>Eremophila</i> sp.^		X	
Scrophulariaceae	<i>Eremophila</i> ? <i>spectabilis</i> ^		X	
Scrophulariaceae	<i>Eremophila spectabilis</i> subsp. <i>brevis</i>	X	X	
Scrophulariaceae	<i>Eremophila spinescens</i>	X		
Solanaceae	? <i>Lycium australe</i>		X	
Solanaceae	<i>Nicotiana rosulata</i> subsp. <i>rosulata</i>		X	
Solanaceae	<i>Solanum centrale</i>	X		
Solanaceae	<i>Solanum cleistogamum</i>	X		
Solanaceae	<i>Solanum coactiliferum</i>	X		
Solanaceae	<i>Solanum</i> ? <i>horridum</i>		X	Range extension
Solanaceae	<i>Solanum lasiophyllum</i>	X	X	
Solanaceae	<i>Solanum nummularium</i>	X	X	
Solanaceae	<i>Solanum</i> sp.^	X		
Solanaceae	<i>Solanum sturtianum</i>		X	Range extension
Solanaceae	<i>Solanum terraneum</i>	X		
Zygophyllaceae	<i>Tribulus astrocarpus</i>	X	X	
Zygophyllaceae	<i>Tribulus</i> ? <i>astrocarpus</i> ^	X		
Zygophyllaceae	<i>Tribulus hirsutus</i>	X		
Zygophyllaceae	<i>Tribulus terrestris</i>	X	X	Introduced
Zygophyllaceae	<i>Zygophyllum</i> ? <i>eremaeum</i> ^		X	
Zygophyllaceae	<i>Zygophyllum eremaeum</i>	X		

APPENDIX G SIGNIFICANT FLORA COORDINATES AND TPRFS

Status	Taxa	Easting	Northing	Number of Plants
Priority 3	<i>Cratystylis centralis</i>	301422	6996014	1
Priority 3	<i>Cratystylis centralis</i>	305047	6996679	1
Priority 3	<i>Frankenia confusa</i>	234000	7030591	1
Priority 3	<i>Frankenia confusa</i>	243283	7025857	1
Priority 3	<i>Frankenia confusa</i>	236645	7027389	1
Priority 3	<i>Frankenia confusa</i>	236240	7027306	25
Priority 3	<i>Frankenia confusa</i>	310688	6987687	10
Priority 3	<i>Frankenia confusa</i>	236645	7027404	5
Priority 3	<i>Frankenia confusa</i>	236202	7027296	5
Priority 3	<i>Stackhousia clementii</i>	236202	7027296	5
Priority 3	<i>Tecticornia cymbiformis</i>	299070	6999482	1,500
Priority 3	<i>Tecticornia cymbiformis</i>	298945	6999448	1,000
Priority 3	<i>Tecticornia cymbiformis</i>	310233	6993438	50
Priority 3	<i>Tecticornia cymbiformis</i>	299892	6999527	100
Priority 3	<i>Tecticornia cymbiformis</i>	309932	6993029	4
Priority 3	<i>Tecticornia cymbiformis</i>	309868	6993053	15
Priority 3	<i>Tecticornia cymbiformis</i>	309980	6993045	20
Priority 3	<i>Tecticornia cymbiformis</i>	309999	6993048	30
Priority 3	<i>Tecticornia cymbiformis</i>	310179	6993802	20
Priority 3	<i>Tecticornia cymbiformis</i>	310187	6993836	50
Priority 3	<i>Tecticornia cymbiformis</i>	309420	6994879	20
Priority 3	<i>Tecticornia cymbiformis</i>	309383	6994900	30
Priority 3	<i>Tecticornia cymbiformis</i>	308334	6996023	7
Priority 3	<i>Tecticornia cymbiformis</i>	307430	6996585	40
Priority 3	<i>Tecticornia cymbiformis</i>	307412	6996602	20
Priority 3	<i>Tecticornia cymbiformis</i>	307390	6996640	10
Priority 3	<i>Tecticornia cymbiformis</i>	306579	6997467	500
Priority 3	<i>Tecticornia cymbiformis</i>	309421	6992356	10
Priority 3	<i>Tecticornia cymbiformis</i>	299297	6998676	500
Priority 3	<i>Tecticornia cymbiformis</i>	299320	6998731	500
Priority 3	<i>Tecticornia cymbiformis</i>	298964	6998918	10
Priority 3	<i>Tecticornia cymbiformis</i>	299062	6998785	3
Priority 3	<i>Tecticornia cymbiformis</i>	299140	6998711	30
Priority 3	<i>Tecticornia cymbiformis</i>	299170	6998702	20
Priority 3	<i>Tecticornia cymbiformis</i>	299109	6998817	1,000
Priority 3	<i>Tecticornia</i> sp. Sunshine Lake (K.A. Shepherd et al. KS 867)	309844	6990522	20
Priority 3	<i>Tecticornia</i> sp. Sunshine Lake (K.A. Shepherd et al. KS 867)	309855	6990353	30
Priority 4	<i>Eremophila pungens</i>	247582	7011439	20
Priority 4	<i>Eremophila pungens</i>	247620	7011435	10
Priority 4	<i>Eremophila pungens</i>	247641	7011438	100
Priority 4	<i>Eremophila pungens</i>	247671	7011444	20
Priority 4	<i>Eremophila pungens</i>	247701	7011441	20
Priority 4	<i>Eremophila pungens</i>	247740	7011440	15
Priority 4	<i>Eremophila pungens</i>	247771	7011443	20
Priority 4	<i>Eremophila pungens</i>	247799	7011446	50
Priority 4	<i>Eremophila pungens</i>	247826	7011452	20
Priority 4	<i>Eremophila pungens</i>	247848	7011447	15
Priority 4	<i>Eremophila pungens</i>	247875	7011435	20
Priority 4	<i>Eremophila pungens</i>	247570	7011180	20
Priority 4	<i>Eremophila pungens</i>	247541	7011200	20
Priority 4	<i>Eremophila pungens</i>	247516	7011212	5
Priority 4	<i>Eremophila pungens</i>	247503	7011233	40
Priority 4	<i>Eremophila pungens</i>	247497	7011259	200
Priority 4	<i>Eremophila pungens</i>	247508	7011296	200
Priority 4	<i>Eremophila pungens</i>	247506	7011337	200
Priority 4	<i>Eremophila pungens</i>	247477	7011365	10
Priority 4	<i>Eremophila pungens</i>	247452	7011410	3

Status	Taxa	Easting	Northing	Number of Plants
Priority 4	<i>Eremophila pungens</i>	247897	7011333	30
Priority 4	<i>Eremophila pungens</i>	247871	7011340	10
Priority 4	<i>Eremophila pungens</i>	247843	7011335	50
Priority 4	<i>Eremophila pungens</i>	247813	7011328	15
Priority 4	<i>Eremophila pungens</i>	247788	7011327	50
Priority 4	<i>Eremophila pungens</i>	247762	7011327	10
Priority 4	<i>Eremophila pungens</i>	247733	7011320	50
Priority 4	<i>Eremophila pungens</i>	247705	7011324	50
Priority 4	<i>Eremophila pungens</i>	247673	7011317	50
Priority 4	<i>Eremophila pungens</i>	247648	7011312	100
Priority 4	<i>Eremophila pungens</i>	247623	7011313	100
Priority 4	<i>Eremophila pungens</i>	247593	7011316	20
Priority 4	<i>Eremophila pungens</i>	247570	7011317	50
Priority 4	<i>Eremophila pungens</i>	247542	7011305	50
Priority 4	<i>Eremophila pungens</i>	247534	7011289	50
Priority 4	<i>Eremophila pungens</i>	247548	7011267	10
Priority 4	<i>Eremophila pungens</i>	247562	7011248	20
Priority 4	<i>Eremophila pungens</i>	247574	7011234	30
Priority 4	<i>Eremophila pungens</i>	247599	7011215	20
Priority 4	<i>Eremophila pungens</i>	247621	7011218	200
Priority 4	<i>Eremophila pungens</i>	247652	7011222	20
Priority 4	<i>Eremophila pungens</i>	247668	7011222	40
Priority 4	<i>Eremophila pungens</i>	247830	7011217	1
Priority 4	<i>Eremophila pungens</i>	247872	7011214	2
Priority 4	<i>Eremophila pungens</i>	247905	7011212	2
Priority 4	<i>Eremophila pungens</i>	247919	7011156	1
Priority 4	<i>Eremophila pungens</i>	247765	7011149	1
Priority 4	<i>Eremophila pungens</i>	247626	7011133	30
Priority 4	<i>Eremophila pungens</i>	247601	7011135	20
Priority 4	<i>Eremophila pungens</i>	247548	7011125	1
Priority 4	<i>Eremophila pungens</i>	247525	7011120	10
Priority 4	<i>Eremophila pungens</i>	247494	7011136	10
Priority 4	<i>Eremophila pungens</i>	247473	7011165	20
Priority 4	<i>Eremophila pungens</i>	247460	7011201	30
Priority 4	<i>Eremophila pungens</i>	247452	7011226	40
Priority 4	<i>Eremophila pungens</i>	247437	7011256	10
Priority 4	<i>Eremophila pungens</i>	247415	7011278	20
Priority 4	<i>Eremophila pungens</i>	247411	7011310	20
Priority 4	<i>Eremophila pungens</i>	247545	7011433	40
Atypical	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	236926	7025157	1
Atypical	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	236415	7026368	10
Atypical	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	299682	6998607	10
Atypical	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	277695	7010245	10
Atypical	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	284543	7010413	1
Atypical	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	236381	7026626	1
Atypical	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	236381	7026626	10
Atypical	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	277525	7010231	100
Atypical	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	300148	6999061	1
Atypical	<i>Frankenia</i> sp. aff. <i>fecunda</i> (glabrous leaf variant)	302040	6995521	5
Atypical	<i>Surreya</i> ? <i>diandra</i>	307397	6990675	1
Range Extension	<i>Acacia heteroneura</i> var. <i>jutsonii</i>	279359	7007187	5
Range Extension	<i>Dysphania plantaginella</i>	299201	6999292	1
Range Extension	<i>Dysphania plantaginella</i>	299468	6999043	1
Range Extension	<i>Maireana lobiflora</i>	306969	6991089	1
Range Extension	<i>Maireana lobiflora</i>	307397	6990675	1
Range Extension	<i>Maireana luehmannii</i>	299201	6999292	1
Range Extension	<i>Maireana luehmannii</i>	299468	6999043	1

Status	Taxa	Easting	Northing	Number of Plants
Range Extension	<i>Maireana luehmannii</i>	236202	7027296	1
Range Extension	<i>Maireana luehmannii</i>	237395	7027478	1
Range Extension	<i>Mollugo cerviana</i>	299708	6998187	1,000
Range Extension	<i>Paspalidium gracile</i>	300850	6996893	1
Range Extension	<i>Paspalidium gracile</i>	280105	7010303	1
Range Extension	<i>Paspalidium gracile</i>	277689	7010249	1,000
Range Extension	<i>Paspalidium gracile</i>	251918	7011312	1
Range Extension	<i>Paspalidium gracile</i>	251578	7011118	1
Range Extension	<i>Paspalidium gracile</i>	289121	7004969	1
Range Extension	<i>Paspalidium gracile</i>	289227	7004812	1
Range Extension	<i>Paspalidium gracile</i>	300038	6998018	1
Range Extension	<i>Pterocaulon sphacelatum</i>	245324	7014254	1
Range Extension	<i>Sclerolaena clelandii</i>	311598	6990640	1
Range Extension	<i>Sporobolus caroli</i>	236202	7027296	1
Range Extension	<i>Thyridolepis xerophila</i>	256177	7009899	1
Range Extension	<i>Thyridolepis xerophila</i>	245324	7014254	1
Range Extension	<i>Thyridolepis xerophila</i>	239097	7020639	1
Range Extension	<i>Triodia plurinervata</i>	300192	6999202	1

Datum: GDA 1994 UTM Zone 51



Threatened and Priority Flora Report Form

Please complete as much of the form as possible.

For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DPaW website at <http://www.dpaw.wa.gov.au/>

TAXON: <u>Cratystylis centralis</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>26/11/2014</u>		CONSERVATION STATUS: <u>P3</u> New population <input checked="" type="checkbox"/>	
OBSERVER/S: <u>Andrew Craigie</u>		PHONE: <u>6460 0300</u>	
ROLE: <u>Botanist/taxonomist</u>		ORGANISATION: <u>Ecologia Environment</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
Lake Maitland, c. 105 km SE of Wiluna, WA.

Reserve No.: _____

DISTRICT: _____		LGA: _____		Land manager present: <input type="checkbox"/>	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		Lat / Northing: <u>6993438</u>		No. satellites: <u>10</u> Map used: _____	
WGS84 <input type="checkbox"/>		Long / Easting: <u>310232</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		Zone: <u>51J</u>			

LAND TENURE:

Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/>	Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input checked="" type="checkbox"/>	MRWA road reserve <input type="checkbox"/>	Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____	Specify other: _____

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

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

POP'N COUNT ACCURACY: Actual Extrapolation Estimate

Count method: (Refer to field manual for list) _____

WHAT COUNTED: Plants Clumps Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:	Area of pop (m ²): _____ Note: Pls record count as numbers (not percentages) for database.
	Alive	10000			
Dead					

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

Summary Quad. Totals: Alive

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

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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

Please return completed form to **Species And Communities Branch DPaW,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION: (Check more than one box for combinations or where necessary)					
LANDFORM: Crest <input type="checkbox"/> Hill <input type="checkbox"/> Ridge <input type="checkbox"/> Outcrop <input type="checkbox"/> Slope <input type="checkbox"/> Flat <input type="checkbox"/> Open depression <input type="checkbox"/> Drainage line <input type="checkbox"/> Closed depression <input type="checkbox"/> Wetland <input checked="" type="checkbox"/>	ROCK TYPE: Granite <input type="checkbox"/> Dolerite <input type="checkbox"/> Laterite <input type="checkbox"/> Ironstone <input type="checkbox"/> Limestone <input type="checkbox"/> Quartz <input type="checkbox"/> Specify other:	LOOSE ROCK: (on soil surface; e.g. gravel, quartz fields) 0-10% <input checked="" type="checkbox"/> 10-30% <input type="checkbox"/> 30-50% <input type="checkbox"/> 50-100% <input type="checkbox"/>	SOIL TYPE: Sand <input type="checkbox"/> Sandy loam <input type="checkbox"/> Loam <input type="checkbox"/> Clay loam <input checked="" type="checkbox"/> Light clay <input type="checkbox"/> Peat <input type="checkbox"/> Specify other:	SOIL COLOUR: Red <input type="checkbox"/> Brown <input checked="" type="checkbox"/> Yellow <input type="checkbox"/> White <input type="checkbox"/> Grey <input type="checkbox"/> Black <input type="checkbox"/> Specify other:	DRAINAGE: Well drained <input type="checkbox"/> Seasonally inundated <input checked="" type="checkbox"/> Permanently inundated <input type="checkbox"/> Tidal <input type="checkbox"/> Specify other:
Specific Landform Element: (Refer to field manual for additional values) Growing on upper edge of Lake Maitland					
CONDITION OF SOIL: Dry <input checked="" type="checkbox"/> Moist <input type="checkbox"/> Waterlogged <input type="checkbox"/> Inundated <input type="checkbox"/> Cracked <input type="checkbox"/> Saline <input type="checkbox"/> Other:					
VEGETATION CLASSIFICATION:* E.g. 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.) 3. Isolated clumps of sedges (Mesomelaena tetragona)	1. Melaleuca xerophila tall sparse shrubland, over Tecticornia cymbiformis, Dissocarpus paradoxus, and Frankenia laxiflora low shrubland, 2. over Enneapogon caerulescens and Eragrostis dielsii sparse tussock grassland 3. 4.				
ASSOCIATED SPECIES: Other (non-dominant) spp	Lawrenzia helmsii, Sclerolaena fimbriolata, Eremophea spinosa, Goodenia maideniana, Zygophyllum compressum, Eragrostis falcata.				
* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 <i>Australian Soil and Land Survey Field Handbook</i> guidelines – refer to field manual for further information and structural formation table.					
CONDITION OF HABITAT: Pristine <input checked="" type="checkbox"/> Excellent <input type="checkbox"/> Very good <input type="checkbox"/> Good <input type="checkbox"/> Degraded <input type="checkbox"/> Completely degraded <input type="checkbox"/>					
COMMENT:					
FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/> No signs of fire <input checked="" type="checkbox"/>					
FENCING: Not required <input checked="" type="checkbox"/> Present <input type="checkbox"/> Replace / repair <input type="checkbox"/> Required <input type="checkbox"/> Length req'd: _____					
ROADSIDE MARKERS: Not required <input checked="" type="checkbox"/> Present <input type="checkbox"/> Replace / reposition <input type="checkbox"/> Required <input type="checkbox"/> Quantity req'd: _____					
OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)					

Please return completed form to **Species And Communities Branch** DPaW,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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

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



Threatened and Priority Flora Report Form

DRF PERMIT/ LICENCE No:

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

SPECIMEN: Collectors No: 1625.06 WA Herb. Regional Herb. District Herb. Other:

ATTACHED: Map Mudmap Photo GIS data Field notes Other:

COPY SENT TO: Regional Office District Office Other: WA Herb

Submitter of record: Andrew Craigie **Role:** Botanist

Signature: Andrew Craigie **Date submitted:** 03/03/2015

Please return completed form to **Species And Communities Branch** DPaW,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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



Threatened and Priority Flora Report Form

Please complete as much of the form as possible.

For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DPaW website at <http://www.dpaw.wa.gov.au/>

TAXON: <u>Eremophila pungens</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>26/03/2015</u>		CONSERVATION STATUS: <u>P4</u> New population <input type="checkbox"/>	
OBSERVER/S: <u>Melissa Hay</u>		PHONE: <u>6460 0300</u>	
ROLE: <u>Botanist</u>		ORGANISATION: <u>Ecologia Environment</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
Lake Way Station, ca. 50 km SE of Wiluna, WA.

Reserve No.: _____

DISTRICT: _____		LGA: _____		Land manager present: <input type="checkbox"/>	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		Lat / Northing: <u>7011180.008</u>		No. satellites: <u>10</u> Map used: _____	
WGS84 <input type="checkbox"/>		Long / Easting: <u>247570.3361</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		Zone: <u>51J</u>			

LAND TENURE:

Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/>	Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input checked="" type="checkbox"/>	MRWA road reserve <input type="checkbox"/>	Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____	Specify other: _____

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

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

POP'N COUNT ACCURACY: Actual Extrapolation Estimate

Count method: (Refer to field manual for list) _____

WHAT COUNTED: Plants Clumps Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:	Area of pop (m ²): _____
	Alive	500			
Dead					

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

Summary Quad. Totals: Alive

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

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT:

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

Please return completed form to **Species And Communities Branch DPaW,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION: (Check more than one box for combinations or where necessary)					
LANDFORM: Crest <input type="checkbox"/> Hill <input type="checkbox"/> Ridge <input type="checkbox"/> Outcrop <input type="checkbox"/> Slope <input type="checkbox"/> Flat <input checked="" type="checkbox"/> Open depression <input type="checkbox"/> Drainage line <input type="checkbox"/> Closed depression <input type="checkbox"/> Wetland <input type="checkbox"/>	ROCK TYPE: Granite <input type="checkbox"/> Dolerite <input type="checkbox"/> Laterite <input type="checkbox"/> Ironstone <input checked="" type="checkbox"/> Limestone <input type="checkbox"/> Quartz <input type="checkbox"/> Specify other:	LOOSE ROCK: (on soil surface; e.g. gravel, quartz fields) 0-10% <input type="checkbox"/> 10-30% <input type="checkbox"/> 30-50% <input type="checkbox"/> 50-100% <input checked="" type="checkbox"/>	SOIL TYPE: Sand <input checked="" type="checkbox"/> Sandy loam <input type="checkbox"/> Loam <input type="checkbox"/> Clay loam <input type="checkbox"/> Light clay <input checked="" type="checkbox"/> Peat <input type="checkbox"/> Specify other:	SOIL COLOUR: Red <input checked="" type="checkbox"/> Brown <input checked="" type="checkbox"/> Yellow <input type="checkbox"/> White <input type="checkbox"/> Grey <input type="checkbox"/> Black <input type="checkbox"/> Specify other:	DRAINAGE: Well drained <input checked="" type="checkbox"/> Seasonally inundated <input type="checkbox"/> Permanently inundated <input type="checkbox"/> Tidal <input type="checkbox"/> Specify other:
Specific Landform Element: (Refer to field manual for additional values)					
CONDITION OF SOIL: Dry <input checked="" type="checkbox"/> Moist <input type="checkbox"/> Waterlogged <input type="checkbox"/> Inundated <input type="checkbox"/> Cracked <input type="checkbox"/> Saline <input type="checkbox"/> Other:					
VEGETATION CLASSIFICATION:* E.g. 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.) 3. Isolated clumps of sedges (Mesomelaena tetragona)	1. Acacia pruinocarpa and Acacia ?aneura sparse low woodland 2. 3. 4.				
ASSOCIATED SPECIES: Other (non-dominant) spp	Scaevola spinescens, Aristida contorta, Sida ectogama, Solanum lasiophyllum Ptilotus schwartzii, Ptilotus roei, Senna glaucifolia				
* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 <i>Australian Soil and Land Survey Field Handbook</i> guidelines – refer to field manual for further information and structural formation table.					
CONDITION OF HABITAT: Pristine <input checked="" type="checkbox"/> Excellent <input type="checkbox"/> Very good <input type="checkbox"/> Good <input type="checkbox"/> Degraded <input type="checkbox"/> Completely degraded <input type="checkbox"/>					
COMMENT:					
FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/> No signs of fire <input checked="" type="checkbox"/>					
FENCING: Not required <input checked="" type="checkbox"/> Present <input type="checkbox"/> Replace / repair <input type="checkbox"/> Required <input type="checkbox"/> Length req'd: _____					
ROADSIDE MARKERS: Not required <input checked="" type="checkbox"/> Present <input type="checkbox"/> Replace / reposition <input type="checkbox"/> Required <input type="checkbox"/> Quantity req'd: _____					
OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)					

Please return completed form to **Species And Communities Branch** DPaW,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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

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



Threatened and Priority Flora Report Form

Please complete as much of the form as possible.

For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DPaW website at <http://www.dpaw.wa.gov.au/>

TAXON: <u>Frankenia confusa</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>28/11/2014</u>		CONSERVATION STATUS: <u>P4</u> New population <input type="checkbox"/>	
OBSERVER/S: <u>Andrew Craigie</u>		PHONE: <u>6460 0300</u>	
ROLE: <u>Botanist</u>		ORGANISATION: <u>Ecologia Environment</u>	

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

Lake Way, c. 30 km SSE of Wiluna, WA

Reserve No.: _____

DISTRICT: _____		LGA: _____		Land manager present: <input type="checkbox"/>	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		Lat / Northing: <u>7027296</u>		No. satellites: <u>10</u> Map used: _____	
WGS84 <input type="checkbox"/>		Long / Easting: <u>0236202</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		Zone: <u>51J</u>			

LAND TENURE:

Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/>	Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input checked="" type="checkbox"/>	MRWA road reserve <input type="checkbox"/>	Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____	Specify other: _____

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

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

POP'N COUNT ACCURACY: Actual Extrapolation Estimate

Count method: (Refer to field manual for list) _____

WHAT COUNTED: Plants Clumps Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:	Area of pop (m ²): _____ Note: Pls record count as numbers (not percentages) for database.
	Alive	10			
	Dead				

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

Summary Quad. Totals: Alive

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REPRODUCTIVE STATE: Clonal Vegetative Flowerbud Flower

Immature fruit Fruit Dehisced fruit Percentage in flower: _____%

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT:

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION: (Check more than one box for combinations or where necessary)					
LANDFORM: Crest <input type="checkbox"/> Hill <input type="checkbox"/> Ridge <input type="checkbox"/> Outcrop <input type="checkbox"/> Slope <input type="checkbox"/> Flat <input type="checkbox"/> Open depression <input checked="" type="checkbox"/> Drainage line <input type="checkbox"/> Closed depression <input type="checkbox"/> Wetland <input type="checkbox"/>	ROCK TYPE: Granite <input type="checkbox"/> Dolerite <input type="checkbox"/> Laterite <input type="checkbox"/> Ironstone <input type="checkbox"/> Limestone <input type="checkbox"/> Quartz <input type="checkbox"/> Specify other:	LOOSE ROCK: (on soil surface; e.g. gravel, quartz fields) 0-10% <input type="checkbox"/> 10-30% <input type="checkbox"/> 30-50% <input type="checkbox"/> 50-100% <input type="checkbox"/>	SOIL TYPE: Sand <input type="checkbox"/> Sandy loam <input type="checkbox"/> Loam <input type="checkbox"/> Clay loam <input checked="" type="checkbox"/> Light clay <input type="checkbox"/> Peat <input type="checkbox"/> Specify other:	SOIL COLOUR: Red <input type="checkbox"/> Brown <input checked="" type="checkbox"/> Yellow <input type="checkbox"/> White <input type="checkbox"/> Grey <input type="checkbox"/> Black <input type="checkbox"/> Specify other:	DRAINAGE: Well drained <input type="checkbox"/> Seasonally inundated <input checked="" type="checkbox"/> Permanently inundated <input type="checkbox"/> Tidal <input type="checkbox"/> Specify other:
Specific Landform Element: (Refer to field manual for additional values)					
CONDITION OF SOIL:					
Dry <input checked="" type="checkbox"/> Moist <input type="checkbox"/> Waterlogged <input type="checkbox"/> Inundated <input type="checkbox"/> Cracked <input type="checkbox"/> Saline <input type="checkbox"/> Other:					
VEGETATION CLASSIFICATION:* E.g. 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.) 3. Isolated clumps of sedges (Mesomelaena tetragona)	1. Open low shrubland of Tecticornia aff. moniliformis, Tecticornia aff. undulata 2. 3. 4.				
ASSOCIATED SPECIES: Other (non-dominant) spp	Tecticornia aff. moniliformis, Tecticornia aff. undulata, Eragrostis falcata Sclerolaena cuneata				
* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 <i>Australian Soil and Land Survey Field Handbook</i> guidelines – refer to field manual for further information and structural formation table.					
CONDITION OF HABITAT: Pristine <input checked="" type="checkbox"/> Excellent <input type="checkbox"/> Very good <input type="checkbox"/> Good <input type="checkbox"/> Degraded <input type="checkbox"/> Completely degraded <input type="checkbox"/>					
COMMENT:					
FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/> No signs of fire <input checked="" type="checkbox"/>					
FENCING: Not required <input checked="" type="checkbox"/> Present <input type="checkbox"/> Replace / repair <input type="checkbox"/> Required <input type="checkbox"/> Length req'd: _____					
ROADSIDE MARKERS: Not required <input checked="" type="checkbox"/> Present <input type="checkbox"/> Replace / reposition <input type="checkbox"/> Required <input type="checkbox"/> Quantity req'd: _____					
OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)					

Please return completed form to **Species And Communities Branch** DPaW,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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



Threatened and Priority Flora Report Form

DRF PERMIT/ LICENCE No:

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

SPECIMEN: Collectors No: 1625.01 WA Herb. Regional Herb. District Herb. Other:

ATTACHED: Map Mudmap Photo GIS data Field notes Other:

COPY SENT TO: Regional Office District Office Other: WA Herb

Submitter of record: Andrew Craigie **Role:** Botanist

Signature: Andrew Craigie **Date submitted:** 03/03/2014

Please return completed form to **Species And Communities Branch** DPaW,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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



Threatened and Priority Flora Report Form

Please complete as much of the form as possible.

For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DPaW website at <http://www.dpaw.wa.gov.au/>

TAXON: <u>Stackhousia clementii</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>28/11/2014</u>		CONSERVATION STATUS: <u>P3</u> New population <input checked="" type="checkbox"/>	
OBSERVER/S: <u>Andrew Craigie</u>		PHONE: <u>6460 0300</u>	
ROLE: <u>Botanist/taxonomist</u>		ORGANISATION: <u>Ecologia Environment</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
Lake Way, c. 30 km SSE of Wiluna, WA

Reserve No.: _____

DISTRICT: _____		LGA: _____		Land manager present: <input type="checkbox"/>	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		Lat / Northing: <u>7027296</u>		No. satellites: <u>10</u> Map used: _____	
WGS84 <input type="checkbox"/>		Long / Easting: <u>0236202</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		Zone: <u>51J</u>			

LAND TENURE:

Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/>	Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input checked="" type="checkbox"/>	MRWA road reserve <input type="checkbox"/>	Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____	Specify other: _____

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

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

POP'N COUNT ACCURACY: Actual Extrapolation Estimate

Count method: (Refer to field manual for list) _____

WHAT COUNTED: Plants Clumps Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:	Area of pop (m ²): _____ Note: Pls record count as numbers (not percentages) for database.
	Alive	5			
Dead					

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

Summary Quad. Totals: Alive

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

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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

Please return completed form to **Species And Communities Branch DPaW,**

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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

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



Threatened and Priority Flora Report Form

HABITAT INFORMATION: (Check more than one box for combinations or where necessary)					
LANDFORM: Crest <input type="checkbox"/> Hill <input type="checkbox"/> Ridge <input type="checkbox"/> Outcrop <input type="checkbox"/> Slope <input type="checkbox"/> Flat <input type="checkbox"/> Open depression <input checked="" type="checkbox"/> Drainage line <input type="checkbox"/> Closed depression <input type="checkbox"/> Wetland <input type="checkbox"/>	ROCK TYPE: Granite <input type="checkbox"/> Dolerite <input type="checkbox"/> Laterite <input type="checkbox"/> Ironstone <input type="checkbox"/> Limestone <input type="checkbox"/> Quartz <input type="checkbox"/> Specify other:	LOOSE ROCK: (on soil surface; e.g. gravel, quartz fields) 0-10% <input checked="" type="checkbox"/> 10-30% <input type="checkbox"/> 30-50% <input type="checkbox"/> 50-100% <input type="checkbox"/>	SOIL TYPE: Sand <input type="checkbox"/> Sandy loam <input type="checkbox"/> Loam <input type="checkbox"/> Clay loam <input checked="" type="checkbox"/> Light clay <input type="checkbox"/> Peat <input type="checkbox"/> Specify other:	SOIL COLOUR: Red <input type="checkbox"/> Brown <input checked="" type="checkbox"/> Yellow <input type="checkbox"/> White <input type="checkbox"/> Grey <input type="checkbox"/> Black <input type="checkbox"/> Specify other:	DRAINAGE: Well drained <input type="checkbox"/> Seasonally inundated <input checked="" type="checkbox"/> Permanently inundated <input type="checkbox"/> Tidal <input type="checkbox"/> Specify other:
Specific Landform Element: (Refer to field manual for additional values) Growing on upper edge of saline depression					
CONDITION OF SOIL: Dry <input checked="" type="checkbox"/> Moist <input type="checkbox"/> Waterlogged <input type="checkbox"/> Inundated <input type="checkbox"/> Cracked <input type="checkbox"/> Saline <input type="checkbox"/> Other:					
VEGETATION CLASSIFICATION:* E.g. 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.) 3. Isolated clumps of sedges (Mesomelaena tetragona)	1. Open low shrubland of Tecticornia aff. moniliformis, Tecticornia aff. undulata 2. 3. 4.				
ASSOCIATED SPECIES: Other (non-dominant) spp	Tecticornia aff. moniliformis, Tecticornia aff. undulata, Frankenia confusa (cupular bracteole sheath variant) Eragrostis falcata Sclerolaena cuneata				
* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 <i>Australian Soil and Land Survey Field Handbook</i> guidelines – refer to field manual for further information and structural formation table.					
CONDITION OF HABITAT: Pristine <input checked="" type="checkbox"/> Excellent <input type="checkbox"/> Very good <input type="checkbox"/> Good <input type="checkbox"/> Degraded <input type="checkbox"/> Completely degraded <input type="checkbox"/>					
COMMENT:					
FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/> No signs of fire <input checked="" type="checkbox"/>					
FENCING: Not required <input checked="" type="checkbox"/> Present <input type="checkbox"/> Replace / repair <input type="checkbox"/> Required <input type="checkbox"/> Length req'd: _____					
ROADSIDE MARKERS: Not required <input checked="" type="checkbox"/> Present <input type="checkbox"/> Replace / reposition <input type="checkbox"/> Required <input type="checkbox"/> Quantity req'd: _____					
OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.) _____ _____ _____					

Please return completed form to **Species And Communities Branch** DPaW,

Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983

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

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



Threatened and Priority Flora Report Form

DRF PERMIT/ LICENCE No:

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

SPECIMEN:	Collectors No: 1625.02	WA Herb. <input checked="" type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other:	
ATTACHED:	Map <input type="checkbox"/>	Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other:
COPY SENT TO:	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: WA Herb			

Submitter of record:	Andrew Craigie	Role:	Botanist
Signature:	Andrew Craigie	Date submitted:	03/03/2015

Please return completed form to **Species And Communities Branch** DPaW,
 Locked Bag 104, BENTLEY DELIVERY CENTRE WA 6983
RECORDS: Please forward to **Flora Administrative Officer**, Species and Communities Branch.



Threatened and Priority Flora Report Form

Please complete as much of the form as possible.

For information on how to complete the form please refer to the Threatened & Priority Flora Report Form (TPRF) manual on the DPaW website at <http://www.dpaw.wa.gov.au/>

TAXON: <u>Tecticornia cymbiformis</u>		TPFL Pop. No.: _____	
OBSERVATION DATE: <u>26/11/2014</u>		CONSERVATION STATUS: <u>P3</u> New population <input checked="" type="checkbox"/>	
OBSERVER/S: <u>Andrew Craigie</u>		PHONE: <u>6460 0300</u>	
ROLE: <u>Botanist/taxonomist</u>		ORGANISATION: <u>Ecologia Environment</u>	

DESCRIPTION OF LOCATION (Provide at least nearest town/named locality, and the distance and direction to that place):
Lake Maitland, c. 105 km SE of Wiluna, WA.

Reserve No.: _____

DISTRICT: _____		LGA: _____		Land manager present: <input type="checkbox"/>	
DATUM:		COORDINATES: (If UTM coords provided, Zone is also required)		METHOD USED:	
GDA94 / MGA94 <input checked="" type="checkbox"/>		DecDegrees <input type="checkbox"/> DegMinSec <input type="checkbox"/> UTM's <input checked="" type="checkbox"/>		GPS <input checked="" type="checkbox"/> Differential GPS <input type="checkbox"/> Map <input type="checkbox"/>	
AGD84 / AMG84 <input type="checkbox"/>		Lat / Northing: <u>6993438</u>		No. satellites: <u>10</u> Map used: _____	
WGS84 <input type="checkbox"/>		Long / Easting: <u>310232</u>		Boundary polygon captured: <input type="checkbox"/> Map scale: _____	
Unknown <input type="checkbox"/>		Zone: <u>51J</u>			

LAND TENURE:

Nature reserve <input type="checkbox"/>	Timber reserve <input type="checkbox"/>	Private property <input type="checkbox"/>	Rail reserve <input type="checkbox"/>	Shire road reserve <input type="checkbox"/>
National park <input type="checkbox"/>	State forest <input type="checkbox"/>	Pastoral lease <input checked="" type="checkbox"/>	MRWA road reserve <input type="checkbox"/>	Other Crown reserve <input type="checkbox"/>
Conservation park <input type="checkbox"/>	Water reserve <input type="checkbox"/>	UCL <input type="checkbox"/>	SLK/Pole _____ to _____	Specify other: _____

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

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

POP'N COUNT ACCURACY: Actual Extrapolation Estimate

Count method: (Refer to field manual for list) _____

WHAT COUNTED: Plants Clumps Clonal stems

TOTAL POP'N STRUCTURE:	Mature:	Juveniles:	Seedlings:	Totals:	Area of pop (m ²): _____ Note: Pls record count as numbers (not percentages) for database.
	Alive	10000			
Dead					

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

Summary Quad. Totals: Alive

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

CONDITION OF PLANTS: Healthy Moderate Poor Senescent

COMMENT: _____

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

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Threatened and Priority Flora Report Form

HABITAT INFORMATION: (Check more than one box for combinations or where necessary)					
LANDFORM:	ROCK TYPE:	LOOSE ROCK:	SOIL TYPE:	SOIL COLOUR:	DRAINAGE:
Crest <input type="checkbox"/> Hill <input type="checkbox"/> Ridge <input type="checkbox"/> Outcrop <input type="checkbox"/> Slope <input type="checkbox"/> Flat <input type="checkbox"/> Open depression <input type="checkbox"/> Drainage line <input type="checkbox"/> Closed depression <input type="checkbox"/> Wetland <input checked="" type="checkbox"/>	Granite <input type="checkbox"/> Dolerite <input type="checkbox"/> Laterite <input type="checkbox"/> Ironstone <input type="checkbox"/> Limestone <input type="checkbox"/> Quartz <input type="checkbox"/> Specify other:	(on soil surface; e.g. gravel, quartz fields) 0-10% <input checked="" type="checkbox"/> 10-30% <input type="checkbox"/> 30-50% <input type="checkbox"/> 50-100% <input type="checkbox"/>	Sand <input type="checkbox"/> Sandy loam <input type="checkbox"/> Loam <input type="checkbox"/> Clay loam <input checked="" type="checkbox"/> Light clay <input type="checkbox"/> Peat <input type="checkbox"/> Specify other:	Red <input type="checkbox"/> Brown <input checked="" type="checkbox"/> Yellow <input type="checkbox"/> White <input type="checkbox"/> Grey <input type="checkbox"/> Black <input type="checkbox"/> Specify other:	Well drained <input type="checkbox"/> Seasonally inundated <input checked="" type="checkbox"/> Permanently inundated <input type="checkbox"/> Tidal <input type="checkbox"/> Specify other:
Specific Landform Element: (Refer to field manual for additional values)					
Growing on upper edge of Lake Maitland					
CONDITION OF SOIL:					
Dry <input checked="" type="checkbox"/> Moist <input type="checkbox"/> Waterlogged <input type="checkbox"/> Inundated <input type="checkbox"/> Cracked <input type="checkbox"/> Saline <input type="checkbox"/> Other:					
VEGETATION CLASSIFICATION:*	1. Melaleuca xerophila tall sparse shrubland, over Tecticornia cymbiformis, Dissocarpus paradoxus, and Frankenia laxiflora low shrubland,				
E.g. 1. Banksia woodland (B. attenuata, B. ilicifolia); 2. Open shrubland (Hibbertia sp., Acacia spp.) 3. Isolated clumps of sedges (Mesomelaena tetragona)	2. over Enneapogon caerulescens and Eragrostis dielsii sparse tussock grassland				
	3.				
	4.				
ASSOCIATED SPECIES:	Lawrenzia helmsii, Sclerolaena fimbriolata, Eremophea spinosa, Goodenia maideniana, Zygophyllum compressum, Eragrostis falcata.				
Other (non-dominant) spp					
* Please record up to four of the most representative vegetation layers (with up to three dominant species in each layer). Structural Formations should follow 2009 <i>Australian Soil and Land Survey Field Handbook</i> guidelines – refer to field manual for further information and structural formation table.					
CONDITION OF HABITAT:					
Pristine <input checked="" type="checkbox"/> Excellent <input type="checkbox"/> Very good <input type="checkbox"/> Good <input type="checkbox"/> Degraded <input type="checkbox"/> Completely degraded <input type="checkbox"/>					
COMMENT:					
FIRE HISTORY: Last Fire: Season/Month: _____ Year: _____ Fire Intensity: High <input type="checkbox"/> Medium <input type="checkbox"/> Low <input type="checkbox"/> No signs of fire <input checked="" type="checkbox"/>					
FENCING: Not required <input checked="" type="checkbox"/> Present <input type="checkbox"/> Replace / repair <input type="checkbox"/> Required <input type="checkbox"/> Length req'd: _____					
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OTHER COMMENTS: (Please include recommended management actions and/or implemented actions - include date. Also include details of additional data available, and how to locate it.)					

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SPECIMEN:	Collectors No: 1625.06	WA Herb. <input checked="" type="checkbox"/>	Regional Herb. <input type="checkbox"/>	District Herb. <input type="checkbox"/>	Other:	
ATTACHED:	Map <input type="checkbox"/>	Mudmap <input type="checkbox"/>	Photo <input type="checkbox"/>	GIS data <input type="checkbox"/>	Field notes <input type="checkbox"/>	Other:
COPY SENT TO:	Regional Office <input type="checkbox"/>	District Office <input type="checkbox"/>	Other: WA Herb			

Submitter of record:	Andrew Craigie	Role:	Botanist
Signature:	Andrew Craigie	Date submitted:	03/03/2015

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