Level 1 Flora & Vegetation Survey
Proposed Gas Pipeline Routes

Prepared For Gold Road Resources Limited

November 2015
Version 2


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Disclaimer

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Acronyms/Abbreviations:

BAM Act: Biosecurity and Agriculture Management Act 2007, WA Government.
BC: Botanica Consulting.
BOM: Bureau of Meteorology.
CALM: Department of Conservation and Land Management (now DPaW), WA Government.
DAFWA: Department of Agriculture and Food, WA Government.
DEC: Department of Environment and Conservation (**now DPaW**), WA Government.
DEH: Department of Environment and Heritage (now DoE), Australian Government.
DEP: Department of Environment Protection (now DER), WA Government.
DEWHA: Department of the Environment, Water, Heritage and the Arts (now DotE), Australian Government
DER: Department of Environment Regulation (formerly DEC, DoE), WA Government.
DMP: Department of Mines and Petroleum (formerly DoIR), WA Government.
DoE: Department of Environment (now DER/DPaW), WA Government.
DoIR: Department of Industry and Resources (now DMP), WA Government.
DotE: Department of the Environment (formerly DSEWPaC, DEWHA, and DEH), Australian Government.
DPaW: Department of Parks and Wildlife (formerly DEC, CALM, DoE), WA Government.
DSEWPaC: Department of Sustainability, Environment, Water, Population and Communities (now DotE, formerly DEH, DEWHA), Australian Government.
EP Act: *Environmental Protection Act 1986*, WA Government.
EPA: Environmental Protection Authority, WA Government.
EPBC Act: *Environment Protection and Biodiversity Conservation Act 1999,* Australian Government.
ESA: Environmentally Sensitive Area.
Gold Road Resources Limited: Gold Road
ha: Hectare (10,000 square metres).
IBRA: Interim Biogeographic Regionalisation for Australia.
IUCN: International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union.
km: Kilometre (1,000 metres).
MVG: Major Vegetation Groups.
NVIS: National Vegetation Information System.
OEPA: Office of the Environmental Protection Authority, WA Government.
PEC: Priority Ecological Community.
EP Regulations: *Environmental Protection (Clearing of Native Vegetation) Regulations 2004,* WA Government.
Midline survey area: Midline Gas Pipeline survey area
TEC: Threatened Ecological Community.
WA: Western Australia.
WAHERB: Western Australian Herbarium.
WC Act: *Wildlife Conservation Act 1950*, WA Government.
White Cliffs Road survey area: White Cliffs Road Gas Pipeline survey area

Executive Summary

BC was commissioned by Gold Road to undertake a Level 1 flora and vegetation survey of the Gas Pipeline survey area, which consisted of two potential routes (White Cliffs Road survey area and the Midline survey area) for a proposed gas pipeline that will link the Gruyere Project to the Eastern Goldfields Gas Pipeline. The White Cliffs Road survey area comprises of two sections; 211km section (40m wide[1]) following the existing road reserve along the White Cliffs Road and a 30km section (100m wide) extending south from Laverton on the Mount Weld Road to the Granny Smiths Mine. The White Cliffs Road survey area covered a total area of approximately 1255ha. The Midline survey area travels south from the Gruyere Project to an intercept point at the Eastern Goldfields Gas Pipeline. The Midline survey area is approximately 140km in length and 40m wide and covers an area of approximately 577ha. The survey of the first 211km section of the White Cliffs Road survey area and Midline survey area was conducted from the 14th to the 21th of August 2015. The 30km section of the White Cliffs Road survey area was conducted on the 8th November 2015.

A summary of the findings for each survey area are provided in the table below.

Environmental Aspect	White Cliffs Road Survey Area	Midline Survey Area
Vegetation Communities	Fifty-four vegetation communities. Eight different landform types and seven NVIS major vegetation groups. Total 54 Families, 133 Genera and 314 Taxa.	Forty-eight vegetation communities. Eight different landform types and nine NVIS major vegetation groups. Total of 53 Families, 123 Genera and 282 Taxa
Vegetation Condition	Ranged from good (fire, exploration, grazing, vehicle access, introduced species) to very good (fire, camel grazing). Majority good. Vegetation in various stages of fire regrowth (5 to 10+ years)	Ranged from degraded (completely burnt vegetation) to pristine (no access tracks, disturbance, invasive species etc.). Majority very good. Vegetation in various stages of fire regrowth (<6 months to 10+ years)
Threatened Flora Taxa	No	No
Priority Flora Taxa	*Olearia arida* (P4)[2]	*Olearia arida* (P4) and *Conospermum toddii* (P4)
Introduced Flora Taxa	1. *Acetosa vesicaria* (Ruby Dock) 2. *Cenchrus ciliaris* (Buffel Grass) 3. *Centaurea melitensis* (Maltese Cockspur) 4. *Cucumis myriocarpus* (Paddy Melon) 5. *Lysimachia arvensis* (Pimpernel) 6. *Nicotiana glauca* (Tree Tobacco)	*1. Cucumis myriocarpus* (Prickly Paddy Melon)

[1] Width of the survey area varies in sections to include the actual route of the White Cliffs Road and the road reserve
[2] Two Priority Flora taxa previously identified by BC occur within close proximity (10-60m) to the White Cliffs Road survey area; *Calytrix warburtonensis* (P2) and *Thryptomene nealensis* (P3).

Environmental Aspect	White Cliffs Road Survey Area	Midline Survey Area
	7. *Salvia verbenaca* (Wild Sage) 8. *Schinus molle* (Peppercorn Tree) 9. *Sonchus oleraceus* (Common Sowthistle) 10. *Tamarix aphylla* (Athel Tree)	
Threatened Ecological Communities	No	No
Priority Ecological Communities	Intesects Priority 1 Ecological Community *Mount Morgan calcrete groundwater assemblage type on Carey palaeodrainage on Mt Weld Station.* Located in close proximity (~3km north) to Priority 3 Ecological Community *Mount Jumbo Range vegetation complex (banded ironstone formation)*	No
Environmentally Sensitive Areas	No	No
Schedule 1 Areas	Area intersects two Schedule 1 Areas; 1. Centered on the abandoned Mt Morgan Mine and a section of the Old Laverton Road extending south-west of Mt Morgan. 2. Centred on Laverton town site	No
DPaW Managed Land	No	No

1 Introduction

1.1 Project Description

BC was commissioned by Gold Road to undertake a Level 1 flora and vegetation survey of the Gas Pipeline survey area, which consisted of two potential routes (White Cliffs Road survey area and the Midline survey area) for a proposed gas pipeline that will link the Gruyere Project to the Eastern Goldfields Gas Pipeline (Figure 1).

The White Cliffs Road survey area comprises of two sections; 211km section (40m wide[3]) following the existing road reserve along the White Cliffs Road and a 30km section (100m wide) extending south from Laverton on the Mount Weld Road to the Granny Smiths Mine. The White Cliffs Road survey area covered a total area of approximately 1255ha. The Midline survey area travels south from the Gruyere Project to an intercept point at the Eastern Goldfields Gas Pipeline. The Midline survey area is approximately 140km in length and 40m wide and covers an area of approximately 577ha. The aim of the survey was to produce a vegetation map (Appendix 2) and species list (Appendix 3) as well as to document and map locations of any TEC, PEC, Threatened Flora or Priority Flora species within the survey area (Appendix 1).

[3] Width of the survey area varies in sections to include the actual route of the White Cliffs Road and the road reserve

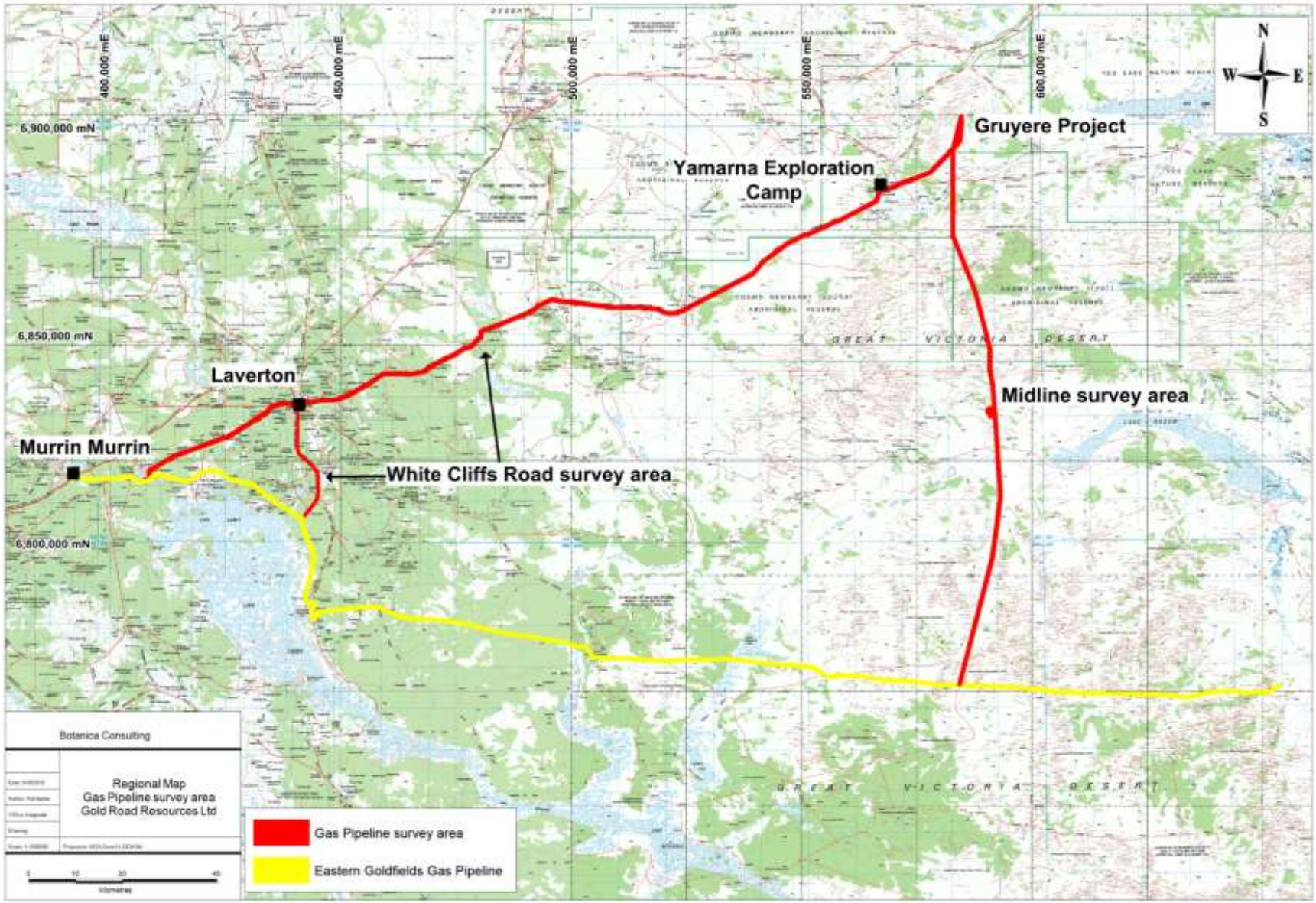

Figure 1: Regional map of the Gas Pipeline survey area (survey area not to scale)

2 Regional Biophysical Environment

2.1 Regional Environment

The survey area lies within the Austin Botanical District and Helms Botanical District of the Eremaean Province of WA. The Austin Botanical District consists of predominantly of Mulga low woodland on plains and reduces to scrub on hills (Beard, 1990). The Helms Botanical District is described as Mulga low woodland on hardpan soils between dunes. Where this is not prominent tree steppes of *Eucalyptus gongylocarpa, E. youngiana* and *Triodia basedowii* occur (Beard, 1990).

Based on the Interim Biogeographic Regionalisation of Australia (IBRA) the Eremaean Province is divided into IBRA regions with the Gas Pipeline survey area located within the Great Victoria Desert bioregion and the Murchison bioregion of Western Australia. These bioregions are further divided into subregions, the Great Victoria Desert bioregion is divided into four subregions, Shield, Central, Maralinga and Kintore.). The Murchison bioregion is divided into two subregions; Eastern Murchison and Western Murchison (Barton & Cowan, 2001a; Barton & Cowan, 2001b) (Figure 2).

The White Cliffs Road survey area is located within the Shield (GVD1) and Central (GVD2) of the Great Victoria Desert bioregion and the Eastern Murchison (MUR1) of the Murchison bioregion. The Midline survey area is located within the Shield (GVD1) and Central (GVD2) of the Great Victoria Desert bioregion.

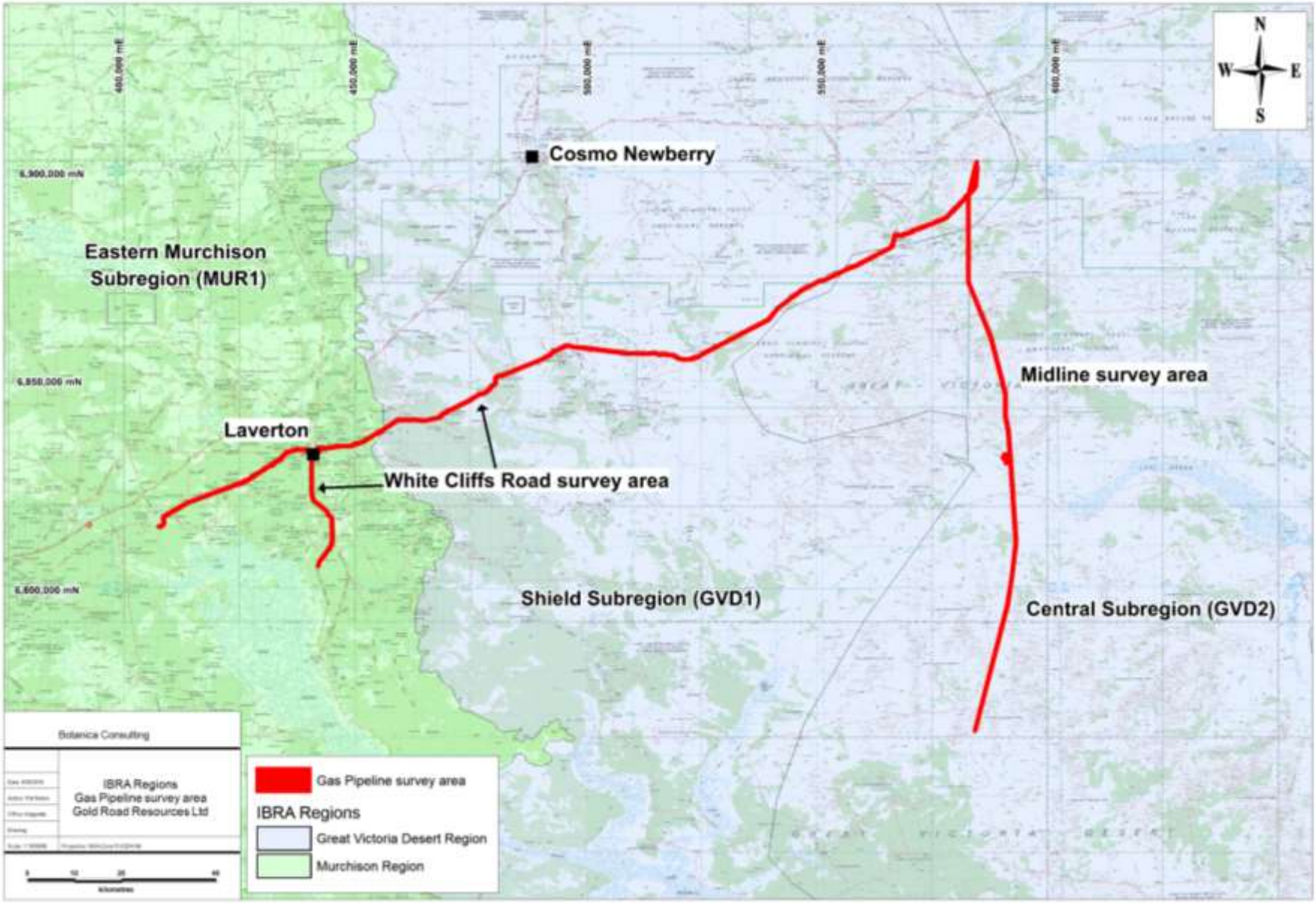

Figure 2: Map of IBRA subregions in the vicinity of the Gas Pipeline survey area

2.2 Vegetation

Vegetation of the Great Victoria Desert and the Helms Botanical District (as described by Beard, 1990) comprises a mosaic of tree and shrub steppe between sand hills and on sandplains, consisting of Marble gum, mallee and spinifex (*Eucalyptus gongylocarpa, E. youngiana, Triodia basedowii*). Beard states that dunes in the west, are rather thinner, few and weak. *E. gongylocarpa* is comparatively scarce with *E. youngiana* replaced by *E. kingsmillii* and *Acacia aneura* and *A. linophylla* becoming frequent on the sandplain.

Vegetation of the East Murchison subregion in the Austin Botanical District is predominantly Mulga low woodlands on plains, often rich in ephemerals, which reduce to scrub on hills. It is also characterised by hummock grasslands, Saltbush shrublands and Samphire shrublands (Beard, 1990; Cowan, 2001).

The DAFWA GIS file (2011) indicates that the Gas Pipeline survey area is located within Pre-European Beard vegetation associations Great Victoria Desert 18, 24, 84, 85, 239, 1239 and 1446 and Laverton 18 and 389 (Figure 3). The extent of these associations as described by the DAFWA is shown in Table 1.

Areas retaining less than 30% of their pre-European vegetation extent generally experience exponentially accelerated species loss, while areas with less than 10% are considered “endangered”. Development within the survey area will not significantly reduce the extent of these vegetation associations.

Table 1: Remaining Beard Vegetation Associations within Western Australia (DAFWA, 2011)

Vegetation Association	Pre-European Extent (ha)	Current Extent (ha)	Pre-European extent remaining (%)	% of Current extent within DPaW managed lands	Vegetation Description (Beard, 1990)
Great Victoria Desert 18	497636.98	497636.98	100	0.24	Low woodland; mulga (*Acacia aneura*)
Great Victoria Desert 24	21669.7	21669.7	100	0	Low woodland; *Allocasuarina cristata*
Great Victoria Desert 84	876295.94	876295.94	100	15.16	Hummock grasslands, open low tree & mallee steppe; marble gum & mallee (*Eucalyptus youngiana*) over hard spinifex *Triodia basedowii* between sandhills
Great Victoria Desert 85	788407.28	788407.28	100	8.56	Hummock grasslands, open low tree & mallee steppe; marble gum & mallee (*Eucalyptus youngiana*) over hard spinifex on sandplain
Great Victoria Desert 239	122137.73	122137.73	100	0	Hummock grasslands, open medium tree & mallee steppe; marble gum (E. *gongylocarpa* & mallee (*Eucalyptus youngiana)* over hard spinifex *Triodia basedowii* between sandhills
Great Victoria Desert 1239	1393810.04	1393810.04	100	2.46	Hummock grasslands, open medium tree & mallee steppe; marble gum & mallee (*E. youngiana*) over hard spinifex *Triodia basedowii* on sandplain
Great Victoria Desert 1446	12896.3	12896.3	100	0	Succulent steppe with scrub; mulga over bluebush
Laverton 18	2536021.06	2520869.47	99.4	1.52	Low woodland; mulga (*Acacia aneura*)
Laverton 389	105136.1	103855.58	98.78	0	Succulent steppe with open low woodland; mulga over saltbush

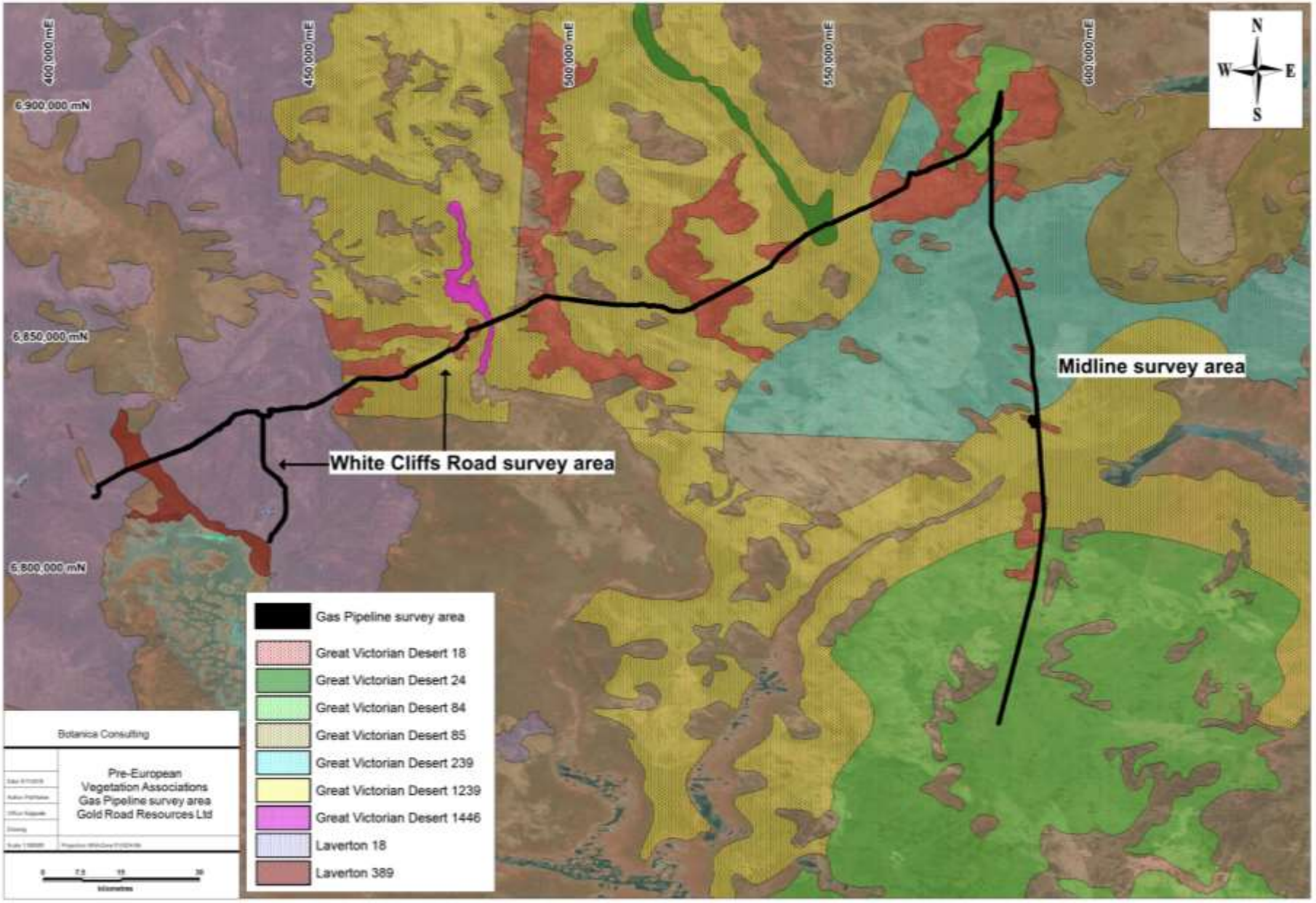

Figure 3: Map of Pre-European Vegetation Associations within the Gas Pipeline survey area

2.3 Topography & Soils

The landscape of the Murchison bioregion comprises low hills, mesas of duricrust separated by flat colluvium and alluvial plains (Commonwealth Government, 2008a). It is dominated by the Archaean (over 2500 million years ago) granite greenstone terrain of the Yilgarn Craton (Commonwealth Government, 2008a). Alluvial soils and sands mantle the granitic and greenstone units of the Yilgarn Craton. These soils are shallow, sandy and infertile. Underlying the soils in low areas is a red-brown siliceous hard pan (Curry et al. 1994). The soils in the eastern half of the bioregion are typically red sands, lithosols, calcareous red earth soil, duplex soil and clays.

The Eastern Murchison subregion lies on the northern parts of the 'Southern Cross' and 'Eastern Goldfields' Terrains of the Yilgarn Craton. This subregion is characterised by its internal drainage and extensive area of elevated red desert sandplains (Cowan, 2001). Calcrete aquifers located in the northern part of the subregion are known to support a wide range of subterranean fauna. Another important feature of the system is the salt lake systems associated with the occluded Palaeodrainage system. Beard (1990) describes the topography of the region as undulating with occasional ranges of low hills and extensive sandplains located in the East. The dominant soil type is a shallow earthy loam, overlying red-brown hardpan. Red earthy sands can be found on the sandplains (Cowan, 2001).

The Great Victoria Desert bioregion forms the southern part of the anti-clockwise whorl of dune fields of Australia. The dominating landforms are dunes and swales. There are local occurrences of playa lakes, associated lee-sided mounds (lunettes) and rocky prominences (Commonwealth Government, 2008b). Playa lakes are a minor, but locally significant landform in the desert, occurring in topographically low-lying regions and many represent the dried remnants of former drainage channels (Shephard, 1995). It consists of active sand-ridge desert of deep Quaternary (less than 65 million years ago) aeolian sands overlying Permian (251 – 298 million years ago) and Mesozoic (65 - 251 million years ago) units of the Office Basin (Commonwealth Government, 2008b). The GVD is underlain on its eastern, western and northern margins by an ancient crystalline basement comprising rocks at least 1000 million years old (Shephard, 1995).

The western end of the Shield subregion is underlain by the Yilgarn Craton. Here there is a higher proportion of sandplains in comparison to the entire bioregion. To the east is an arid active sand-ridge desert of deep Quaternary aeolian sands overlying Permian and Mesozoic strata of the Officer Basin. Landforms consist of salt lakes and major valley floors with lake derived dunes. The sandplains occur with patches of seif dunes running east-west and areas of moderate relief without-cropping and silcrete-capped mesas and plateaus (breakaways). The subregion contains a major paleo channel of Ponton Creek (Cowan, 2001).

The Central subregion is characterised as an arid active sand-ridge desert with extensive dune fields of deep Quaternary aeolian sands overlying Permian strata of the Gunbarrel Basin. Landforms consist of salt lakes and major valley floors with lake derived dunes. Sand plains with extensive seif dunes running east-west, with occasional outcropping (breakaways) and quartzite hills provide minor relief (Barton & Cowan, 2001).

Based on geographic information provided by DAFWA (2014), the Gas Pipeline survey area is located within the Leemans Sandplain Zone 274 and Salinaland Plains Zone 279 of the Murchison Province 27 and the North-western Great Victoria Desert Zone 122 of the Gunbarrel Province 12. These zones are further divided into systems, which are displayed below in Tables 2 & 3 and Figures 4 & 5.

Table 2: Soil Landscape Systems within the White Cliffs Road survey area

Land System	Mapping Unit	Description
AB47	AB 47	Plains and dunes - longitudinal and ring dunes with interdune corridors and plain; occasional salt pans
Ararak System	Ar	Broad plains with mantles of ironstone gravel supporting mulga shrublands with wanderrie grasses.
Brooking System	Br	Prominent ridges of banded iron formation supporting mulga shrublands and occasional minor halophytic communities.
Bullimore System	Bu	Gently undulating sandplain with occasional linear dunes and stripped surfaces supporting spinifex grasslands with mallees and acacia shrubs.
BY7	BY7	Scarpland - low lateritic breakaway on granites and gneisses
Carnegie System	Ca	Salt lakes with fringing saline alluvial plains, kopi dunes and sandy banks, supporting halophytic shrublands and acacia tall shrublands.
Cyclops System	Cy	Saline alluvial plains with numerous drainage foci and sandy banks, supporting halophytic shrublands.
Gransal System	Gr	Stony plains and low rises based on granite supporting mainly halophytic low shrublands.
Gundockerta System	Gu	Extensive, gently undulating calcareous stony plains supporting bluebush shrublands.
Jundee System	Ju	Hardpan plains with variable gravelly mantles and minor sandy banks supporting weakly groved mulga shrublands.
Laverton System	Lv	Greenstone hills and ridges with acacia shrublands.
Leonora System	Le	Low greenstone hills and stony plains supporting mixed chenopod shrublands.
Mileura System	279Mi	Saline and non-saline calcreted river plains with flood plains and calcrete platforms supporting variable tall shrublands, mixed halophytic shrublands and shrubby grasslands.
Mindura System	Mn	Low hills, ridges and outcrops of granite, gneiss and quartz above convex, quartz-strewn interfluves and lower plains supporting sparse acacia shrublands becoming denser in drainage floors.
Monk System	Mk	Hardpan plains with occasional sandy banks supporting mulga tall shrublands and wanderrie grasses.
My99	My99	Plains with extensive gravel pavements and small tracts of longitudinal dunes
Nubev System	Nu	Gently undulating stony plains, minor limonitic low rises and drainage floors supporting mulga and halophytic shrublands.
Sherwood System	Sh	Breakaways, kaolinised foot slopes and extensive gently sloping plains on granite supporting mulga shrublands and minor halophytic shrublands.
Tiger System	Tg	Gravelly hardpan plains and sandy banks with mulga shrublands and wanderrie grasses.
Violet System	Vi	Gently undulating gravelly plains on greenstone, laterite and hardpan, with low stony rises and minor saline plains; supporting groved mulga and bowgada shrublands and occasionally chenopod shrublands.

Land System	Mapping Unit	Description
Waguin System	Wg	Sandplains and stripped granite or laterite surfaces with low fringing breakaways and lower plains; supports bowgada and mulga shrublands with wanderrie grasses and minor halophytic shrublands.
Windarra System	Wn	Gently undulating stony plains and low rises with quartz mantles on granite, supporting acacia-eremophila shrublands.
Wyarri System	Wy	Granite domes, hills and tor fields with gritty-surfaced fringing plains supporting mulga and granite wattle shrublands.

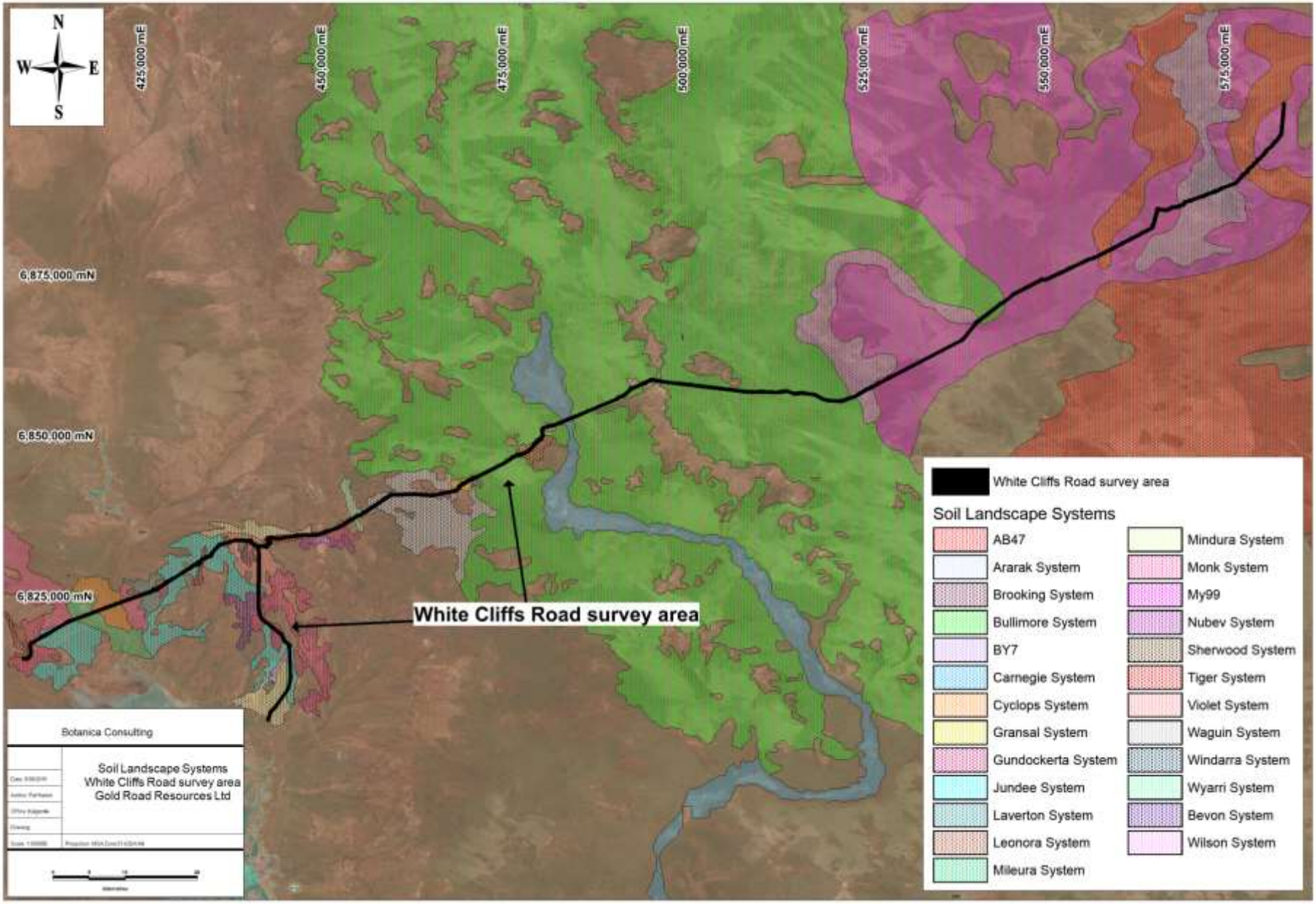

Figure 4: Map of Soil Landscape Systems within the White Cliffs Road survey area

Table 3: Soil Landscape Systems within the Midline survey area

Land System	Mapping Unit	Description
BY6	BY6	Scarpland - breakaways and residuals of various forms; cuestas, mesas, buttes, stony hillocks and hills commonly with large slabs of silcrete; stone and gravel pavements are common
AB47	AB47	Plains and dunes - longitudinal and ring dunes with interdune corridors and plain; occasional salt pans
My99	My99	Plains with extensive gravel pavements and small tracts of longitudinal dunes

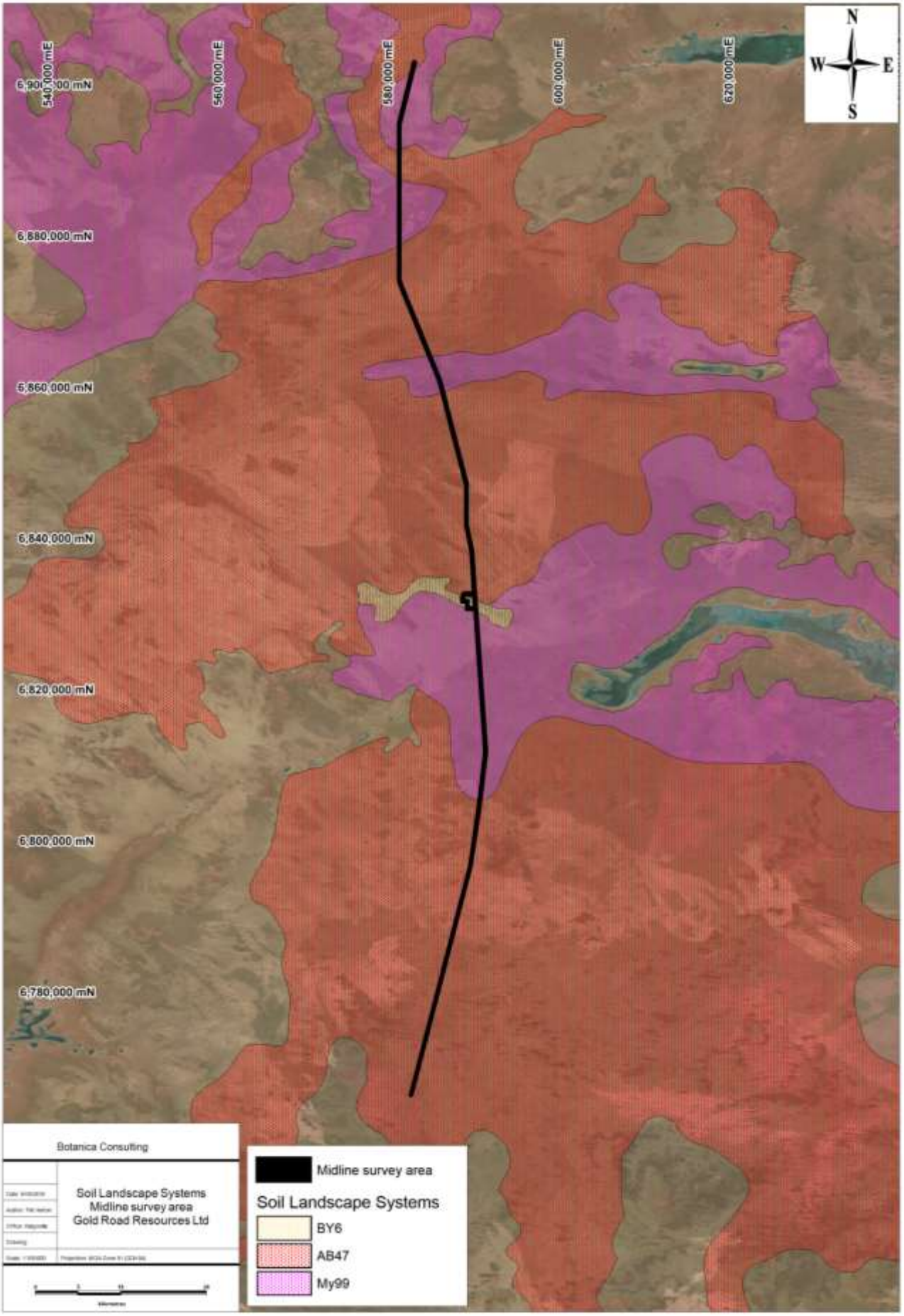

Figure 5: Map of Soil Landscape Systems within the Midline survey area

2.4 Climate

The climate of the Eastern Murchison subregion is characterised as an arid climate with mainly winter rainfall and annual rainfall of approximately 200mm (Beard, 1990; Cowan, 2001). The climate of the Shield and Central subregion is arid, with summer and winter rain averaging 150 –190mm per annum (Cowan, 2001; Barton & Cowan, 2001). Average weather conditions can be interpreted from weather data collected from the closest Bureau of Meteorology weather stations: the Laverton weather station (#12305) located on the White Cliffs Road survey area and approximately 147km west of the Midline survey area, shown in Figure 6 (BOM, 2015). Gold Road in October 2014 established a private weather station located at the Yamarna Exploration camp, the weather station is proved by 'Vista Data Vision', the mean monthly rainfall results are displayed in Figure 7.

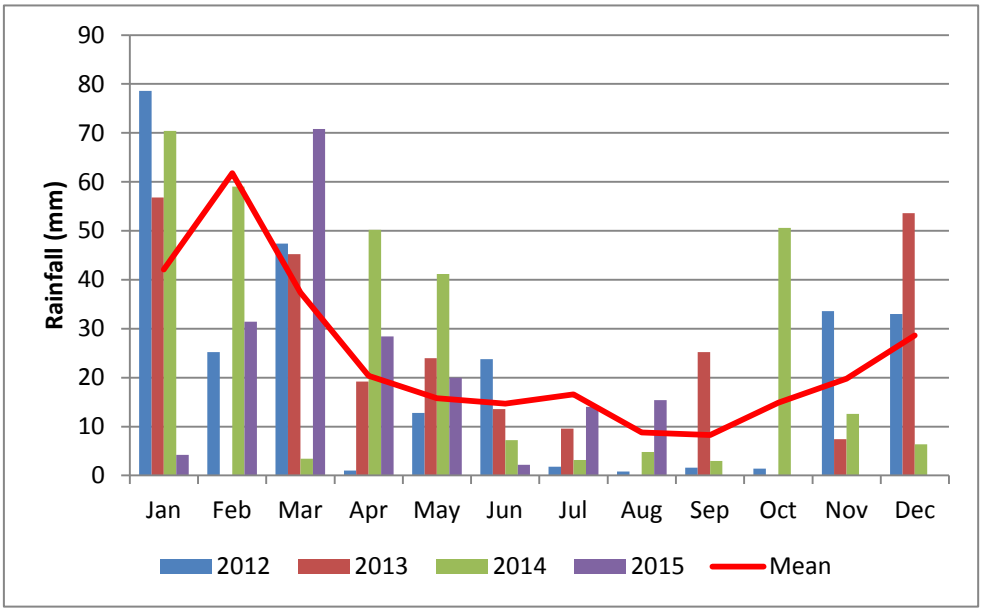

Figure 6: Monthly rainfall from January 2012 to August 2015 and mean monthly rainfall (January 1991 to July 2015) for the Laverton Aero weather station #12305 (BOM, 2015).

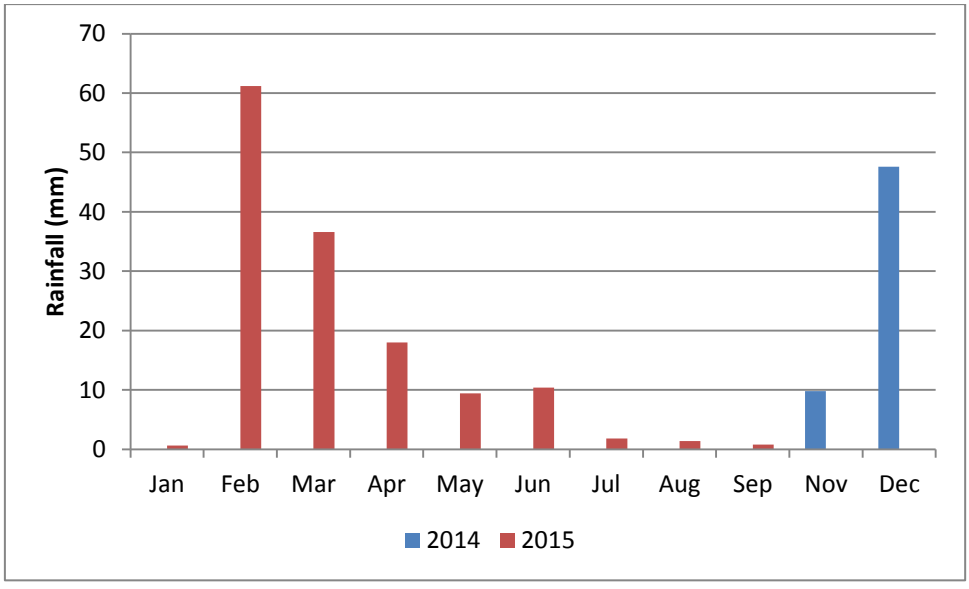

Figure 7: Monthly rainfall recorded at the Yamarna Weather Station (Privately owned by Gold Road) from October 2014 to September 2015.

2.5 Land Use

The dominant land uses of the Eastern Murchison subregion have been defined as grazing – native pastures (85.47%), Unallocated Crown Land (UCL) and Crown Reserves (11.34%), mining (1.79%) and conservation which accounts for 1.4% of the land use (Cowan, 2001). The Shield subregion dominant land uses include; Aboriginal reserves (12.3%), Conservation Reserves (7%), grazing-native pastures (24.8%), UCL and Crown Reserves (55.7%) and other-lake and major watercourse (0.1%). The Central subregion dominant land uses include; Aboriginal reserves (7.4%), Conservation Reserves (9.1%), grazing-native pastures (4.4%), UCL and Crown Reserves (78.9%) and other-lake and major watercourse (0.2%) (Cowan, 2001). The White Cliffs Road survey area is located within five pastoral leases; Yamarna, White Cliffs, Laverton Downs, Mt Weld and Glenorn. Approximately 30km of the most northern section of the Midline survey area is located within the Yamarna pastoral lease.

2.6 Survey Objectives

The objectives of the survey undertaken were to:

- Compile broad scale vegetation community flora maps and species list of the survey area (Appendix 2,3, & 4);
- Document and map locations of any Threatened or Priority listed flora species located;
- Assess the regional and local conservation status of plant species and ecological communities within the survey area; and
- Identify and map occurrences of any “Declared and Environmental” weeds within the survey area.

3 Survey Methodology

3.1 Desktop Assessment

Searches of the following databases were undertaken to aid in the compilation of a list of flora taxon within the survey area:

- DPaW's NatureMap Database (DPaW, 2015a); and
- DotE Protected matters search tool (DotE, 2015a).

The searches were conducted for an area encompassing a 120km radius of the centre coordinates - 122.96611E, 28.65639S. It should be noted that these lists are based on observations from a broader area than the survey area (120km radius) and therefore may include taxon not present. The databases also often included very old records that may be incorrect or in some cases the taxa in question have become locally or regionally extinct. Information from these sources should therefore be taken as indicative only and local knowledge and information also needs to be taken into consideration when determining what actual species may be present within the specific area being investigated.

Prior to the field survey, a combined search of the DPaW's Flora of Conservation Significance databases (DPaW, 2015b) was undertaken within a 50km radius of the survey, the results of which are provided in Appendix 4. These significant flora species were examined on the Western Australian Herbarium's (WAHERB) web page prior to the survey, to familiarise staff with their appearance. Locations of Threatened Flora and Priority Flora were overlaid on aerial photography of the area. Vegetation descriptions and available images of the Priority Flora were also obtained from Florabase.

Priority Flora and their respective vegetation types were targeted and all occurrences were traversed on foot specifically looking for the threatened flora associated with that vegetation description.

The conservation significance of flora taxon was assessed using data from the following sources:

- EPBC Act. Administered by the Australian Government DotE;
- WC Act. Administered by the WA DPaW (Govt. of WA 2015);
- Red List produced by the Species Survival Commission (SSC) of the World Conservation Union (also known as the IUCN Red List – the acronym derived from its former name of the International Union for Conservation of Nature and Natural Resources). The Red List has no legislative power in Australia but is used as a framework for State and Commonwealth categories and criteria; and
- DPaW Priority Flora list. A non-legislative list maintained by DPaW for management purposes (DPaW, 2015b).

Table 4 below represents the definitions of Flora of Conservation Significance ratings extracted from Florabase (WAHERB, 2015).

Table 4: Definitions of Rare and Priority Flora Species (WAHERB, 2015)

T: Schedule 1 Threatened Flora under the *Wildlife Conservation Act 1950*
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.
X: Declared Rare flora – Presumed Extinct Taxa
Taxa which have been adequately searched for and there is no reasonable doubt that the last individual has died, and have been gazetted as such.
1: Priority One – Poorly known Species
Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, Westrail and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
2: Priority Two – Poorly Known Species
Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.
3: Priority Three – Poorly known Species
Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.
4: Priority Four – Rare, Near Threatened and other species in need of monitoring
1. Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands. 2. Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable. 3. Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
5: Priority 5 – Conservation Dependent Species
Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

A search of the DPaW PEC and TEC database was also conducted within a 50km radius of the survey area (DPaW, 2015c).

3.2 Field Assessment

BC was commissioned by Gold Road to undertake a Level 1 flora and vegetation survey of two potential gas pipeline routes (White Cliffs Road survey area and the Midline survey area) that will link the Gruyere Project to the Eastern Goldfields Gas Pipeline.

The White Cliffs Road survey area comprises of two sections; 211km section (40m wide[4]) following the existing road reserve along the White Cliffs Road and a 30km section (100m wide) extending

[4] Width of the survey area varies in sections to include the actual route of the White Cliffs Road and the road reserve

south from Laverton on the Mount Weld Road to the Granny Smiths Mine. The White Cliffs Road survey area covered a total area of approximately 1255ha. The Midline survey area travels south from the Gruyere Project to intercept the Eastern Goldfields Gas Pipeline; the Midline survey area is approximately 140km in length and 40m wide and covers an area of approximately 577ha. The objective of the survey was to document all observed flora taxon including flora of Conservation Significance and the occurrences of any "Environmental or Declared" weeds observed within or adjacent to the survey area. The survey of the first 211km section of the White Cliffs Road survey area and Midline survey area was conducted from the 14th to the 21th of August 2015. The 30km section of the White Cliffs Road survey area was conducted on the 8th November 2015. The area traversed on foot, ATV and 4WD by two staff members (Figure 8).

Prior to the commencement of field work, aerial photography was inspected and obvious differences in the vegetation assemblages were identified. The different vegetation communities identified were then inspected during the field survey to assess their validity. A handheld GPS unit was used to record the co-ordinates of the boundaries between existing vegetation communities. At each sample point, the following information was recorded:

- GPS location;
- Photograph of vegetation;
- Dominant species;
- Collection and documentation of unknown plant specimens; and
- GPS location, photograph and collection of Threatened Flora if encountered.

Unknown specimens collected during the survey were identified with the aid of samples housed at the BC Herbarium and WAHERB. Presence/absence data of species from sample sites of similar vegetation was then compiled forming the best representative vegetation communities. Similar vegetation communities were recognised visually in the field. Vegetation communities were classified in accordance with the NVIS to a minimum Level 5 classification which includes recording Dominant growth form, height, cover and species for the three traditional strata (i.e. Upper, Middle and Ground).

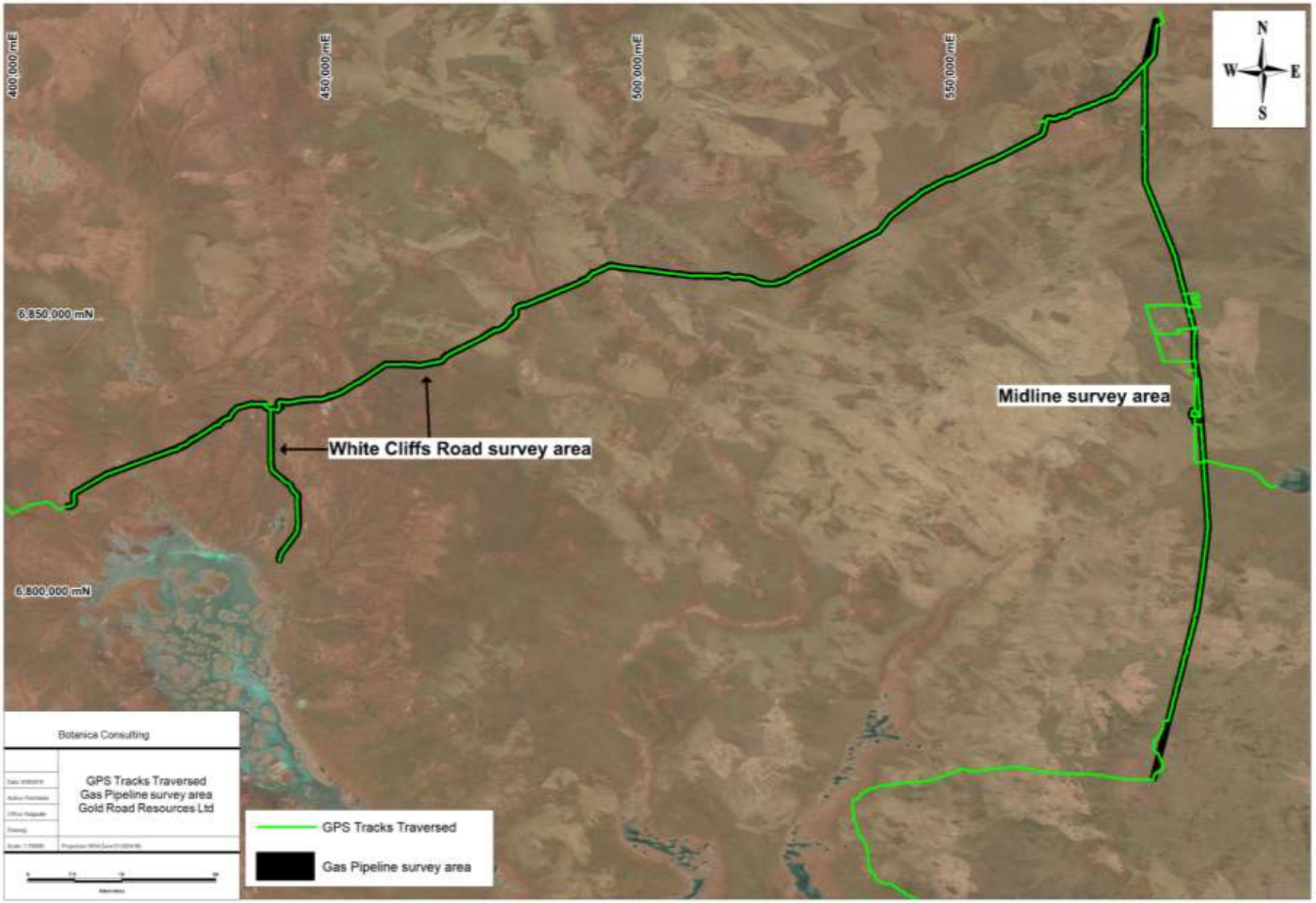

Figure 8: GPS tracks traversed throughout the Gas Pipeline survey area

3.2.1 Personnel involved

Jim Williams - Environmental Consultant/Botanist (Diploma of Horticulture)
Andrea Williams - Environmental Consultant (BSc Hons Mineral Resources Management)
Lauren Pick - Environmental Consultant (Bachelor of Science)
Pat Harton - Environmental Consultant (Bachelor of Environmental Science)
Mathew Newland - Environmental Technician
Greg Harewood - Zoologist
Cosmo Newberry Traditional Land Owners

3.2.2 Scientific licences

Table 5: Scientific Licences of Botanica Staff coordinating the survey

Licensed staff	Permit Number	Valid Until
Jim Williams	SL011451	21-05-2016
Andrea Williams	SL011450	21-05-2016
Lauren Pick	SL011449	21-05-2016
Pat Harton	SL011452	21-05-2016

3.3 Flora survey limitations and constraints

It is important to note that flora surveys will entail limitations notwithstanding careful planning and design. Potential limitations are listed in Table 6.

Table 6: Limitations and constraints associated with the flora and vegetation survey.

Variable	Potential Impact on Survey	Details
Access problems	Not a constraint	The survey was conducted via 4WD, all-terrain vehicle and on foot.
Experience levels	Not a constraint	The BC personnel that conducted the survey were regarded as suitably qualified and experienced. **Coordinating Botanist:** Jim Williams **Field Staff:** Jim Williams, Andrea Williams & Lauren Pick **Data Interpretation:** Jim Williams & Lauren Pick
Timing of survey, weather & season	Not a constraint	Majority of the fieldwork was conducted in August just prior to the EPA's recommended timing for flora surveys (i.e. spring Sept-Nov) for detecting most ephemeral flora and when the majority of species are in flower. However spring occurred early in this region following above average rainfall in the autumn from (March – May) and as a result the survey was conducted at the optimum time when a large number of annual species were present and many species were in flower. The remaining 30km section of White Cliffs Road survey area was surveyed in November during EPA's recommended timing for flora surveys.
Sources of information	Not a constraint	BC was able to obtain information about the area from previous research conducted within the area which enabled adequate background information about the region.
Mapping reliability	Minor constraint	BC were not able to obtain high quality ortho aerial images of the area however aerial imagery obtained was sufficient to reliably determine changes in vegetation within the survey area.

Variable	Potential Impact on Survey	Details
Area disturbance	Minor constraint	Ranged from degraded (completely burnt vegetation) to pristine (no access tracks, disturbance, invasive species etc.). Majority very good. Vegetation in various stages of fire regrowth (<6 months to 10+ years)
Survey Intensity	Not a constraint	Survey intensity was appropriate for the size/significance of the area with a Level 1 survey completed to identify vegetation communities and any Flora of Conservation Significance.
Resources	Not a constraint	Threatened flora database search provided by the DPaW was used to identify any potential locations of Threatened/Priority Flora species. DAFWA, DPaW and DotE databases were reviewed to obtain appropriate regional desktop information on the biophysical environment of the local region.
Completeness	Not a constraint	In the opinion of BC the survey area was covered sufficiently in order to identify vegetation assemblages. Due to the extensive experience and familiarity of the BC staff with flora within the region and above average rainfall within the autumn months (March, April, May), it is estimated that approximately 90% of the flora within the survey area was able to be fully identified. The vegetation communities for this study were based on visual descriptions of locations in the field. The distribution of these vegetation communities outside the study area is not known, however vegetation communities identified were categorised via comparison to vegetation distributions throughout WA specified in the NVIS obtained from the Australian Government (DoE, 2015b).

4 Results

4.1 Desktop Assessment

4.1.1 Flora of Conservation Significance

The results of the combined search of the DPaW's Flora of Conservation Significance databases (DPaW, 2014), recorded no Threatened Flora and no Priority Flora taxon to occur within the survey area. Thirty-two Priority Flora taxa were listed by DPaW within a 50km radius of the Gas Pipeline survey area (Appendix 4). These taxa were assessed and ranked for their likelihood of occurrence within the survey area (Table 7). The rankings and criteria used were:

- Unlikely: Area is outside of the currently documented distribution for the species/no suitable habitat (type, quality and extent) was identified as being present during the field/desktop assessment.

- Possible: Area is within the known distribution of the species in question and habitat of at least marginal quality was identified as being present during the field/desktop assessment, supported in some cases by recent records being documented from within or near the area.

- Known to Occur: The species in question was positively identified as being present during the field survey.

Table 7: Likelihood of occurrence for Flora of Conservation Significance within the Gas Pipeline survey area

Taxon	Conservation Code	Description (WAHERB, 2015)	Likelihood of Occurrence
Acacia websteri	1	Shrub, 1.2-5 m high, bark fibrous. Fl. yellow. Red sand, clay or loam. Low-lying areas, flats.	Unlikely
Angianthus prostratus	3	Prostrate annual, herb. Fl. white-yellow, Jul to Sep. Red clay or loamy soils. Saline depressions.	Unlikely
Bossiaea eremaea	3	Divaricately-branched, spreading shrub, to 1.2 m high. Fl. red-yellow-purple-brown, Jul to Sep. Deep red sand.	Unlikely
Calytrix warburtonensis	2	Shrub, 0.3-0.6 m high. Fl. white, Mar or Sep to Oct. Rocky hills, breakaways.	Known to Occur
Calytrix praecipua	3	Shrub, 0.3-0.7 m high. Fl. pink-white, Jun to Jul or Sep to Nov. Skeletal sandy soils over granite or laterite. Breakaways, outcrops.	Possible
Comesperma viscidulum	4	Shrub, to ca 0.7 m high.	Possible
Conospermum toddii	4	Spreading shrub, 1.2-2 m high. Fl. white/white-yellow, Jul to Oct. Yellow sand. Sand dunes.	Known to Occur
Cratystylis centralis	3	Much-branched, brittle, greyish shrub, to 1 m high. Red sandy loam with ironstone gravel. Flat plains, breakaway country.	Possible
Dicrastylis cundeeleensis	4	Woolly shrub, 0.2-0.5 m high. Yellow sand, red or reddish-yellow sand. Sandplains.	Possible
Eremophila annosocaulis	3	Erect shrub, 40 cm high x 40 cm wide. Flowers purple / violet. Population structure: adult. Reproductive method: seeds. Rocky sloping plain in rangeland with brown loam / rocky soil. Stony, flat, sandy plain. Red sand.	Possible
Eremophila arachnoides subsp. tenera	3	Broom-like shrub, to 3 m high, branches with circular, discrete tubercles. Fl. white/blue-purple, Sep. Shallow loam over limestone.	Possible
Eremophila aureivisca	1	Dense much-branched shrub, ca 1 m high. Fl. blue-purple, Sep. Stony, skeletal red clay. Between breakaways & clay pans.	Possible
Eucalyptus nigrifunda	4	Tree, 5-7 m high, bark rough & black on trunk. Sandy clay. Breakaways of decomposing granite.	Possible
Eucalyptus pimpiniana	3	Straggly shrubby mallee, 0.7-2 m high, bark smooth. Fl. white May to Oct. Red sand. Sand dunes & plains.	Possible
Goodenia lyrata	3	Prostrate herb, with lyrate leaves. Fl. yellow, Aug. Red sandy loam. Near claypan.	Unlikely
Grevillea inconspicua	4	Intricately branched, spreading shrub, 0.6-2 m high. Fl. white/pink-white, Jun to Aug. Loam, gravel. Along drainage lines on rocky outcrops, creek lines.	Unlikely
Grevillea secunda	4	Low spreading shrub, 0.3-0.8 m high. Fl. red, Sep to Oct. Yellow or red sand. Sand dunes, sandplains.	Possible
Gunniopsis propinqua	3	Prostrate annual or perennial, herb, 0.03-0.1 m high. Fl. white/pink, Aug to Sep. Stony sandy loam. Lateritic outcrops, winter-wet sites.	Unlikely
Hemigenia exilis	4	Erect, multi-stemmed shrub, 0.5-2 m high. Fl. blue-purple/white, Apr or Sep to Nov. Laterite. Breakaways, slopes.	Unlikely
Hybanthus floribundus subsp. chloroxanthus	3	Multi-stemmed shrub, to 0.7 m high. Fl. blue & white, Aug to Oct. Dark red-brown soil, never sandy, rich in iron oxide, laterite. Rocky areas, creek banks, along drainage lines.	Unlikely
Melaleuca apostiba	3	Spreading shrub, to 2 m high, with grey fissured bark and dull green leaves. Fl. red, Jun.	Unlikely
Olearia arida	4	Erect shrub, to 0.4 m high. Fl. white, Jul to Sep. Red or yellow sand. Undulating low rises.	Known to Occur
Olearia mucronata	3	Densely branched, unpleasantly aromatic shrub, 0.6-1 m high. Fl. white & yellow, Aug to Dec or Jan. Schistose hills, along drainage channels.	Possible
Phyllanthus baeckeoides	3	Shrub, 0.5-1.5 m high. Fl. white-yellow/green-yellow, Jul to Sep. Red lateritic & sandy clay soils. Granite outcrops.	Unlikely

Taxon	Conservation Code	Description (WAHERB, 2015)	Likelihood of Occurrence
Ptilotus tetrandrus	1	Annual, herb, 0.15-0.3 m high. Fl. Oct. Loamy sand.	Unlikely
Sauropus ramosissimus	3	Slender, much-branched shrub, to 0.3 m high.	Unlikely
Tecticornia cymbiformis	3	Erect, perennial shrub, 0.3-0.5 m high. Saline soils. Along the edge of creeklines.	Unlikely
Tecticornia mellaria	1	Erect, perennial shrub, 0.2-0.4 m high. Well-drained red gypseous sand, clay. Gypseous dunes, margins of playa lakes, on clay pans.	Unlikely
Tecticornia sp. Lake Way (P. Armstrong 05/961)	1	Small upright shrub 30 to 40 cm tall with a spread to 10 cm. dense succulent, foliage yellow and green. Flat, clay, salt lake on playa surface at edge of lake.	Possible
Thryptomene nealensis	3	Shrub, ca 0.3 m high. Fl. pink, Oct. Lateritic breakaways	Known to Occur
Triglochin protuberans	3	Annual, herb, 0.03-0.13 m high. Red loam, grey mud over clay. Winter-wet sites, claypans, near salt lakes, margins of pools.	Possible
Vittadinia cervicularis var. oldfieldii	1	Annual, herb, 0.1-0.3 m high. Fl. white-purple-blue, Aug to Sep. Alluvium.	Possible

4.1.2 Previous Flora Surveys

Flora and vegetation surveys, assessments and reviews have been undertaken in nearby areas in the past, though not all are publically available and could not be referenced. The most significant of those available have been used as the primary reference material for compiling the potential flora and vegetation communities for the general area (Table 8).

Table 8: Previous Flora and Vegetation Surveys within the gas pipeline survey area and surrounding area

Author & Year	Vegetation/Landforms	Flora of Conservation Significance
DAFWA (1994)	Perennial grasses were common throughout the survey area, divided into two major groups; Wanderrie bunch grasses and Spinifex hummock grasses. *Eragrostis eriopoda* (woolly butt) being the most widespread and abundant of the Wanderrie grasses with *Triodia basedowii* (hard spinifex) being the most abundant of the hummock grasses. *Triodia basedowii* often occurs as vast expanses in the east of the survey area. Tall shrubs are the most dominant stratum on most of the hardpan plains and adjacent uplands. The most widely distributed and common tall shrubs are from the genera *Acacia* and *Eremophila*. *Acacia* tall shrublands on hardpan plains are generally dominated by a single species; *Acacia aneura* (mulga). Other common Acacias which are occasionally dominant are; *A. craspedocarpa, A. linophylla, A. ramulosa* and *A. tetragonophylla*. On stony plains, *Eremophila macmillaniana, E. fraseri* and *E. platycalyx* are common or dominant tall shrubs. There are three common groups of mallee (multi-stemmed eucalypts). The first group is found in spinifex sandplains and is most widely represented by *Eucalyptus youngiana* and *E. kingsmillii*. The second group of mallee is found on sandy soils over calcareous pans in the south of the survey area. The most common species are *E. trichopoda* and *E. concinna*. The third group, which includes *E. salubris* var. *salubris*, is found low in the landscape on heavier textured soils in association with Atriplex vesicaria. The most common trees in the survey area are *Acacias, Eucalypts* and *Casuarina cristata*. *Acacia* woodland occurs in broad plains with deep sandy loams or loamy sands over hardpan, most extensively in the south of the survey areal. Similar land surfaces further north are dominated more frequently by wanderrie grasses and the tall shrub form of *A. aneura*. In the north and east of the survey area, *Eucalyptus gongylocarpa* is common in extensive spinifex hummock grasslands on sandplains and on the sides of sand ridges.	N/A
Hall, N.J., Newbey, K.R., McKenzie, N.L., Keighery, G.J., Rolfe , J.K & Youngson, W. K., (1993)	The Sandstone-Sir Samuel and Laverton-Leonora Study Areas are adjacent, and have a similar climate, geomorphology and biota. Ten landform units are recognized in these Study Areas. The most extensive are Sandplains and Broad Valleys. Salt Lake Features, Calcareous Plains bordering salt lakes, and Undulating Plains are prominent in both Study Areas. Small areas of Dunefields, Breakaways and Granite Exposures are scattered throughout the Study Areas while Hills and Drainage Lines occur largely within Undulating Plains. The main vegetation groups are low woodlands of *Acacia aneura* (Mulga). Eucalyptus species with an understorey of hummock grasses (Triodia) are dominant on deep sands. Tall and low shrublands occur in limited areas, generally in association with salt lakes and dunes. The known vascular flora comprises 7 species of ferns and 777 taxa of flowering plants, including 303 taxa recorded from Wanjarri Nature Reserve. No species of Threatened Flora were recorded within the Study Areas.	N/A

Author & Year	Vegetation/Landforms	Flora of Conservation Significance
TJV (2009)	Sixteen major vegetation communities were identified within the 131,367ha operational area; 1. Mixed Eucalypt woodland over mixed open shrubs and *Triodia basedowii*; 2. Isolated *Acacia* spp. over open low shrubs and moderately dense tussock grasslands; 3. Minor clay pan: Scattered *Acacia nyssophylla/Grevillea sarissa* over open herbs and grasses; 4. Dunes: Scattered *Eucalyptus gongylocarpa* over mixed shrubs and *Triodia desertorum* or *T. basedowii;* 5. *Acacia aneura* woodland over grasses ± *Triodia basedowii*; 6. Open to moderately dense *A. aneura* over *Aluta maisonneuvei* subsp. *articulata/Acacia ramulosa* var. *ramulosa* over *Eremophila forrestii* subsp. *forrestii* over *Triodia basedowii*; 7. *E, gongylocarpa/E. youngiana/ E. concinna* over open mixed shrubland over *Triodia desertorum*; 8. Open to moderately dense *Casuarina pauper* woodland over open mixed shrubs and scattered soft grasses and/or *Triodia scariosa*; 9. Narrow drainage channel: Sparse *Acacia aneura* over sparse to open shrubs and moderately dense tussock grasses; 10. Rock breakaways and associated slopes: Open *Acacia quadrimarginea/Dodonaea rigida* over sparse mixed shrubs over mixed soft grasses; 11. *E. gongylocarpa* over open shrubland over open *Dodonaea viscosa* subsp. *angustissima/Eremophila platythamnos* subsp. *platythamnos* shrubland over *Triodia desertorum* or *T. basedowii*; 12. White to grey brown clay pans: Dwarf halophytic shrublands of variable composition over sparse to dense herbs and grasses,; 13. Pale orange to orange clay pans: Low open to sparse scrub dominated by *Frankenia cinerea/Atriplex vesicaria* over sparse cover of *Eragrostis pergracilis/Aristida contorta*; 14. Shallow depressions and areas fringing some clay pans: Moderately dense *Melaleuca interioris* shrubland over sparse chenopods and soft grasses; 15. Plains and gentle hill slopes at margins of saline complex: Sparse to open *Casuarina pauper* ± mallee Eucalypts over *Dodonaea viscosa* subsp. *angustissima/Senna artemisioides* subsp. *petiolaris* over Chenopod species and soft grasses; and 16. Open mallee *E. concinna* over sparse to open low shrubs over open *Triodia scariosa*.	Priority Flora taxa as listed by the DPaW were identified within the area: 1. *Baeckea* sp. Great Victoria Desert (A.S. Weston 14813) (No longer Priority listed); 2. *Baeckea* sp. Sandstone (C.A. Gardner s.n. 26 Oct. 1963) P3; 3. *Dampiera eriantha* P1; 4. *Dicrastylis nicholasii* P4; 5. *Malleostemon* sp. Officer Basin (D. Pearson 350) P2; 6. *Olearia arida* P4; 7. *Grevillea secunda* P4; 8. *Acacia eremophila* numerous-nerved variant (A.S. George 11924) P3; 9. *Acacia eremophila* var. *variabilis* P3; 10. *Dicrastylis cundeeleensis* P4; 11. *Microcorys macredieana* (No longer Priority listed); 12. *Micromyrtus stenocalyx* (No longer Priority listed); 13. *Daviesia purpurascens* (No longer Priority listed); and 14. *Lepidobolus deserti* (No longer Priority listed).

Author & Year	Vegetation/Landforms	Flora of Conservation Significance
BC (2011)	Five vegetation communities were identified within the survey area; 1. Mallee/Mulga woodland over Spinifex; 2. *Eucalyptus youngiana* Mallee shrubland over Spinifex; 3. Melaleuca shrubland over Spinifex; 4. *Eucalyptus gypsophila* woodland; and 5. *Eucalyptus gongylocarpa* over mixed Mallee and Spinifex. There were also three sub-communities identified within the survey area; 1. Burnt Spinifex grassland; 2. Spinifex grassland; and 3. Burnt Mallee/Mulga woodland over Spinifex.	N/A

Author & Year	Vegetation/Landforms	Flora of Conservation Significance
BC (2012)	Sixteen vegetation communities were identified within the survey area: 1. Low forest of Mulga (*Acacia aneura*) over dense low grass of *Eragrostis eriopoda/ Eragrostis kennedyae;* 2. Low forest of Mulga over mixed dwarf scrub; 3. Heath of *Senna artemisioides* subsp. *helmsii* over low grass of *Aristida contorta/ Eragrostis kennedyae;* 4. Low woodland of Mulga over mixed dwarf scrub on breakaway; 5. Low woodland of Mulga over low scrub of *Eremophila oldfieldii* subsp. *angustifolia* and dense low grass of *Eragrostis eriopoda/ Eragrostis kennedyae* in creekline/drainage area; 6. Low Mulga woodland over low scrub of *Eremophila latrobei* subsp. *filiformis/ Eremophila abietina* subsp. *ciliata* and mixed dwarf scrub on rocky substrate; 7. Low woodland of *Casuarina pauper* over dwarf scrub of *Ptilotus obovatus/ Solanum lasiophyllum;* 8. Open low woodland of Mulga over dwarf scrub of mixed Chenopods; 9. Open shrub mallee and thicket of Mulga over mid dense hummock grass of *Triodia basedowii;* 10. Heath of *Acacia burkittii* over mixed dwarf scrub and mid dense hummock grass of *Triodia basedowii*; 11. Low woodland of *Eucalyptus gongylocarpa* over mixed open shrub mallee and mid dense hummock grass of *Triodia basedowii*; 12. Open shrub mallee of *E. youngiana* over dense hummock grass of *Triodia basedowii*; 13. Open shrub mallee of *E. youngiana* over dwarf scrub of *Aluta maisonneuvei* and dense hummock grass of *Triodia basedowii* on sand dune; 14. Low open woodland of Mulga over dwarf scrub of *Ptilotus obovatus/ Solanum lasiophyllum*; 15. Low woodland of *E. gypsophila* over dwarf scrub of *Senna artemisioides* subsp. *helmsi*i, *Eremophila scoparia* and *Ptilotus obovatus* on breakaway; and 16. Low woodland of Mulga over mid dense hummock grass of *Triodia basedowii*. There were also five sub-communities identified within the survey area: 1. Dwarf scrub of *Senna artemisioides* subsp. *helmsii* and *Maireana pyramidata*; 2. Dense thicket of Mulga; 3. Low forest of Mulga over dwarf scrub of *Eremophila gilesii* subsp. *variabilis*; 4. Low forest of *Casuarina pauper* over mixed dwarf scrub; and 5. Mixed open shrub mallee over mid dense hummock grass of *Triodia basedowii*.	No Threatened taxa were identified during the spring and autumn surveys; however two Priority taxa species, *Calytrix warburtonensis* (P2) and *Thryptomene nealensis* (P3) were recorded within the survey area.
BC (2014a)	Thirty-four broad vegetation communities were identified within the survey area. These communities were represented by a total 37 Families, 82 Genera and 170 Taxa, (including sub-species and variants).	Two Priority Flora taxa, as listed by the DPaW were identified within the survey area; *Calytrix warburtonensis* (P2) and *Thryptomene nealensis* (P3).

Author & Year	Vegetation/Landforms	Flora of Conservation Significance
BC (2014b)	One hundred and four vegetation communities were identified within the Sunrise Dam to Tropicana survey area, These communities comprised of six landform types. These vegetation communities were represented by a total of 43 Families, 114 Genera and 281 Taxa. 1. Breakaway: Casuarina Forests and Woodlands, Mallee Woodlands and Shrublands 2. Clay-Loam Plains: Acacia Forests and Woodlands, Acacia Shrublands, Mallee Open Woodlands and Shrublands, Acacia Open Woodlands, Casuarina Forests and Woodlands, Chenopod shrublands, samphire shrublands and forblands, Eucalypt Woodlands, Mallee Woodlands and Shrublands,. 3. Closed Depression: Acacia Forests and Woodlands, Acacia Shrublands, Other Shrublands 4. Dunes: Eucalypt Woodlands, Mallee Woodlands and Shrublands, Other Shrublands 5. Interdune Swales and Sandplain: Acacia Forests and Woodlands, Eucalypt Woodlands, Mallee Woodlands and Shrublands, Eucalypt Open Woodlands, Heathlands, Regrowth, modified native vegetation, 6. Rocky Hillslopes: Acacia Forests and Woodlands, Casuarina Forests and Woodlands	Seven Priority Flora taxa, as listed by the DPaW were identified within the survey area: 1. *Acacia eremophila* numerous-nerved variant (A.S. George 11924) (P3); 2. *Caesia talingka* (P2); 3. *Dicrastylis cundeeleensis* (P4); 4. *Grevillea secunda* (P4); 5. *Labichea eremaea* (P3); 6. *Melaleuca apostiba* (P3); and 7. *Olearia arida* (P4).
BC (2014c)	Twenty vegetation communities were identified within the survey area. These communities comprised of five landform types and five NVIS broad vegetation groups These vegetation communities were represented by a total of 35 Families, 91 Genera and 168 Taxa (including sub-species and variants). 1. Clay-Loam Plains: Acacia Forest and Woodlands, Casuarina Forests and Woodlands, Mallee Woodlands and Shrublands 2. Dunes: Eucalypt Woodlands 3. Interdune Swales and Sandplain: Eucalypt Woodland, Mallee Woodland and Shrubland 4. Rocky Hillslope: Acacia Forest and Woodlands Closed Depression: Mallee Woodlands and Shrublands	Two Priority Flora taxa, as listed by the DPaW and one plant of conservation significance were identified within the survey area: 1. *Conospermum toddii* (P4); 2. *Olearia arida* (P4); and 3. *Lawrencia* aff. *cinerea* (Species of conservation significance)
BC (2015)	Thirty-two vegetation communities were identified within the survey area. These communities comprised of seven different landform types and seven NVIS broad vegetation groups. These communities were represented by a total 44 Families, 104 Genera and 240 Taxa, (including sub-species and variants). 1. Breakaways: Acacia Shrublands 2. Clay-Loam Plains: Acacia Forests and Woodlands, Acacia Shrublands, Mallee Open Woodlands and Shrublands 3. Drainage Depression: Acacia Open Woodlands and Acacia Forests and Woodlands 4. Quartz/Rocky Plain: Acacia Forests and Woodlands, Acacia Open Woodlands 5. Rocky Hillslope: Acacia Forest and Woodland 6. Sand Dune: Eucalyptus Woodlands/ Mallee Woodlands and Shrubs 7. Sandplain: Acacia Forests and Woodlands, Eucalypt Woodland, Mallee Woodlands and Shrublands	N/A

4.2 Field Assessment

4.2.1 Flora of Conservation Significance

Flora of conservation significance identified in the desktop assessment as potentially occurring within the survey area were targeted during the field assessment. No Threatened Flora taxa pursuant to subsection (2) of section 23F of the WC Act and the EPBC Act were identified within the survey area. Two Priority Flora taxa have been previously recorded by BC (2014a) within close proximity to the Gas Pipeline survey area; *Calytrix warburtonensis* (P2) and *Thryptomene nealensis* (P3) which were previously recorded approximately 10m-60m north of the Gas Pipeline survey area. Two Priority Flora taxa as listed by the DPaW (2015b) were identified within the Gas Pipeline survey area; *Conospermum toddii* (P4); and *Olearia arida (P4)*. Details on each taxon are provided below. A map of Priority Flora locations recorded by BC is provided in Figure 9.

4.2.2 *Calytrix warburtonensis* (P2)

This taxon is described as a shrub that grows between 0.3 to 0.6m high (Plate 1). It produces white flowers from March, or September to October. It is found on rocky hills and breakaways (WAHERB, 2015). BC identified three locations of this taxon during the Gruyere survey approximately 10m-60m north of the White Cliffs Road survey area, none of which are DPaW known locations. The locations of this taxon have been previously formally lodged with DPaW. Location details are provided in Appendix 7. *Calytrix warburtonensis* was recorded within the Low woodland of *Casuarina pauper/Acacia incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea viscosa* and low heath of *Frankenia georgei/ Prostanthera wilkieana* on breakaway (B-CFW/AFW1) vegetation community.

Plate 1: *Calytrix warburtonensis* (P2)

4.2.3 *Conospermum toddii* (P4)

This taxon is described as a spreading shrub, which grows between 1.2 - 2 m high. It produces white to white-yellow flowers from July to October (Plate 2). This taxon commonly occurs on yellow sand and sand dunes (WAHERB, 2015). One location of this taxon was identified within the Midline survey area within the Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune vegetation community (SD-RMNV1). No locations of this taxon were listed on the DPaW database as occurring within the survey area; however this taxon was listed by DPaW as occurring within a 50km radius of the Gas Pipeline survey area. A specimen of this plant and location details have been provided to the DPaW to update their database.

Plate 2: *Conospermum toddii* (P4)

4.2.4 *Olearia arida* (P4)

Olearia arida is described as an erect shrub, which grows up to 0.4 m high (Plate 3). It produces white flowers from July to September. It occurs on red or yellow sand on undulating low rises (WAHERB, 2015). *Olearia arida* was identified within three vegetation communities within the Gas Pipeline survey area;

- Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia abrupta/ A. ligulata* and dense hummock grass of *Triodia basedowii* in sandplain (S-EW1);
- Open tree mallee of *Eucalyptus trivalva*l low woodland of *Acacia craspedocarpa* over open low scrub of *A. desertorum/A. ligulata* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-MWS/AFW1); and
- Regrowth Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-RMNV3).

Three locations were recorded in the White Cliffs Road and Midline survey area respectively. None of these locations were listed on the DPaW database; however this taxon was listed by DPaW as occurring within a 50km radius of the survey area. A specimen of this plant and location details have been provided to the DPaW to update their database. GPS locations are provided in Appendix 7.

Plate 3: *Olearia arida* (P4)

4.2.5 *Thryptomene nealensis* (P3)

This taxon is described as a shrub that can grow to 0.3m high (Plate 4). It produces pink flowers, and it is found on lateritic breakaways (WAHERB, 2014). BC identified one location of this taxon during the Gruyere survey approximately 60m north of the White Cliffs Road survey area. The location of this taxon has been previously formally lodged with DPaW. Location details of this taxon are provided in Appendix 7. *Thrytomene nealensis* was recorded within the Low woodland of *Casuarina pauper/Acacia incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea viscosa* and low heath of *Frankenia georgei/ Prostanthera wilkieana* on breakaway (B-CFW/AFW1) vegetation community.

Plate 4: *Thryptomene nealensis* (P3)

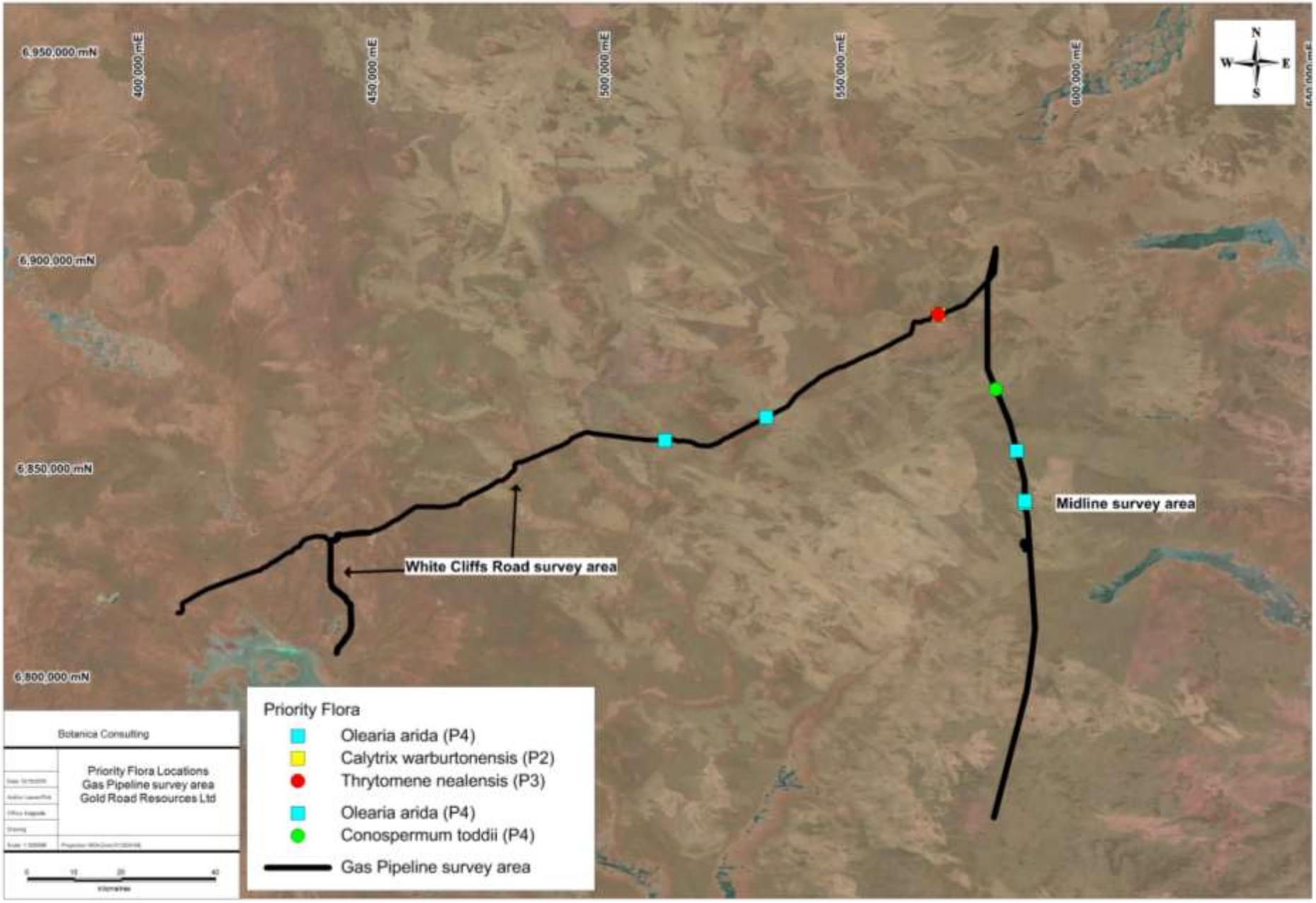

Figure 9: Priority Flora locations recorded by BC in relation to the Gas Pipeline survey area

4.3 Vegetation Communities

A total of 89 vegetation communities were identified within the entire Gas Pipeline survey area, (White Cliffs Road survey area and the Midline survey area inclusive). These communities comprised of seven different landform types and nine NVIS major vegetation groups as listed in Table 9 below (Appendix 5). A summary of vegetation communities (including area) of vegetation communities for each survey area is provided in Table 10 and Table 11 below.

Table 9: Vegetation Communities identified within the Gas Pipeline survey area (White Cliffs Road and Midline survey area inclusive)

Landform	NVIS Vegetation Group	Vegetation Community	Code	White Cliffs Road Survey Area	Midline Survey Area
Breakaway	Casuarina Forests and Woodlands/ Acacia Shrublands	Low woodland of *Casuarina pauper/ Acacia incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea viscosa* and low heath of *Frankenia georgei/ Prostanthera wilkieana* on breakaway	B-CFW/AFW1	✓	✓
	Acacia Forests and Woodlands	Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea rigida/ Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Ptilotus obovatus* on breakaway	B-AFW1		✓
Clay-Loam Plain	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura* over low scrub *Hakea preissii/ A. colletioides/ Atriplex bunburyana* and dwarf scrub *Maireana pyramidata* on clay-loam plain	CLP-AFW1	✓	
		Low forest of *Acacia incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila latrobei* subsp. *glabra/ Senna artemisioides* subsp. x *artemisioides/ Eremophila jucunda* and dwarf scrub of *Eremophila forrestii* subsp. *forrestii* on clay-loam plain	CLP-AFW2	✓	
		Low woodland of *Acacia caesaneura/ Acacia incurvaneura* over low scrub of *Eremophila forrestii* subsp. *forrestii/ Eremophila latrobei* subsp. *latrobei* and low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AFW3		✓
		Low woodland of *Acacia caesaneura/ A. incurvaneura* over open low scrub of *Eremophila margarethae* and open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AFW4	✓	
	Acacia Open Woodlands	Low woodland of *Acacia caesaneura/A. incurvaneura* over heath of *Eremophila latrobei* subsp. *filiformis/ Senna artemisioides* subsp. *x artemisioides* and low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AOW1	✓	
		Open low woodland of *Acacia incurvaneura/ Hakea preissii* over low scrub *Eremophila pantonii/ Maireana pyramidata/ Maireana sedifolia/ Maireana glomerifolia* and dwarf scrub *Maireana triptera* on clay-loam plain	CLP-AOW2	✓	
		Open low woodland of *Acacia aptaneura* over low scrub of *Eremophila pantonii, Atriplex bunburyana, Cratystylis subspinescens* and *Maireana pyramidata* on clay-loam plain	CLP-AOW3	✓	
		Open low woodland of *Acacia ayersiana/ A. caesaneura* over low scrub of *A. ramulosa* var. *ramulosa/ A. tetragonophylla/ Eremophila* spp. and dwarf scrub of *Maireana triptera/ Solanum lasiophyllum/ Ptilotus obovatus* and open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AOW4	✓	
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Open tree mallee of *Eucalyptus lucasii/* Low woodland of *Acacia incurvaneura/ A. caesaneura* over heath of *Eremophila latrobei* subsp. *filiformis* and very open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-MWS/AFW1	✓	✓

Landform	NVIS Vegetation Group	Vegetation Community	Code	White Cliffs Road Survey Area	Midline Survey Area
		Open tree mallee of *Eucalyptus youngiana*/ Forest of *Acacia incurvaneura/A. mulganeura* over heath of *Eremophila forrestii* subsp. *forrestii* and dense low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-MWS/AFW2	✓	
Drainage Depression	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura/ Acacia caesaneura* over open low scrub of *Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Eremophila gilesii/ Eremophila malacoides* with occasional *Eragrostis eriopoda* in drainage depression	DD-AFW1		✓
		Low woodland of *Acacia incurvaneura/ Acacia quadrimarginea* over low scrub of *Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Eremophila malacoides* in drainage depression	DD-AFW2		✓
	Acacia Open Woodlands	Open low woodland of *Acacia incurvaneura* over dwarf scrub of *Maireana pyramidata/* Low heath of *Frankenia georgei and Sclerolaena densiflora* in drainage depression	DD-AOW1	✓	
		Open low woodland of *Acacia caesaneura/A. macraneura/A. ayersiana* over low scrub of *A. ramulosa* var. *ramulosa/Eremophila forrestii* subsp. *forrestii/ Eremophila margarethae/ Maireana triptera* and open low grass of *Eragrostis laniflora* in drainage depression	DD-AOW2	✓	
		Open low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *A. craspedocarpa/ A. tetragonophylla/ Eremophila margarethae/ Atriplex bunburyana* and dwarf scrub of *Cratystylis subspinescens* in drainage depression	DD-AOW3	✓	
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Very open tree mallee of *Eucalyptus lucasii/* Low forest of *Acacia burkittii/ A. incurvaneura/ A. caesaneura* over low scrub of *Eremophila latrobei* subsp. *latrobei/ Senna artemisioides* subsp. x *artemisioides* and dwarf scrub of *Eremophila gilesii/ Ptilotus obovatus* in drainage depression	DD-MWS/AFW1	✓	
Closed Depression	Chenopod Shrublands, Samphire Shrublands and Forblands	Low heath of *Tecticornia halocnemoides/ T. indica* subsp. *bidens/ T. indica* subsp. *leiostachya* on playa	CD-CSSF1		✓
	Mallee Woodlands and Shrublands	Shrub mallee of *Eucalyptus horistes* over low woodland of *Acacia caesaneura* and open scrub of *Acacia rigens* over mid-dense hummock grass of *Triodia basedowii* on playa edge	CD-MWS1		✓
Quartz/Rocky Plain	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura/ A. caesaneura* over heath of *Scaevola spinescens/ Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain	QRP-AFW1	✓	✓
		Low woodland of *Acacia incurvaneura* over heath of *Eremophila latrobei* subsp. *latrobei* and low heath of *Eremophila exilifolia* on quartz/rocky plain	QRP-AFW2	✓	
		Low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *Eremophila abietina* subsp. *ciliata/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW3	✓	✓
		Low woodland of *Acacia aptaneura/ A. caesaneura* over scrub of *A. burkittii/ Senna artemisioides* subsp. *filifolia* and low scrub of *Ptilotus obovatus*/ mid-dense hummock grass of *Triodia irritans* on quartz/rocky plain	QRP-AFW4	✓	
		Low woodland of *Acacia burkittii* over low scrub of *Senna artemisioides* subsp. x *artemisioides* and mid-dense hummock grass of *Triodia irritans* on quartz/rocky plain	QRP-AFW5	✓	

Landform	NVIS Vegetation Group	Vegetation Community	Code	White Cliffs Road Survey Area	Midline Survey Area
		Open low woodland of *Acacia caesaneura*/ open scrub of *Eremophila oldfieldii* subsp. *angustifolia* over low scrub of *A. burkittii/ Dodonaea lobulata* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW6	✓	
		Low forest of *Acacia caesaneura/ A. quadrimarginea* over low scrub of *Senna artemisioides* subsp. *helmsii/ A. tetragonophylla/ A. burkittii/ Eremophila margarethae/ Ptilotus obovatus/ Solanum lasiophyllum* and dwarf scrub of *Maireana triptera* on quartz/rocky plain	QRP-AFW7	✓	
		Low forest of *Acacia incurvaneura/ Acacia caesaneura* over heath of mixed shrubs and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW8		✓
		Low forest of *Acacia caesaneura/A. incurvaneura* over low heath of *Eremophila gilesii* subsp. *variabilis* and mid-dense hummock grass of *Triodia irritans/* low grass of *Eragrostis eriopoda* on quartz-rocky plain	QRP-AFW9		✓
		Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and dwarf scrub of *Ptilotus obovatus/* open low grass of *Eragrostis eriopoda* on quartz/rocky plain	QRP-AFW10	✓	
	Acacia Open Woodlands	Open low woodland of *Acacia caesaneura* over low scrub of *Eremophila pantonii/ Ptilotus obovatus* and dwarf scrub of *Maireana triptera* on quartz/rocky plain	QRP-AOW1	✓	
	Casuarina Forests and Woodlands	Low woodland of *Casuarina pauper* over heath of *Eremophila scoparia/ Senna artemisioides* subsp. x *artemisioides* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain	QRP-CFW1	✓	
	Eucalypt Woodlands	Open low woodland of *Eucalyptus gypsophila* over low scrub of *Eremophila scoparia* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-EW1	✓	
	Mallee Woodlands and Shrublands	Open shrub mallee of *Eucalyptus trichopoda* over open low scrub of *Eremophila pantonii* and dwarf scrub of *Tecticornia disarticulata* on quartz/rocky plain	QRP-MWS1	✓	
Rocky Hillslope	Acacia Forests and Woodlands	Open low woodland of *Acacia quadrimarginea* over heath of *Eremophila abietina* subsp. *ciliata* and dwarf scrub of *Ptilotus obovatus* on rocky hillslope	RH-AFW1	✓	
		Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Scaevola spinescens/ Senna cardiosperma* and dwarf scrub of *Ptilotus obovatus/ Sida* sp. Excedentifolia (J.L. Egan 1925) on rocky hillslope	RH-AFW2	✓	
		Low Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Dodonaea rigida/ Senna* spp. and dwarf scrub of *Ptilotus obovatus* on Banded Ironstone Hill	RH-AFW3	✓	
		Low forest of *Acacia caesaneura* over low heath of *Eremophila latrobei* subsp. *latrobei/ Scaevola spinescens/ Senna* sp. Meekatharra (E. Bailey 1-26) and dwarf scrub of *Ptilotus obovatus* on rocky hillslope	RH-AFW4		✓
Sandplain	Acacia Forests and Woodlands	Low forest of *Acacia caesaneura/ A. incurvaneura* over dense hummock grass of *Triodia basedowii* in sandplain	S-AFW1	✓	✓
		Low forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of mixed shrubs and dwarf scrub of *Eremophila gilesii/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW2	✓	
		Forest of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa* and dense tall grass of *Eragrostis eriopoda* in sandplain.	S-AFW3	✓	

Landform	NVIS Vegetation Group	Vegetation Community	Code	White Cliffs Road Survey Area	Midline Survey Area
		Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila forrestii* subsp. *forrestii* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW4	✓	
		Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. mulganeura/ Eremophila latrobei* subsp. *latrobei* and dense hummock grass of *Triodia irritans* in sandplain	S-AFW5	✓	
		Low woodland of *Acacia aptaneura/ A. incurvaneura* over heath of *Cratystylis subspinescens* and dwarf scrub of *Frankenia setosa*/ mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW6	✓	
		Forest of *Acacia caesaneura* over scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and low heath of *Ptilotus obovatus* in sandplain	S-AFW7	✓	
		Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Atriplex bunburyana*, *Scaevola spinescens, Acacia tetragonophylla, Hakea kippistiana* and low grass of *Aristida contorta* in sandplain	S-AFW8	✓	
	Eucalypt Woodlands	Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia abrupta/ A. ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW1	✓	✓
		Open low woodland of *Eucalyptus gongylocarpa* over heath of *Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW2	✓	✓
	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS1	✓	✓
		Low woodland of *Eucalyptus gongylocarpa* over open tree mallee of *Eucalyptus youngiana* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS2		✓
		Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. concinna/ E. glomerosa* and scrub of *Callitris columellaris* over low heath of *Westringia cephalantha* and dense hummock grass of *Triodia desertorum* in sandplain	S-EW/MWS3		✓
		Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. comitae-vallis*/ low scrub of *Callitris columellaris* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS4		✓
		Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana/* scrub of *Acacia pachyacra/ A. desertorum* var. *desertorum* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS5		✓
		Low woodland of *Eucalyptus gongylocarpa* with occasional *E. youngiana* over low scrub of *Acacia desertorum* var. *desertorum/ Callitris columellaris/ Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS6		✓
	Heathlands	Dense heath of *Acacia desertorum* var. *desertorum* over low heath of *Melaleuca hamata/ M. leiocarpa* and dense hummock grass *Triodia desertorum/ T. basedowii* in sandplain	S-H1		✓
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Open tree mallee of *Eucalyptus trivalva*/ Low woodland of *Acacia craspedocarpa* over open low scrub of *A. desertorum* var. *desertorum/ A. ligulata* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS/AFW1	✓	
		Very open tree mallee of *Eucalyptus youngiana/* Open low woodland of *Acacia caesaneura* over low scrub of *A. ligulata* and hummock grass of *Triodia basedowii* in sandplain	S-MWS/AFW2	✓	

Landform	NVIS Vegetation Group	Vegetation Community	Code	White Cliffs Road Survey Area	Midline Survey Area
	Mallee Woodlands and Shrublands	Open tree mallee of *Eucalyptus youngiana/ E. trivalva* over heath of *Acacia abrupta* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS1	✓	✓
		Open tree mallee of *Eucalyptus concinna/ E. youngiana* over heath of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata*/ mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS2	✓	✓
		Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *filiformis* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS3	✓	✓
		Open tree mallee of *Eucalyptus glomerosa/ E. youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia irritans* in sandplain	S-MWS4	✓	
		Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS5	✓	
		Open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum* var. *desertorum* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS6	✓	
		Tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS7	✓	
		Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain	S-MWS8		✓
		Open shrub mallee of *Eucalyptus youngiana* over low forest of *Acacia caesaneura/ A. incurvaneura* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS9		✓
		Open shrub mallee of *Eucalyptus comitae-vallis* over open low woodland of *Acacia caesaneura/ A. grasbyi* and dense hummock grass of *Triodia desertorum* in sandplain	S-MWS10		✓
		Open shrub mallee of *Eucalyptus concinna* over low scrub of *Scaevola spinescens* and dense hummock grass of *Triodia desertorum* in sandplain	S-MWS11		✓
		Open shrub mallee of *Eucalyptus glomerosa* over low scrub of *Acacia abrupta/ A. desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia desertorum* in sandplain	S-MWS12		✓
		Open Shrub Mallee of *Eucalyptus trivalva/ E. youngiana* over low woodland of *Acacia caesaneura/ A. rigens* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS13		✓
		Open tree mallee of *Eucalyptus concinna/ E. oleosa* subsp. *oleosa* over scrub of *Acacia caesaneura/ Eremophila pantonii/ Senna artemisioides* subsp. *filifolia* and dense hummock grass *Triodia basedowii* in sandplain	S-MWS14		✓
		Open shrub mallee of *Eucalyptus trivalva* over scrub of *Acacia desertorum* var. *desertorum* and dense hummock grass *Triodia basedowii* in sandplain	S-MWS15		✓
		Open shrub mallee of *Eucalyptus youngiana* over scrub of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS16		✓
		Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata/ E. youngiana* over open scrub of *Callitris preissii* and dwarf scrub of *Aluta maisonneuvei* subsp. *auriculata/ Phebalium filifolium/* mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS17		✓

Landform	NVIS Vegetation Group	Vegetation Community	Code	White Cliffs Road Survey Area	Midline Survey Area
		Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata* over open scrub of *Acacia desertorum* var. *desertorum/ Callitris preissii* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS18		✓
		Open tree mallee of *Eucalyptus trivalva* over low scrub of *Acacia pachyacra/ Senna artemisioides* subsp. *filifolia* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS19	✓	
	Regrowth, modified native vegetation	Regrowth open low scrub of *Acacia abrupta* over dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV1	✓	
		Regrowth open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-RMNV2	✓	
		Regrowth low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV3	✓	✓
		Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain	S-RMNV4	✓	✓
		Regrowth low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV5		✓
		Regrowth open low woodland of *Eucalyptus gongylocarpa* over shrub Mallee of E. concinna/ *E. youngiana* and dense hummock grass of *Triodia desertorum* in sandplain	S-RMNV6		✓
		Regrowth open shrub mallee of *Eucalyptus glomerosa* over heath of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV7		✓
		Regrowth open low woodland of *Eucalyptus gongylocarpa/ Acacia caesaneura* over low heath of L*eptosema chambersii/ Newcastelia hexarrhena* in sandplain	S-RMNV8		✓
		Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus glomerosa* and dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV9		✓
		Regrowth open low woodland of *Acacia* sp. (sterile) over dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV10		✓
Sand Dune	Eucalypt Woodlands	Occasional *Eucalyptus gongylocarpa* over open low scrub of *Callitris columellaris/ Grevillea juncifolia/ Acacia ligulata/ Thryptomene biseriata/ Anthotroche pannosa* and mid-dense hummock grass of *Triodia desertorum/T. basedowii* on sand dune	SD-EW1		✓
	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune	SD-EW/MWS1	✓	✓
	Regrowth, modified native vegetation	Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune	SD-RMNV1		✓
Total No. Vegetation Communities			**89**	**54**	**48**

Fifty-four vegetation communities were identified within the White Cliffs Road survey area. These communities comprised of eight different landform types and seven NVIS major vegetation groups (Table 10). These communities were represented by a total 54 Families, 133 Genera and 314 Taxa,

(including sub-species and variants) as listed in Appendix 3. A map showing the vegetation communities present in the survey area is located in Appendix 2.

Table 10: Summary of vegetation communities and area within the White Cliffs Road survey area

Landform	NVIS Vegetation Group	Vegetation Community	Code	Area (ha)	Area (%)
Breakaway	Casuarina Forests and Woodlands/ Acacia Shrublands	Low woodland of *Casuarina pauper*/*Acacia incurvaneura* over low scrub of *A. quadrimarginea*/ *Dodonaea viscosa* and low heath of *Frankenia georgei*/ *Prostanthera wilkieana* on breakaway	B-CFW/AFW1	10	0.9
Clay-Loam Plain	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura* over low scrub *Hakea preissii*/ *A. colletioides*/ *Atriplex bunburyana* and dwarf scrub *Maireana pyramidata* on clay-loam plain	CLP-AFW1	10	0.9
		Low forest of *Acacia incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa*/ *Eremophila latrobei* subsp. *glabra*/ *Senna artemisioides* subsp. x *artemisioides*/ *Eremophila jucunda* and dwarf scrub of *Eremophila forrestii* subsp. *forrestii* on clay-loam plain	CLP-AFW2	40	3.5
		Low woodland of *Acacia caesaneura*/ *A. incurvaneura* over open low scrub of *Eremophila margarethae* and open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AFW4	10	0.9
	Acacia Open Woodlands	Low woodland of *Acacia caesaneura*/*A. incurvaneura* over heath of *Eremophila latrobei* subsp. *filiformis*/ *Senna artemisioides* subsp. *x artemisioides* and low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AOW1	50	4.4
		Open low woodland of *Acacia incurvaneura*/ *Hakea preissii* over low scrub *Eremophila pantonii*/ *Maireana pyramidata*/ *Maireana sedifolia*/ *Maireana glomerifolia* and dwarf scrub *Maireana triptera* on clay-loam plain	CLP-AOW2	45	4.0
		Open low woodland of *Acacia aptaneura* over low scrub of *Eremophila pantonii, Atriplex bunburyana, Cratystylis subspinescens* and *Maireana pyramidata* on clay-loam plain	CLP-AOW3	1	0.1
	Acacia Open Woodlands	Open low woodland of *Acacia ayersiana*/ *A. caesaneura* over low scrub of *A. ramulosa* var. *ramulosa*/ *A. tetragonophylla*/ *Eremophila* spp. and dwarf scrub of *Maireana triptera*/ *Solanum lasiophyllum*/ *Ptilotus obovatus* and open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AOW4	140	12.4
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Open tree mallee of *Eucalyptus lucasii*/ Low woodland of *Acacia incurvaneura*/ *A. caesaneura* over heath of *Eremophila latrobei* subsp. *filiformis* and very open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-MWS/AFW1	8	0.7

Landform	NVIS Vegetation Group	Vegetation Community	Code	Area (ha)	Area (%)
		Open tree mallee of *Eucalyptus youngiana*/ Forest of *Acacia incurvaneura/A. mulganeura* over heath of *Eremophila forrestii* subsp. *forrestii* and dense low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-MWS/AFW2	6	0.5
Drainage Depression	Acacia Open Woodlands	Open low woodland of *Acacia incurvaneura* over dwarf scrub of *Maireana pyramidata*/ Low heath of *Frankenia georgei and Sclerolaena densiflora* in drainage depression	DD-AOW1	20	1.8
		Open low woodland of *Acacia caesaneura/A. macraneura/A. ayersiana* over low scrub of *A. ramulosa* var. *ramulosa/Eremophila forrestii* subsp. *forrestii/ Eremophila margarethae/ Maireana triptera* and open low grass of *Eragrostis laniflora* in drainage depression	DD-AOW2	20	1.8
		Open low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *A. craspedocarpa/ A. tetragonophylla/ Eremophila margarethae/ Atriplex bunburyana* and dwarf scrub of *Cratystylis subspinescens* in drainage depression	DD-AOW3	2	0.2
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Very open tree mallee of *Eucalyptus lucasii*/ Low forest of *Acacia burkittii/ A. incurvaneura/ A. caesaneura* over low scrub of *Eremophila latrobei* subsp. *latrobei/ Senna artemisioides* subsp. x *artemisioides* and dwarf scrub of *Eremophila gilesii/ Ptilotus obovatus* in drainage depression	DD-MWS/AFW1	2	0.2
Quartz/Rocky Plain	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura/ A. caesaneura* over heath of *Scaevola spinescens*/ *Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain	QRP-AFW1	80	7.1
		Low woodland of *Acacia incurvaneura* over heath of *Eremophila latrobei* subsp. *latrobei* and low heath of *Eremophila exilifolia* on quartz/rocky plain	QRP-AFW2	5	0.4
		Low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *Eremophila abietina* subsp. *ciliata/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW3	20	1.8
		Low woodland of *Acacia aptaneura/ A. caesaneura* over scrub of *A. burkittii/ Senna artemisioides* subsp. *filifolia* and low scrub of *Ptilotus obovatus*/ mid-dense hummock grass of *Triodia irritans* on quartz/rocky plain	QRP-AFW4	10	0.9

Landform	NVIS Vegetation Group	Vegetation Community	Code	Area (ha)	Area (%)
		Low woodland of *Acacia burkittii* over low scrub of *Senna artemisioides* subsp. x *artemisioides* and mid-dense hummock grass of *Triodia irritans* on quartz/rocky plain	QRP-AFW5	1	0.1
		Open low woodland of *Acacia caesaneura*/ open scrub of *Eremophila oldfieldii* subsp. *angustifolia* over low scrub of *A. burkittii/ Dodonaea lobulata* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW6	5	0.4
		Low forest of *Acacia caesaneura/ A. quadrimarginea* over low scrub of *Senna artemisioides* subsp. *helmsii/ A. tetragonophylla/ A. burkittii/ Eremophila margarethae/ Ptilotus obovatus/ Solanum lasiophyllum* and dwarf scrub of *Maireana triptera* on quartz/rocky plain	QRP-AFW7	65	5.7
		Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and dwarf scrub of *Ptilotus obovatus*/ open low grass of *Eragrostis eriopoda* on quartz/rocky plain	QRP-AFW10	20	1.8
	Acacia Open Woodlands	Open low woodland of *Acacia caesaneura* over low scrub of *Eremophila pantonii/ Ptilotus obovatus* and dwarf scrub of *Maireana triptera* on quartz/rocky plain	QRP-AOW1	16	1.4
	Casuarina Forests and Woodlands	Low woodland of *Casuarina pauper* over heath of *Eremophila scoparia/ Senna artemisioides* subsp. x *artemisioides* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain	QRP-CFW1	5	0.4
	Eucalypt Woodlands	Open low woodland of *Eucalyptus gypsophila* over low scrub of *Eremophila scoparia* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-EW1	1	0.1
	Mallee Woodlands and Shrublands	Open shrub mallee of *Eucalyptus trichopoda* over open low scrub of *Eremophila pantonii* and dwarf scrub of *Tecticornia disarticulata* on quartz/rocky plain	QRP-MWS1	2	0.2
Rocky Hillslope	Acacia Forests and Woodlands	Open low woodland of *Acacia quadrimarginea* over heath of *Eremophila abietina* subsp. *ciliata* and dwarf scrub of *Ptilotus obovatus* on rocky hillslope	RH-AFW1	1	0.1
		Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Scaevola spinescens/ Senna cardiosperma* and dwarf scrub of *Ptilotus obovatus/ Sida* sp. Excedentifolia (J.L. Egan 1925) on rocky hillslope	RH-AFW2	35	3.1

Landform	NVIS Vegetation Group	Vegetation Community	Code	Area (ha)	Area (%)
		Low Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Dodonaea rigida/ Senna* spp. and dwarf scrub of *Ptilotus obovatus* on Banded Ironstone Hill	RH-AFW3	35	3.1
Sandplain	Acacia Forests and Woodlands	Low forest of *Acacia caesaneura/ A. incurvaneura* over dense hummock grass of *Triodia basedowii* in sandplain	S-AFW1	5	0.4
		Low forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of mixed shrubs and dwarf scrub of *Eremophila gilesii/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW2	5	0.4
		Forest of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa* and dense tall grass of *Eragrostis eriopoda* in sandplain.	S-AFW3	15	1.3
		Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila forrestii* subsp. *forrestii* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW4	30	2.7
		Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. mulganeura/ Eremophila latrobei* subsp. *latrobei* and dense hummock grass of *Triodia irritans* in sandplain	S-AFW5	15	1.3
		Low woodland of *Acacia aptaneura/ A. incurvaneura* over heath of *Cratystylis subspinescens* and dwarf scrub of *Frankenia setosa*/ mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW6	15	1.3
		Forest of *Acacia caesaneura* over scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and low heath of *Ptilotus obovatus* in sandplain	S-AFW7	5	0.4
		Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Atriplex bunburyana*, *Scaevola spinescens, Acacia tetragonophylla, Hakea kippistiana* and low grass of *Aristida contorta* in sandplain	S-AFW8	1	0.1
	Eucalypt Woodlands	Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia abrupta/ A. ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW1	34	3.0
	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS1	112	9.9

Landform	NVIS Vegetation Group	Vegetation Community	Code	Area (ha)	Area (%)
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Open tree mallee of *Eucalyptus trivalva*/ Low woodland of *Acacia craspedocarpa* over open low scrub of *A. desertorum* var. *desertorum*/ *A. ligulata* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS/AFW1	10	0.9
		Very open tree mallee of *Eucalyptus youngiana*/ Open low woodland of *Acacia caesaneura* over low scrub of *A. ligulata* and hummock grass of *Triodia basedowii* in sandplain	S-MWS/AFW2	6	0.5
	Mallee Woodlands and Shrublands	Open tree mallee of *Eucalyptus youngiana*/ *E. trivalva* over heath of *Acacia abrupta* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS1	26	2.3
		Open tree mallee of *Eucalyptus concinna*/ *E. youngiana* over heath of *Acacia desertorum* var. *desertorum*/ *A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata*/ mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS2	82	7.3
		Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *filiformis* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS3	7	0.6
		Open tree mallee of *Eucalyptus glomerosa*/ *E. youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia irritans* in sandplain	S-MWS4	2	0.2
		Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum* var. *desertorum*/*A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata*/ mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS5	2	0.2
		Open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum* var. *desertorum* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS6	12	1.1
		Tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS7	7	0.6
		Open tree mallee of *Eucalyptus trivalva* over low scrub of *Acacia pachyacra*/ *Senna artemisioides* subsp. *filifolia* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS19	5	0.4
	Regrowth, modified native vegetation	Regrowth open low scrub of *Acacia abrupta* over dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV1	7	0.6
		Regrowth open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum* var. *desertorum*/ *A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata*/ mid-dense hummock grass of *Triodia irritans* in sandplain	S-RMNV2	18	1.6

Landform	NVIS Vegetation Group	Vegetation Community	Code	Area (ha)	Area (%)
		Regrowth low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV3	19	1.7
		Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain	S-RMNV4	25	2.2
Sand Dune	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune	SD-EW/MWS1	1	0.1
Total				**1131**	**100**

Forty-eight vegetation communities were identified within the Midline survey area. These communities comprised of eight different landform types and nine NVIS major vegetation groups (Table 11). These communities were represented by a total of 53 Families, 123 Genera and 282 Taxa, (including sub-species and variants) as listed in Appendix 3. A map showing the vegetation communities present in the survey area is located in Appendix 2.

Table 11: Summary of vegetation communities and area within the Midline survey area

Landform	NVIS Vegetation Group	Vegetation Community	Code	Area (ha)	Area (%)
Breakaway	Casuarina Forests and Woodlands/ Acacia Shrublands	Low woodland of *Casuarina pauper*/*Acacia incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea viscosa* and low heath of *Frankenia georgei/ Prostanthera wilkieana* on breakaway	B-CFW/AFW1	1	0.2
	Acacia Forests and Woodlands	Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea rigida/ Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Ptilotus obovatus* on breakaway	B-AFW1	11	1.9
Clay-Loam Plain	Acacia Forests and Woodlands	Low woodland of *Acacia caesaneura/ Acacia incurvaneura* over low scrub of *Eremophila forrestii* subsp. *forrestii/ Eremophila latrobei* subsp. *latrobei* and low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AFW3	5	0.9
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Open tree mallee of *Eucalyptus lucasii/* Low woodland of *Acacia incurvaneura/ A. caesaneura* over heath of *Eremophila latrobei* subsp. *filiformis* and very open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-MWS/AFW1	8	1.4
Drainage Depression	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura/ Acacia caesaneura* over open low scrub of *Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Eremophila gilesii/ Eremophila malacoides* with occasional *Eragrostis eriopoda* in drainage depression	DD-AFW1	1	0.2
		Low woodland of *Acacia incurvaneura/ Acacia quadrimarginea* over low scrub of *Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Eremophila malacoides* in drainage depression	DD-AFW2	3	0.5
Closed Depression	Chenopod Shrublands, Samphire Shrublands and Forblands	Low heath of *Tecticornia halocnemoides/ T. indica* subsp. *bidens/ T. indica* subsp. *leiostachya* on playa	CD-CSSF1	1	0.2

Landform	NVIS Vegetation Group	Vegetation Community	Code	Area (ha)	Area (%)
	Mallee Woodlands and Shrublands	Shrub mallee of *Eucalyptus horistes* over low woodland of *Acacia caesaneura* and open scrub of *Acacia rigens* over mid-dense hummock grass of *Triodia basedowii* on playa edge	CD-MWS1	1	0.2
Quartz/Rocky Plain	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura/ A. caesaneura* over heath of *Scaevola spinescens*/ *Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain	QRP-AFW1	2	0.3
		Low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *Eremophila abietina* subsp. *ciliata/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW3	2	0.3
		Low forest of *Acacia incurvaneura/ Acacia caesaneura* over heath of mixed shrubs and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW8	1	0.2
		Low forest of *Acacia caesaneura/A. incurvaneura* over low heath of *Eremophila gilesii* subsp. *variabilis* and mid-dense hummock grass of *Triodia irritans/* low grass of *Eragrostis eriopoda* on quartz-rocky plain	QRP-AFW9	3	0.5
Rocky Hillslope	Acacia Forests and Woodlands	Low forest of *Acacia caesaneura* over low heath of *Eremophila latrobei* subsp. *latrobei/ Scaevola spinescens/ Senna* sp. Meekatharra (E. Bailey 1-26) and dwarf scrub of *Ptilotus obovatus* on rocky hillslope	RH-AFW4	3	0.5
Sandplain	Acacia Forests and Woodlands	Low forest of *Acacia caesaneura/ A. incurvaneura* over dense hummock grass of *Triodia basedowii* in sandplain	S-AFW1	14	2.4
	Eucalypt Woodlands	Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia abrupta/ A. ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW1	52	9.0
		Open low woodland of *Eucalyptus gongylocarpa* over heath of *Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW2	5	0.9
	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS1	45	7.8
		Low woodland of *Eucalyptus gongylocarpa* over open tree mallee of *Eucalyptus youngiana* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS2	4	0.7
		Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. concinna/ E. glomerosa* and scrub of *Callitris columellaris* over low heath of *Westringia cephalantha* and dense hummock grass of *Triodia desertorum* in sandplain	S-EW/MWS3	50	8.7
		Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. comitae-vallis*/ low scrub of *Callitris columellaris* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS4	1	0.2
		Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana/* scrub of *Acacia pachyacra/ A. desertorum* var. *desertorum* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS5	1	0.2
		Low woodland of *Eucalyptus gongylocarpa* with occasional *E. youngiana* over low scrub of *Acacia desertorum* var. *desertorum/ Callitris columellaris/ Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS6	21	3.6

Landform	NVIS Vegetation Group	Vegetation Community	Code	Area (ha)	Area (%)
	Heathlands	Dense heath of *Acacia desertorum* var. *desertorum* over low heath of *Melaleuca hamata/ M. leiocarpa* and dense hummock grass *Triodia desertorum/ T. basedowii* in sandplain	S-H1	4	0.7
	Mallee Woodlands and Shrublands	Open tree mallee of *Eucalyptus youngiana/ E. trivalva* over heath of *Acacia abrupta* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS1	20	3.5
		Open tree mallee of *Eucalyptus concinna/ E. youngiana* over heath of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS2	3	0.5
		Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *filiformis* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS3	3	0.5
		Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain	S-MWS8	7	1.2
		Open shrub mallee of *Eucalyptus youngiana* over low forest of *Acacia caesaneura/ A. incurvaneura* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS9	2	0.3
		Open shrub mallee of *Eucalyptus comitae-vallis* over open low woodland of *Acacia caesaneura/ A. grasbyi* and dense hummock grass of *Triodia desertorum* in sandplain	S-MWS10	2	0.3
		Open shrub mallee of *Eucalyptus concinna* over low scrub of *Scaevola spinescens* and dense hummock grass of *Triodia desertorum* in sandplain	S-MWS11	3	0.5
		Open shrub mallee of *Eucalyptus glomerosa* over low scrub of *Acacia abrupta/ A. desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia desertorum* in sandplain	S-MWS12	1	0.2
		Open Shrub Mallee of *Eucalyptus trivalva/ E. youngiana* over low woodland of *Acacia caesaneura/ A. rigens* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS13	3	0.5
		Open tree mallee of *Eucalyptus concinna/ E. oleosa* subsp. *oleosa* over scrub of *Acacia caesaneura/ Eremophila pantonii/ Senna artemisioides* subsp. *filifolia* and dense hummock grass *Triodia basedowii* in sandplain	S-MWS14	1	0.2
		Open shrub mallee of *Eucalyptus trivalva* over scrub of *Acacia desertorum* var. *desertorum* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS15	4	0.7
		Open shrub mallee of *Eucalyptus youngiana* over scrub of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS16	56	9.7
		Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata/ E. youngiana* over open scrub of *Callitris preissii* and dwarf scrub of *Aluta maisonneuvei* subsp. *auriculata/ Phebalium filifolium/* mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS17	5	0.9
		Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata* over open scrub of *Acacia desertorum* var. *desertorum/ Callitris preissii* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS18	8	1.4
	Regrowth, modified native vegetation	Regrowth low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV3	7	1.2
		Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain	S-RMNV4	8	1.4

Landform	NVIS Vegetation Group	Vegetation Community	Code	Area (ha)	Area (%)
		Regrowth low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV5	82	14.2
		Regrowth open low woodland of *Eucalyptus gongylocarpa* over shrub Mallee of E. concinna/ *E. youngiana* and dense hummock grass of *Triodia desertorum* in sandplain	S-RMNV6	12	2.1
		Regrowth open shrub mallee of *Eucalyptus glomerosa* over heath of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV7	7	1.2
		Regrowth open low woodland of *Eucalyptus gongylocarpa/ Acacia caesaneura* over low heath of L*eptosema chambersii/ Newcastelia hexarrhena* in sandplain	S-RMNV8	10	1.7
		Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus glomerosa* and dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV9	17	2.9
		Regrowth open low woodland of *Acacia* sp. (sterile) over dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV10	30	5.2
Sand Dune	Eucalypt Woodlands	Occasional *Eucalyptus gongylocarpa* over open low scrub of *Callitris columellaris/ Grevillea juncifolia/ Acacia ligulata/ Thryptomene biseriata/ Anthotroche pannosa* and mid-dense hummock grass of *Triodia desertorum/T. basedowii* on sand dune	SD-EW1	7	1.2
	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune	SD-EW/MWS1	8	1.4
	Regrowth, modified native vegetation	Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune	SD-RMNV1	2	0.3
Burnt Dunefield			BD	30	5.2
Total				**577**	**100**

Breakaway: Casuarina Forests and Woodlands/ Acacia Forests and Woodlands

4.3.1 Low woodland of *Casuarina pauper/ Acacia incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea viscosa* and low heath of *Frankenia georgei/ Prostanthera wilkieana* on breakaway (B-CFW/AFW1)

The total flora recorded within this vegetation community was represented by a total of 18 Families, 23 Genera and 28 Taxa (Plate 5). No Threatened Flora taxa were identified within this vegetation community. Two Priority Flora taxa were previously recorded by BC within this vegetation community in close proximity to the survey area (BC, 2014a); *Calytrix warburtonensis* (P2) and *Thryptomene nealensis* (P3). No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 12. According to the NVIS, this vegetation community is best represented by the MVG 8 - Casuarina Forests and Woodlands and MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 12: Vegetation assemblage for Low woodland of *Casuarina pauper/ Acacia incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea viscosa* and low heath of *Frankenia georgei/ Prostanthera wilkieana* on breakaway

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Casuarina pauper* *Acacia incurvaneura*
Shrub 1.5-2m	10-30%	*Acacia quadrimarginea* *Dodonaea viscosa*
Shrub 0.5-1m	30-70%	*Frankenia georgei* *Prostanthera wilkieana*

Plate 5: Low woodland of *Casuarina pauper/ Acacia incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea viscosa* and low heath of *Frankenia georgei/ Prostanthera wilkieana* on breakaway

4.3.2 Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea rigida/ Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Ptilotus obovatus* on breakaway (B-AFW1)

The total flora recorded within this vegetation community was represented by a total of 21 Families, 31 Genera and 50 Taxa (Plate 6). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 13. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 13: Vegetation assemblage for Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea rigida/ Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Ptilotus obovatus* on breakaway

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 1.5-2m	10-30%	*Acacia quadrimarginea* *Dodonaea rigida*
Shrub 1-1.5m	10-30%	*Eremophila latrobei* subsp. *latrobei*
Shrub 0.5-1m	10-30%	*Ptilotus obovatus*

Plate 6: Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea rigida/ Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Ptilotus obovatus* on breakaway

Clay-Loam Plain: Acacia Forests and Woodlands

4.3.3 Low woodland of *Acacia aptaneura* over low scrub *Hakea preissii/ A. colletioides/ Atriplex bunburyana* and dwarf scrub *Maireana pyramidata* on clay-loam plain (CLP-AFW1)

The total flora recorded within this vegetation community was represented by a total of 5 Families, 7 Genera and 10 Taxa (Plate 7). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 14. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 14: Vegetation assemblage for Low woodland of *Acacia aptaneura* over low scrub *Hakea preissii/ A. colletioides/ Atriplex bunburyana* and dwarf scrub *Maireana pyramidata* on clay-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	30-70%	*Acacia aptaneura*
Shrub 1-1.5m	10-30%	*Hakea preissii* *Acacia colletioides* *Atriplex bunburyana*
Shrub 0.5-1m	10-30%	*Maireana pyramidata*

Plate 7: Low woodland of *Acacia aptaneura* over low scrub *Hakea preissii/ A. colletioides/ Atriplex bunburyana* and dwarf scrub *Maireana pyramidata* on clay-loam plain

4.3.4 Low forest of *Acacia incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila latrobei* subsp. *glabra/ Senna artemisioides* subsp. *x artemisioides/ Eremophila jucunda* and dwarf scrub of *Eremophila forrestii* subsp. *forrestii* on clay-loam plain (CLP-AFW2)

The total flora recorded within this vegetation community was represented by a total of 5 Families, 6 Genera and 12 Taxa (Plate 8). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 15. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 15: Vegetation assemblage for Low forest of *Acacia incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila latrobei* subsp. *glabra/ Senna artemisioides* subsp. *x artemisioides/ Eremophila jucunda* and dwarf scrub of *Eremophila forrestii* subsp. *forrestii* on clay-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	30-70%	*Acacia incurvaneura*
Shrub 1-1.5m	10-30%	*Acacia ramulosa* var. *ramulosa* *Eremophila latrobei* subsp. *glabra* *Senna artemisioides* subsp. x *artemisioides* *Eremophila jucunda*
Shrub 0.5-1m	10-30%	*Eremophila forrestii* subsp. *forrestii*

Plate 8: Low forest of *Acacia incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila latrobei* subsp. *glabra/ Senna artemisioides* subsp. *x artemisioides/ Eremophila jucunda* and dwarf scrub of *Eremophila forrestii* subsp. *forrestii* on clay-loam plain

4.3.5 Low woodland of *Acacia caesaneura/ Acacia incurvaneura* over low scrub of *Eremophila forrestii* subsp*. forrestii/ Eremophila latrobei* subsp*. latrobei* and low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-AFW3)

The total flora recorded within this vegetation community was represented by a total of 17 Families, 25 Genera and 33 Taxa (Plate 9). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 16. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 16: Vegetation assemblage for Low woodland of *Acacia caesaneura/ Acacia incurvaneura* over low scrub of *Eremophila forrestii* subsp*. forrestii/ Eremophila latrobei* subsp*. latrobei* and low grass of *Eragrostis eriopoda* on clay-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	10-30%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 1-1.5m	10-30%	*Eremophila forrestii* subsp. *forrestii* *Eremophila latrobei* subsp. *latrobei*
Bunch Grass <0.5m	30-70%	*Eragrostis eriopoda*

Plate 9: Low woodland of *Acacia caesaneura/ Acacia incurvaneura* over low scrub of *Eremophila forrestii* subsp*. forrestii/ Eremophila latrobei* subsp*. latrobei* and low grass of *Eragrostis eriopoda* on clay-loam plain

4.3.6 Low woodland of *Acacia caesaneura/ A. incurvaneura* over open low scrub of *Eremophila margarethae* and open low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-AFW4)

The total flora recorded within this vegetation community was represented by a total of 10 Families, 15 Genera and 32 Taxa (Plate 10). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 17. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 17: Vegetation assemblage for Low woodland of *Acacia caesaneura/ A. incurvaneura* over open low scrub of *Eremophila margarethae* and open low grass of *Eragrostis eriopoda* on clay-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	10-30%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 1-1.5m	10-30%	*Eremophila margarethae*
Bunch Grass <0.5m	10-30%	*Eragrostis eriopoda*

Plate 10: Low woodland of *Acacia caesaneura/ A. incurvaneura* over open low scrub of *Eremophila margarethae* and open low grass of *Eragrostis eriopoda* on clay-loam plain

Clay-Loam Plain: Acacia Open Woodlands

4.3.7 Low woodland of *Acacia caesaneura/A. incurvaneura* over heath of *Eremophila latrobei* subsp. *filiformis/ Senna artemisioides* subsp. *x artemisioides* and low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-AOW1)

The total flora recorded within this vegetation community was represented by a total of 18 Families, 31 Genera and 39 Taxa (Plate 11). No Threatened or Priority Flora taxa were identified within this vegetation community. Two introduced taxa were recorded within this vegetation community; *Acetosa vesicaria* (Ruby Dock) and *Nicotiana glauca* (Tree Tobacco). Dominant taxa from the vegetation assemblage are shown in Table 18. According to the NVIS, this vegetation community is best represented by the MVG13-Acacia Open Woodlands (DotE, 2015b).

Table 18: Vegetation assemblage Low woodland of *Acacia caesaneura/A. incurvaneura* over heath of *Eremophila latrobei* subsp. *filiformis/ Senna artemisioides* subsp. *x artemisioides* and low grass of *Eragrostis eriopoda* on clay-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	10-30%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 1-1.5m	30-70%	*Eremophila latrobei* subsp. *filiformis* *Senna artemisioides* subsp. *x artemisioides*
Bunch Grass <0.5m	30-70%	*Eragrostis eriopoda*

Plate 11: Low woodland of *Acacia caesaneura/A. incurvaneura* over heath of *Eremophila latrobei* subsp. *filiformis/ Senna artemisioides* subsp. *x artemisioides* and low grass of *Eragrostis eriopoda* on clay-loam plain

4.3.8 Open low woodland of *Acacia incurvaneura/ Hakea preissii* over low scrub *Eremophila pantonii/ Maireana pyramidata/ Maireana sedifolia/ Maireana glomerifolia* and dwarf scrub *Maireana triptera* on clay-loam plain (CLP-AOW2)

The total flora recorded within this vegetation community was represented by a total of 13 Families, 16 Genera and 25 Taxa (Plate 12). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 19. According to the NVIS, this vegetation community is best represented by the MVG13- Acacia Open Woodlands (DotE, 2015b).

Table 19: Vegetation assemblage for Open low woodland of *Acacia incurvaneura/ Hakea preissii* over low scrub *Eremophila pantonii/ Maireana pyramidata/ Maireana sedifolia/ Maireana glomerifolia* and dwarf scrub *Maireana triptera* on clay-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	30-70%	*Acacia incurvaneura* *Hakea preissii*
Shrub 1-1.5m	10-30%	*Eremophila pantonii* *Maireana pyramidata* *Maireana sedifolia* *Maireana glomerifolia*
Shrub 0.5-1m	10-30%	*Maireana triptera*

Plate 12: Open low woodland of *Acacia incurvaneura/ Hakea preissii* over low scrub *Eremophila pantonii/ Maireana pyramidata/ Maireana sedifolia/ Maireana glomerifolia* and dwarf scrub *Maireana triptera* on clay-loam plain

4.3.9 Open low woodland of *Acacia aptaneura* over low scrub of *Eremophila pantonii, Atriplex bunburyana, Cratystylis subspinescens* and *Maireana pyramidata* on clay-loam plain (CLP-AOW3)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 22 Genera and 31 Taxa (Plate13). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 20. According to the NVIS, this vegetation community is best represented by the MVG13- Acacia Open Woodlands (DotE, 2015b).

Table 20: Vegetation assemblage for Open low woodland of *Acacia aptaneura* over low scrub of *Eremophila pantonii, Atriplex bunburyana, Cratystylis subspinescens* and *Maireana pyramidata* on clay-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	2-10%	*Acacia aptaneura*
Shrub 1.5-2m	2-10%	*Eremophila pantonii*
Shrub 0.5-1m	70-100%	*Atriplex bunburyana* *Cratystylis subspinescens* *Maireana pyramidata*

Plate 13: Open low woodland of *Acacia aptaneura* over low scrub of *Eremophila pantonii, Atriplex bunburyana, Cratystylis subspinescens* and *Maireana pyramidata* on clay-loam plain

4.3.10 Open low woodland of *Acacia ayersiana/ A. caesaneura* over low scrub of *A. ramulosa* var. *ramulosa/ A. tetragonophylla/ Eremophila* spp. and dwarf scrub of *Maireana triptera/ Solanum lasiophyllum/ Ptilotus obovatus* and open low grass of *Eragrostis eriopoda* in sandplain (CLP-AOW4)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 16 Genera and 24 Taxa (Plate 14**Error! Reference source not found.**). No Threatened or Priority Flora taxa were identified within this vegetation community. Two introduced taxa; *Cenchrus ciliaris* (Buffel Grass) and *Schinus molle* (Peppercorn Tree) were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 21**Error! Reference source not found.**. According to the NVIS, this vegetation community is best represented by the MVG13-Acacia Open Woodlands (DotE, 2015b).

Table 21: Vegetation assemblage for Open low woodland of *Acacia ayersiana/ A. caesaneura* over low scrub of *A. ramulosa* var. *ramulosa/ A. tetragonophylla/ Eremophila* spp. and dwarf scrub of *Maireana triptera/ Solanum lasiophyllum/ Ptilotus obovatus* and open low grass of *Eragrostis eriopoda* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Acacia ayersiana* *Acacia caesaneura*
Shrub 1.5-2m	10-30%	*Acacia ramulosa* var. *ramulosa* *Acacia tetragonophylla*
Shrub 1-1.5m	10-30%	*Eremophila forrestii* subsp. *forrestii* *Eremophila latrobei* subsp. *latrobei* *Eremophila margarethae*
Shrub <0.5m	10-30%	*Maireana triptera* *Solanum lasiophyllum* *Ptilotus obovatus*
Bunch Grass <0.5m	10-30%	*Eragrostis eriopoda*

Plate 14: Open low woodland of *Acacia ayersiana/ A. caesaneura* over low scrub of *A. ramulosa* var. *ramulosa/ A. tetragonophylla/ Eremophila* spp. and dwarf scrub of *Maireana triptera/ Solanum lasiophyllum/ Ptilotus obovatus* and open low grass of *Eragrostis eriopoda* in sandplain

Clay-Loam Plain: Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands

4.3.11 Open tree mallee of *Eucalyptus lucasii* / Low woodland of *Acacia incurvaneura/ A. caesaneura* over heath of *Eremophila latrobei* subsp*. filiformis* and very open low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-MWSAFW1)

The total flora recorded within this vegetation community was represented by a total of 17 Families, 18 Genera and 26 Taxa (Plate 15). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxon was recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 22. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands and MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 22: Vegetation assemblage for Open tree mallee of *Eucalyptus lucasii* / Low woodland of *Acacia incurvaneura/ A. caesaneura* over heath of *Eremophila latrobei* subsp*. filiformis* and very open low grass of *Eragrostis eriopoda* on clay-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree	2-10%	*Eucalyptus lucasii*
Tree 5-15m	10-30%	*Acacia incurvaneura* *Acacia caesaneura*
Shrub 1-1.5m	30-70%	*Eremophila latrobei* subsp. *filiformis*
Bunch Grass <0.5m	2-10%	*Eragrostis eriopoda*

Plate 15: Open tree mallee of *Eucalyptus lucasii* / Low woodland of *Acacia incurvaneura/ A. caesaneura* over heath of *Eremophila latrobei* subsp*. filiformis* and very open low grass of *Eragrostis eriopoda* on clay-loam plain

4.3.12 Open tree mallee of *Eucalyptus youngiana*/ Forest of *Acacia incurvaneura/ A. mulganeura* over heath of *Eremophila forrestii* subsp. *forrestii* and dense low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-MWS/AFW2)

The total flora recorded within this vegetation community was represented by a total of 21 Families, 39 Genera and 70 Taxa (Plate 16). No Threatened or Priority Flora taxa were identified within this vegetation community. Four introduced taxa were identified within this vegetation community; *Cenchrus ciliaris* (Buffel Grass); *Lysimachia arvensis* (Pimpernel); *Salvia verbenaca* (Wild Sage); and *Schinus molle* (Peppercorn Tree). Dominant taxa from the vegetation assemblage are shown in Table 23. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands and MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 23: Vegetation assemblage for Open tree mallee of *Eucalyptus youngiana*/ Forest of *Acacia incurvaneura/ A. mulganeura* over heath of *Eremophila forrestii* subsp. *forrestii* and dense low grass of *Eragrostis eriopoda* on clay-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree	10-30%	*Eucalyptus youngiana*
Tree (5-15m)	30-70%	*Acacia incurvaneura* *Acacia mulganeura*
Shrub 1.5-2m	30-70%	*Eremophila forrestii* subsp. *forrestii*
Bunch Grass <0.5m	30-70%	*Eragrostis eriopoda*

Plate 16: Open tree mallee of *Eucalyptus youngiana*/ Forest of *Acacia incurvaneura/ A. mulganeura* over heath of *Eremophila forrestii* subsp. *forrestii* and dense low grass of *Eragrostis eriopoda* on clay-loam plain

Drainage Depression: Acacia Forests and Woodlands

4.3.13 Low woodland of *Acacia aptaneura/ Acacia caesaneura* over open low scrub of *Eremophila latrobei* subsp. *latrobei* and dwarf scrub of E*remophila gilesii/ Eremophila malacoides* with occasional *Eragrostis eriopoda in drainage depression (DD-AFW1)*

The total flora recorded within this vegetation community was represented by a total of 20 Families, 35 Genera and 59 Taxa (Plate 17). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 24. According to the NVIS, this vegetation community is best represented by the MVG6- Acacia Forests and Woodlands (DotE, 2015b).

Table 24: Vegetation assemblage for Low woodland of *Acacia aptaneura/ Acacia caesaneura* over open low scrub of *Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Eremophila gilesii/ Eremophila malacoides* with occasional *Eragrostis eriopoda* in drainage depression

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	10-30%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 1-1.5m	10-30%	*Eremophila latrobei* subsp. *latrobei*
Shrub 0.5-1m	10-30%	*Eremophila gilesii* *Eremophila malacoides*
Tussock Grass	10-30%	*Eragrostis eriopoda*

Plate 17: Low woodland of *Acacia aptaneura/ Acacia caesaneura* over open low scrub of *Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Eremophila gilesii/ Eremophila malacoides* with occasional *Eragrostis eriopoda* in drainage depression

4.3.14 Low woodland of *Acacia incurvaneura/ Acacia quadrimarginea* over low scrub of *Senna artemisioides* subsp*. x artemisioides/ Senna artemisioides* subsp*. helmsii* and dwarf scrub of *Eremophila malacoides* in drainage depression (DD-AFW2)

The total flora recorded within this vegetation community was represented by a total of 17 Families, 35 Genera and 45 Taxa (Plate 18). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 25. According to the NVIS, this vegetation community is best represented by the MVG6- Acacia Forests and Woodlands (DotE, 2015b).

Table 25: Vegetation assemblage for Low woodland of *Acacia incurvaneura/ Acacia quadrimarginea* over low scrub of *Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp*. helmsii* and dwarf scrub of *Eremophila malacoides* in drainage depression

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	10-30%	*Acacia incurvaneura* *Acacia quadrimarginea*
Shrub 1-1.5m	10-30%	*Senna artemisioides* subsp. *artemisioides* *Senna artemisioides* subsp. *helmsii*
Shrub 0.5-1m	10-30%	*Eremophila malacoides*

Plate 18: Low woodland of *Acacia incurvaneura/ Acacia quadrimarginea* over low scrub of *Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp*. helmsii* and dwarf scrub of *Eremophila malacoides* in drainage depression

Drainage Depression: Acacia Open Woodlands

4.3.15 Open low woodland of *Acacia incurvaneura* over dwarf scrub of *Maireana pyramidata/* Low heath of *Frankenia georgei* and *Sclerolaena densiflora* in drainage depression (DD-AOW1)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 22 Genera and 32 Taxa (Plate 19). No Threatened or Priority Flora taxa were identified within this vegetation community. One introduced taxa; *Cucumis myriocarpus* (Prickly Paddy Melon) was recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 26. According to the NVIS, this vegetation community is best represented by the MVG13-Acacia Open Woodlands (DotE, 2015b).

Table 26: Vegetation assemblage for Open low woodland of *Acacia incurvaneura* over dwarf scrub of *Maireana pyramidata/* Low heath of *Frankenia georgei* and *Sclerolaena densiflora* in drainage depression

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Acacia incurvaneura*
Shrub 0.5-1m	10-30%	*Maireana pyramidata*
Shrub <0.5m	30-70%	*Frankenia georgei* *Sclerolaena densiflora*

Plate 19: Open low woodland of *Acacia incurvaneura* over dwarf scrub of *Maireana pyramidata/* Low heath of *Frankenia georgei* and *Sclerolaena densiflora* in drainage depression

4.3.16 Open low woodland of *Acacia caesaneura/A. macraneura/A. ayersiana* over low scrub of *A. ramulosa* var*. ramulosa/Eremophila forrestii* subsp*. forrestii/ Eremophila margarethae/ Maireana triptera* and open low grass of *Eragrostis laniflora* in drainage depression (DD-AOW2)

The total flora recorded within this vegetation community was represented by a total of 23 Families, 34 Genera and 63 Taxa (Plate 20). No Threatened or Priority Flora taxa were identified within this vegetation community. Four introduced taxa were recorded within this vegetation community; *Cenchrus ciliaris* (Buffel Grass); *Lysimachia arvensis* (Pimpernel); *Salvia verbenaca* (Wild sage); and *Sonchus oleraceus* (Common Sowthistle). Dominant taxa from the vegetation assemblage are shown in Table 27. According to the NVIS, this vegetation community is best represented by the MVG13-Acacia Open Woodlands (DotE, 2015b).

Table 27: Vegetation assemblage for Open low woodland of *Acacia caesaneura/A. macraneura/A. ayersiana* over low scrub of *A. ramulosa* var*. ramulosa/Eremophila forrestii* subsp*. forrestii/ Eremophila margarethae/ Maireana triptera* and open low grass of *Eragrostis laniflora* in drainage depression

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Acacia caesaneura* *Acacia macraneura* *Acacia ayersiana*
Shrub 1.5-2m	10-30%	*Acacia ramulosa* var. *ramulosa* *Eremophila forrestii* subsp. *forrestii* *Eremophila margarethae*
Shrub 0.5-1m	10-30%	*Maireana triptera*
Bunch Grass <0.5m	10-30%	*Eragrostis laniflora*

Plate 20: Open low woodland of *Acacia caesaneura/A. macraneura/A. ayersiana* over low scrub of *A. ramulosa* var*. ramulosa/Eremophila forrestii* subsp*. forrestii/ Eremophila margarethae/ Maireana triptera* and open low grass of *Eragrostis laniflora* in drainage depression

4.3.17 Open low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *A. craspedocarpa/ A. tetragonophylla/ Eremophila margarethael Atriplex bunburyana* and dwarf scrub of *Cratystylis subspinescens* in creekline (DD-AOW3)

The total flora recorded within this vegetation community was represented by a total of 6 Families, 7 Genera and 12 Taxa (Plate 21). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 28. According to the NVIS, this vegetation community is best represented by the MVG13-Acacia Open Woodlands (DotE, 2015b).

Table 28: Vegetation assemblage for Open Low Woodland of *Acacia aptaneura/A. incurvaneura* over low scrub of *A. craspedocarpa/ A. tetragonophylla/ Eremophila margarethael Atriplex bunburyana* and dwarf scrub of *Cratystylis subspinescens* in creekline

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Acacia aptaneura* *Acacia incurvaneura*
Shrub 1-1.5m	10-30%	*Acacia tetragonophylla* *Eremophila margarethae* *Atriplex bunburyana*
Shrub 0.5-1m	10-30%	*Cratystylis subspinescens*

Plate 21: Open low woodland of *Acacia aptaneura/A. incurvaneura* over low scrub of *A. craspedocarpa/ A. tetragonophylla/ Eremophila margarethael Atriplex bunburyana* and dwarf scrub of *Cratystylis subspinescens* in creekline

Drainage Depression: Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands

4.3.18 Very open tree mallee of *Eucalyptus lucasii*/ Low forest of *Acacia burkittii/ A. incurvaneura/ A. caesaneura* over low scrub of *Eremophila latrobei* subsp*. latrobei/ Senna artemisioides* subsp. x *artemisioides* and dwarf scrub of *Eremophila gilesii/ Ptilotus obovatus* in drainage depression (DD-MWS/AFW1)

The total flora recorded within this vegetation community was represented by a total of 18 Families, 29 Genera and 46 Taxa (Plate 22). No Threatened or Priority Flora taxa were identified within this vegetation community. Three introduced taxa were recorded within this vegetation community; *Cenchrus ciliaris* (Buffel Grass); *Cucumis myriocarpus* (Prickly Paddy Melon); and *Tamarix aphylla* (Athel Tree). Dominant taxa from the vegetation assemblage are shown in Table 29. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands and MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 29: Vegetation assemblage for Very open tree mallee of *Eucalyptus lucasii*/ Low forest of *Acacia burkittii/ A. incurvaneura/ A. caesaneura* over low scrub of *Eremophila latrobei* subsp*. latrobei/ Senna artemisioides* subsp. x *artemisioides* and dwarf scrub of *Eremophila gilesii/ Ptilotus obovatus* in drainage depression

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree	2-10%	*Eucalyptus lucasii*
Tree <5m	30-70%	*Acacia burkittii* *Acacia caesaneura* *Acacia incurvaneura*
Shrub 1-1.5m	10-30%	*Eremophila latrobei* subsp. *latrobei* *Senna artemisioides* subsp. x *artemisioides*
Shrub 0.5-1m	10-30%	*Eremophila gilesii* *Ptilotus obovatus*

Plate 22: Very open tree mallee of *Eucalyptus lucasii*/ Low forest of *Acacia burkittii/ A. incurvaneura/ A. caesaneura* over low scrub of *Eremophila latrobei* subsp*. latrobei/ Senna artemisioides* subsp. x *artemisioides* and dwarf scrub of *Eremophila gilesii/ Ptilotus obovatus* in drainage depression

Closed Depression: Chenopod Shrublands, Samphire Shrublands and Forblands

4.3.19 Low heath of *Tecticornia halocnemoides/ T. indica* subsp*. bidens/ T. indica* subsp*. leiostachya* on playa (CD-CSSF1)

The total flora recorded within this vegetation community was represented by a total of 4 Families, 7 Genera and 10 Taxa (Plate 23). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 30. According to the NVIS, this vegetation community is best represented by the MVG22- Chenopod Shrublands, Samphire Shrublands and Forblands (DotE, 2015b).

Table 30: Vegetation assemblage for Low heath of *Tecticornia halocnemoides/ T. indica* subsp*. bidens/ T. indica* subsp*. leiostachya* on playa

Life Form/Height Class	Canopy Cover	Dominant taxa present
Shrub <0.5m	30-70%	*Tecticornia halocnemoides* *Tecticornia indica* subsp*. bidens* *Tecticornia indica* subsp*. leiostachya*

Plate 23: Low heath of *Tecticornia halocnemoides/ T. indica* subsp*. bidens/ T. indica* subsp*. leiostachya* on playa

Closed Depression: Mallee Woodlands and Shrublands

4.3.20 Shrub mallee of *Eucalyptus horistes* over low woodland of *Acacia caesaneura* and open scrub of *Acacia rigens* over mid-dense hummock grass of *Triodia basedowii* on playa edge (CD-MWS1)

The total flora recorded within this vegetation community was represented by a total of 9 Families, 12 Genera and 15 Taxa (Plate 24). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 31. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 31: Vegetation assemblage for Shrub mallee of *Eucalyptus horistes* over low woodland of *Acacia caesaneura* and open scrub of *Acacia rigens* over mid-dense hummock grass of *Triodia basedowii* on playa edge

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Shrub	10-30%	*Eucalyptus horistes*
Tree <5m	10-30%	*Acacia caesaneura*
Shrub 1.5-2m	2-10%	*Acacia rigens*
Hummock Grass <0.5m	30-70%	*Triodia basedowii*

Plate 24: Shrub mallee of *Eucalyptus horistes* over low woodland of *Acacia caesaneura* and open scrub of *Acacia rigens* over mid-dense hummock grass of *Triodia basedowii* on playa edge

Quartz/Rocky Plain: Acacia Forests and Woodlands

4.3.21 Low woodland of *Acacia aptaneura/A. caesaneura* over heath of *Scaevola spinescens*/*Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain (QRP-AFW1)

The total flora recorded within this vegetation community was represented by a total of 17 Families, 27 Genera and 47 Taxa (Plate 25). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 32. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 32: Vegetation assemblage for Low woodland of *Acacia aptaneura/A. caesaneura* over heath of *Scaevola spinescens*/*Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	10-30%	*Acacia aptaneura* *Acacia caesaneura*
Shrub 1.5-2m	30-70%	*Scaevola spinescens* *Senna artemisioides* subsp. x *artemisioides* *Senna artemisioides* subsp. *helmsii*
Shrub 0.5-1m	30-70%	*Ptilotus obovatus* *Maireana triptera*

Plate 25: Low woodland of *Acacia aptaneura/A. caesaneura* over heath of *Scaevola spinescens*/*Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain

4.3.22 Low woodland of *Acacia incurvaneura* over heath of *Eremophila latrobei* subsp. *latrobei* and low heath of *Eremophila exilifolia* on quartz/rocky plain (QRP-AFW2)

The total flora recorded within this vegetation community was represented by a total of 15 Families, 19 Genera and 28 Taxa (Plate 26). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 33. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 33: Vegetation assemblage for Low woodland of *Acacia incurvaneura* over heath of *Eremophila latrobei* subsp. *latrobei* and low heath of *Eremophila exilifolia* on quartz/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia incurvaneura*
Shrub 1.5-2m	30-70%	*Eremophila latrobei* subsp. *latrobei*
Shrub 0.5-1m	30-70%	*Eremophila exilifolia*

Plate 26: Low woodland of *Acacia incurvaneura* over heath of *Eremophila latrobei* subsp. *latrobei* and low heath of *Eremophila exilifolia* on quartz/rocky plain

4.3.23 Low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *Eremophila abietina* subsp. *ciliata/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain (QRP-AFW3)

The total flora recorded within this vegetation community was represented by a total of 14 Families, 22 Genera and 27 Taxa (Plate 27). No Threatened or Priority Flora taxa were identified within this vegetation community. Two introduced taxa were recorded within this vegetation community; *Cucumis myriocarpus* (Prickly Paddy Melon); and *Tamarix aphylla* (Athel Tree). Dominant taxa from the vegetation assemblage are shown in Table 34. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 34: Vegetation assemblage for Low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *Eremophila abietina* subsp. *ciliata/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia aptaneura* *Acacia incurvaneura*
Shrub 1.5-2m	10-30%	*Eremophila abietina* subsp. *ciliata* *Senna artemisioides* subsp. *helmsii*
Shrub <0.5m	10-30%	*Ptilotus obovatus*

Plate 27: Low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *Eremophila abietina* subsp. *ciliata/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain

4.3.24 Low woodland of *Acacia aptaneura/ A. caesaneura* over scrub of *A. burkittii/ Senna artemisioides* subsp. *filifolia* and low scrub of *Ptilotus obovatus/* mid-dense hummock grass of *Triodia irritans* on quarts/rocky plain (QRP-AFW4)

The total flora recorded within this vegetation community was represented by a total of 9 Families, 17 Genera and 29 Taxa (Plate 28). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 35. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 35: Vegetation assemblage for Low woodland of *Acacia aptaneura/ A. caesaneura* over scrub of *A. burkittii/ Senna artemisioides* subsp. *filifolia* and low scrub of *Ptilotus obovatus/* mid-dense hummock grass of *Triodia irritans* on quarts/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia aptaneura* *Acacia caesaneura*
Shrub >2m	10-30%	*Acacia burkittii* *Senna artemisioides* subsp. *filifolia*
Shrub <0.5m	10-30%	*Ptilotus obovatus*
Hummock Grass	30-70%	*Triodia irritans*

Plate 28: Low woodland of *Acacia aptaneura/ A. caesaneura* over scrub of *A. burkittii/ Senna artemisioides* subsp. *filifolia* and low scrub of *Ptilotus obovatus/* mid-dense hummock grass of *Triodia irritans* on quartz/rocky plain

4.3.25 Low woodland of *Acacia burkittii* over low scrub of *Senna artemisioides* subsp. x *artemisioides* and mid-dense hummock grass of *Triodia irritans* on quartz/rocky plain (QRP-AFW5)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 15 Genera and 17 Taxa (Plate 29). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 36. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 36: Vegetation assemblage for Low woodland of *Acacia burkittii* over low scrub of *Senna artemisioides* subsp. x *artemisioides* and mid-dense hummock grass of *Triodia irritans* on quartz/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia burkittii*
Shrub >2m	10-30%	*Senna artemisioides* subsp. *artemisioides*
Hummock Grass	30-70%	*Triodia irritans*

Plate 29: Low woodland of *Acacia burkittii* over low scrub of *Senna artemisioides* subsp. x *artemisioides* and mid-dense hummock grass of *Triodia irritans* on quartz/rocky plain

4.3.26 Open low woodland of *Acacia caesaneural* open scrub of *Eremophila oldfieldii* subsp. *angustifolia* over low scrub of *A. burkittii/ Dodonaea lobulata* and dwarf scrub of *Ptilotus obovatus* on quarts/rocky plain (QRP-AFW6)

The total flora recorded within this vegetation community was represented by a total of 8 Families, 14 Genera and 23 Taxa (Plate 30). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 37. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 37: Vegetation assemblage for Open low woodland of *Acacia caesaneural* open scrub of *Eremophila oldfieldii* subsp. *angustifolia* over low scrub of *A. burkittii/ Dodonaea lobulata* and dwarf scrub of *Ptilotus obovatus* on quarts/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	2-10%	*Acacia caesaneura*
Shrub >2m	2-10%	*Eremophila oldfieldii* subsp. *angustifolia*
Shrub 1-1.5m	10-30%	*Acacia burkittii* *Dodonaea lobulata*
Shrub <0.5m	10-30%	*Ptilotus obovatus*

Plate 30: Open low woodland of *Acacia caesaneural* open scrub of *Eremophila oldfieldii* subsp. *angustifolia* over low scrub of *A. burkittii/ Dodonaea lobulata* and dwarf scrub of *Ptilotus obovatus* on quarts/rocky plain

4.3.27 Low Forest of *Acacia caesaneura/ A. quadrimarginea* over low scrub of Senna artemisioides subsp. *helmsii/ A. tetragonophylla/ A. burkittii/ Eremophila margarethae/ Ptilotus obovatus/ Solanum lasiophyllum* and dwarf scrub of *Maireana triptera* on quarts/rocky plain (QRP-AFW7)

The total flora recorded within this vegetation community was represented by a total of 8 Families, 14 Genera and 21 Taxa (Plate 31). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 38. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 38: Vegetation assemblage for Low Forest of *Acacia caesaneura/ A. quadrimarginea* over low scrub of *Senna artemisioides* subsp. *helmsii/ A. tetragonophylla/ A. burkittii/ Eremophila margarethae/ Ptilotus obovatus/ Solanum lasiophyllum* and dwarf scrub of *Maireana triptera* on quarts/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	10-30%	*Acacia caesaneura* *Acacia quadrimarginea*
Shrub 1.5-2m	10-30%	*Senna artemisioides* subsp. *helmsii* *Acacia tetragonophylla* *Acacia burkittii* *Eremophila margarethae* *Ptilotus obovatus* *Solanum lasiophyllum*
Shrub <0.5m	10-30%	*Maireana triptera*

Plate 31: Low Forest of *Acacia caesaneura/ A. quadrimarginea* over low scrub of *Senna artemisioides* subsp. *helmsii/ A. tetragonophylla/ A. burkittii/ Eremophila margarethae/ Ptilotus obovatus/ Solanum lasiophyllum* and dwarf scrub of *Maireana triptera* on quarts/rocky plain

4.3.28 Low forest of *Acacia incurvaneura/ Acacia caesaneura* over heath of mixed shrubs and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain (QRP-AFW8)

The total flora recorded within this vegetation community was represented by a total of 20 Families, 35 Genera and 54 Taxa (Plate 32). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 39. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 39: Vegetation assemblage for Low forest of *Acacia incurvaneura/ Acacia caesaneura* over heath of mixed shrubs and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	30-70%	*Acacia incurvaneura* *Acacia caesaneura*
Shrub 1-1.5m	30-70%	*Scaevola spinescens* *Dodonaea lobulata* *Senna artemisioides* subsp. x *artemisioides*
Shrub <0.5m	10-30%	*Ptilotus obovatus*

Plate 32: Low forest of *Acacia incurvaneura/ Acacia caesaneura* over heath of mixed shrubs and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain

4.3.29 Low forest of *Acacia caesaneura/ A. incurvaneura* over low heath of *Eremophila gilesii* subsp*. variabilis* and mid-dense hummock grass of *Triodia irritans/* low grass of *Eragrostis eriopoda* on quartz-rocky plain (QRP-AFW9)

The total flora recorded within this vegetation community was represented by a total of 8 Families, 13 Genera and 17 Taxa (Plate 33). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 40. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 40: Vegetation assemblage for Low forest of *Acacia caesaneura/ A. incurvaneura* over low heath of *Eremophila gilesii* subsp*. variabilis* and mid-dense hummock grass of *Triodia irritans/* low grass of *Eragrostis eriopoda* on quartz-rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	30-70%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub <0.5m	30-70%	*Eremophila gilesii* var. *variabilis*
Hummock Grass	30-70%	*Triodia irritans*
Bunch Grass	30-70%	*Eragrostis eriopoda*

Plate 33: Low forest of *Acacia caesaneura/ A. incurvaneura* over low heath of *Eremophila gilesii* subsp*. variabilis* and mid-dense hummock grass of *Triodia irritans/* low grass of *Eragrostis eriopoda* on quartz-rocky plain

4.3.30 Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and dwarf scrub of *Ptilotus obovatus/* open low grass of *Eragrostis eriopoda* on quartz/ rocky plain (QRP-AFW10)

The total flora recorded within this vegetation community was represented by a total of 21 Families, 30 Genera and 50 Taxa (Plate 34). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 41. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 41: Vegetation assemblage for Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and dwarf scrub of *Ptilotus obovatus/* open low grass of *Eragrostis eriopoda* on quartz/ rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia aptaneura* *Acacia caesaneura* *Acacia incurvaneura*
Shrub 1.5-2m	2-10%	*Acacia ramulosa* var. *ramulosa* *Senna artemisioides* subsp. *filifolia*
Shrub <0.5m	10-30%	*Ptilotus obovatus*
Bunch Grass <0.5m	10-30%	*Eragrostis eriopoda*

Plate 34: Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and dwarf scrub of *Ptilotus obovatus/* open low grass of *Eragrostis eriopoda* on quartz/ rocky plain

Quartz/Rocky Plain: Acacia Open Woodland

4.3.31 Open Low Woodland of *Acacia caesaneura* over low scrub of *Eremophila pantonii/ Ptilotus obovatus* and dwarf scrub of *Maireana triptera* on quartz/ rocky plain (QRP-AOW1)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 17 Genera and 32 Taxa (Plate 35). No Threatened or Priority Flora taxa were identified within this vegetation community. Two introduced taxa; *Centaurea melitensis* (Maltese Cockspur); and *Salvia verbenaca* (Wild Sage) were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 42. According to the NVIS, this vegetation community is best represented by the MVG13-Acacia Open Woodlands (DotE, 2015b).

Table 42: Vegetation assemblage for Open Low Woodland of *Acacia caesaneura* over low scrub of *Eremophila pantonii/ Ptilotus obovatus* and dwarf scrub of *Maireana triptera* on quartz/ rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	2-10%	*Acacia caesaneura*
Shrub 1-1.5m	10-30%	*Eremophila pantonii*
Shrub 0.5-1m	10-30%	*Ptilotus obovatus*
Shrub <0.5m	10-30%	*Maireana triptera*

Plate 35: Open Low Woodland of *Acacia caesaneura* over low scrub of *Eremophila pantonii/ Ptilotus obovatus* and dwarf scrub of *Maireana triptera* on quartz/ rocky plain

Quartz/Rocky Plain: Casuarina Forests and Woodlands

4.3.32 Low woodland of *Casuarina pauper* over heath of *Eremophila scoparia/ Senna artemisioides* subsp. x *artemisioides* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain (QRP-CFW1)

The total flora recorded within this vegetation community was represented by a total of 13 Families, 18 Genera and 29 Taxa (Plate 36). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 43. According to the NVIS, this vegetation community is best represented by the MVG8- Casuarina Forests and Woodlands (DotE, 2015b).

Table 43: Vegetation assemblage for Low woodland of *Casuarina pauper* over heath of *Eremophila scoparia/ Senna artemisioides* subsp. x *artemisioides* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Casuarina pauper*
Shrub 1.5-2m	30-70%	*Eremophila scoparia* *Senna artemisioides* subsp. x *artemisioides*
Shrub <0.5m	10-30%	*Maireana triptera*

Plate 36: Low woodland of *Casuarina pauper* over heath of *Eremophila scoparia/ Senna artemisioides* subsp. x *artemisioides* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain

Quartz/Rocky Plain: Eucalypt Woodlands

4.3.33 Open low woodland of *Eucalyptus gypsophila* over low scrub of *Eremophila scoparia* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain (QRP-EW1)

The total flora recorded within this vegetation community was represented by a total of 13 Families, 17 Genera and 26 Taxa (Plate 37). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 44. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands (DotE, 2015b).

Table 44: Vegetation assemblage for Open low woodland of *Eucalyptus gypsophila* over low scrub of *Eremophila scoparia* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Eucalyptus gypsophila*
Shrub 1-1.5m	10-30%	*Eremophila scoparia*
Shrub 0.5-1m	10-30%	*Ptilotus obovatus*

Plate 37: Open low woodland of *Eucalyptus gypsophila* over low scrub of *Eremophila scoparia* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain

Quartz/Rocky Plain: Mallee Woodlands and Shrublands

4.3.34 Open shrub mallee of *Eucalyptus trichopoda* over open low scrub of *Eremophila pantonii* and dwarf scrub of *Tecticornia disarticulata* on quartz/rocky plain (QRP-MWS1)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 15 Genera and 17 Taxa (Plate 38). No Threatened or Priority Flora taxa were identified within this vegetation community. One introduced taxon was recorded within this vegetation community; *Acetosa vesicaria* (Ruby Dock). Dominant taxa from the vegetation assemblage are shown in Table 45. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 45: Vegetation assemblage for Open shrub mallee of *Eucalyptus trichopoda* over open low scrub of *Eremophila pantonii* and dwarf scrub of *Tecticornia disarticulata* on quartz/rocky plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Shrub Mallee Form	2-10%	*Euc Sample 1*
Shrub 1-1.5m	2-10%	*Eremophila pantonii*
Shrub <0.5m	10-30%	*Tecticornia disarticulata*

Plate 38: Open shrub mallee of *Eucalyptus trichopoda* over open low scrub of *Eremophila pantonii* and dwarf scrub of *Tecticornia disarticulata* on quartz/rocky plain

Rocky Hillslope: Acacia Forests and Woodlands

4.3.35 Open low woodland of *Acacia quadrimarginea* over heath of *Eremophila abietina* subsp. *ciliata* and dwarf scrub of *Ptilotus obovatus* on rocky hillslope (RH-AFW1)

The total flora recorded within this vegetation community was represented by a total of 11 Families, 18 Genera and 26 Taxa (Plate 39). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 46. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 46: Vegetation assemblage for Open low woodland of *Acacia quadrimarginea* over heath of *Eremophila abietina* subsp. *ciliata* and dwarf scrub of *Ptilotus obovatus* on rocky hillslope

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Acacia quadrimarginea*
Shrub 1.5-2m	30-70%	*Eremophila abietina* subsp. *ciliata*
Shrub 0.5-1m	10-30%	*Ptilotus obovatus*

Plate 39: Open low woodland of *Acacia quadrimarginea* over heath of *Eremophila abietina* subsp. *ciliata* and dwarf scrub of *Ptilotus obovatus* on rocky hillslope

4.3.36 Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Scaevola spinescens/ Senna cardiosperma* and dwarf scrub of *Ptilotus obovatus/ Sida* sp. Excedentifolia (J.L. Egan 1925) on rocky hillslope (RH-AFW2)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 17 Genera and 34 Taxa (Plate 40). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 47. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 47: Vegetation assemblage for Low woodland of *Acacia caesaneura/A. incurvaneura* over low scrub of *Scaevola spinescens/ Senna cardiosperma* and dwarf scrub of *Ptilotus obovatus/ Sida* sp. Excedentifolia (J.L. Egan 1925) on rocky hillslope

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 1.5-2m	30-70%	*Scaevola spinescens* *Senna cardiosperma*
Shrub 0.5-1m	10-30%	*Ptilotus obovatus* *Sida* sp. Excedentifolia (J.L. Egan 1925)

Plate 40: Low woodland of *Acacia caesaneura/A. incurvaneura* over low scrub of *Scaevola spinescens/ Senna cardiosperma* and dwarf scrub of *Ptilotus obovatus/ Sida* sp. Excedentifolia (J.L. Egan 1925) on rocky hillslope

4.3.37 Low Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/Dodonaea rigida/Senna* spp. and dwarf scrub of *Ptilotus obovatus* on Banded Ironstone Hill (RH-AFW3)

The total flora recorded within this vegetation community was represented by a total of 10 Families, 14 Genera and 20 Taxa (Plate 41). No Threatened or Priority Flora taxa were identified within this vegetation community. Two introduced taxa; *Acetosa vesicaria* (Ruby Dock) and *Cenchrus ciliaris* (Buffel Grass) were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 48. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 48: Vegetation assemblage for Low Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Dodonaea rigida/ Senna* spp. and dwarf scrub of *Ptilotus obovatus* on Banded Ironstone Hill

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 1.5-2m	30-70%	*Acacia ramulosa* var. *ramulosa* *Dodonaea rigida* *Senna artemisioides* subsp. x *artemisioides* *Senna artemisioides* subsp. *helmsii* *Senna cardiosperma*
Shrub 0.5-1m	10-30%	*Ptilotus obovatus*

Plate 41: Low Forest of *Acacia caesaneura/A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Dodonaea rigida/ Senna* spp. and dwarf scrub of *Ptilotus obovatus* on Banded Ironstone Hill

4.3.38 Low forest of *Acacia caesaneura* over low heath of *Eremophila latrobei* subsp. *latrobei/ Scaevola spinescens/ Senna* sp. Meekatharra (E. Bailey 1-26) and dwarf scrub of *Ptilotus obovatus* on rocky hillslope (RH-AFW4)

The total flora recorded within this vegetation community was represented by a total of 14 Families, 21 Genera and 36 Taxa (Plate 42). No Threatened or Priority Flora taxa were identified within this vegetation community. Two introduced taxa; *Acetosa vesicaria* (Ruby Dock) and *Cenchrus ciliaris* (Buffel Grass) were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 49. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 49: Vegetation assemblage for Low forest of *Acacia caesaneura* over low heath of *Eremophila latrobei* subsp. *latrobei/ Scaevola spinescens/ Senna* sp. Meekatharra (E. Bailey 1-26) and dwarf scrub of *Ptilotus obovatus* on rocky hillslope

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	30-70%	*Acacia caesaneura*
Shrub 0.5-1m	30-70%	*Eremophila latrobei* subsp. *latrobei* *Scaevola spinescens* *Senna* sp. Meekatharra (E. Bailey 1-26)
Shrub <0.5m	10-30%	*Ptilotus obovatus*

Plate 42: Low forest of *Acacia caesaneura* over low heath of *Eremophila latrobei* subsp. *latrobei/ Scaevola spinescens/ Senna* sp. Meekatharra (E. Bailey 1-26) and dwarf scrub of *Ptilotus obovatus* on rocky hillslope

Sandplain: Acacia Forest and Woodlands

4.3.39 Low forest of *Acacia caesaneural A. incurvaneura* over dense hummock grass of *Triodia basedowii* in sandplain (S-AFW1)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 16 Genera and 24 Taxa (Plate 43). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 50. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 50: Vegetation assemblage for Low forest of *Acacia incurvaneura/ Acacia caesaneura* over dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Acacia caesaneura* *Acacia incurvaneura*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 43: Low forest of *Acacia incurvaneura/ Acacia caesaneura* over dense hummock grass of *Triodia basedowii* in sandplain

4.3.40 Low forest of *Acacia caesaneural A. incurvaneura* over low scrub of mixed shrubs and dwarf scrub of *Eremophila gilesii/* hummock grass of *Triodia irritans* in sandplain (S-AFW2)

The total flora recorded within this vegetation community was represented by a total of 13 Families, 16 Genera and 24 Taxa (Plate 44). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 51. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 51: Vegetation assemblage for Low Forest of *Acacia caesaneural A. incurvaneura* over low scrub of mixed shrubs and dwarf scrub of *Eremophila gilesii/* sparse hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	30-70%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub <0.5	10-30%	*Eremophila gilesii*
Hummock Grass	10-30%	*Triodia irritans*

Plate 44: Low forest of *Acacia caesaneural A. incurvaneura* over low scrub of mixed shrubs and dwarf scrub of *Eremophila gilesii/* sparse hummock grass of *Triodia irritans* in sandplain

4.3.41 Forest of *Acacia aptaneura/A. caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa* and dense tall grass of *Eragrostis eriopoda* in sandplain (S-AFW3)

The total flora recorded within this vegetation community was represented by a total of 18 Families, 33 Genera and 42 Taxa (Plate 45). No Threatened or Priority Flora taxa were identified within this vegetation community. Two introduced taxa; *Acetosa vesicaria* (Ruby Dock) and *Nicotiana glauca* (Tree Tobacco) were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 52. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 52: Vegetation assemblage for Forest of *Acacia aptaneura/A. caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa* and dense tall grass of *Eragrostis eriopoda* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	30-70%	*Acacia aptaneura* *Acacia caesaneura* *Acacia incurvaneura*
Shrub 1.5-2m	10-30%	*Acacia ramulosa* var. *ramulosa*
Bunch Grass <0.5	10-30%	*Eragrostis eriopoda*

Plate 45: Forest of *Acacia aptaneura/A. caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa* and dense tall grass of *Eragrostis eriopoda* in sandplain

4.3.42 Forest of *Acacia caesaneura/A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila forrestii* subsp. *forrestii* and mid-dense hummock grass of *Triodia irritans* in sandplain (S-AFW4)

The total flora recorded within this vegetation community was represented by a total of 6 Families, 6 Genera and 12 Taxa (Plate 46). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 53. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 53: Vegetation assemblage for Forest of *Acacia caesaneura/A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila forrestii* subsp. *forrestii* and mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	30-70%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 1.5-2m	10-30%	*Acacia ramulosa* var. *ramulosa* *Eremophila forrestii* subsp. *forrestii*
Hummock Grass	30-70%	*Triodia irritans*

Plate 46: Forest of *Acacia caesaneura/A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila forrestii* subsp. *forrestii* and mid-dense hummock grass of *Triodia irritans* in sandplain

4.3.43 Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. mulganeura/ Eremophila latrobei* subsp. *latrobei* and dense hummock grass of *Triodia irritans* in sandplain (S-AFW5)

The total flora recorded within this vegetation community was represented by a total of 7 Families, 7 Genera and 12 Taxa (Plate 47). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 54. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 54: Vegetation assemblage for Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. mulganeura/ Eremophila latrobei* subsp. *latrobei* and dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia aptaneura* *Acacia caesaneura* *Acacia incurvaneura*
Shrub 1-1.5m	2-10%	*Acacia mulganeura* *Eremophila latrobei* subsp. *latrobei*
Hummock Grass	70-100%	*Triodia irritans*

Plate 47: Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. mulganeura/ Eremophila latrobei* subsp. *latrobei* and dense hummock grass of *Triodia irritans* in sandplain

4.3.44 Low woodland of *Acacia aptaneura/ A. incurvaneura* over heath of *Cratystylis subspinescens* and dwarf scrub of *Frankenia setosal* mid-dense hummock grass of *Triodia irritans* in sandplain (S-AFW6)

The total flora recorded within this vegetation community was represented by a total of 14 Families, 23 Genera and 40 Taxa (Plate 48). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 55. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 55: Vegetation assemblage for Low woodland of *Acacia aptaneura/ A. incurvaneura* over heath of *Cratystylis subspinescens* and dwarf scrub of *Frankenia setosal* mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia aptaneura* *Acacia incurvaneura*
Shrub 1-1.5m	30-70%	*Cratystylis subspinescens*
Hummock Grass	10-30%	*Triodia irritans*

Plate 48: Low woodland of *Acacia aptaneura/ A. incurvaneura* over heath of *Cratystylis subspinescens* and dwarf scrub of *Frankenia setosal* mid-dense hummock grass of *Triodia irritans* in sandplain

4.3.45 Forest of *Acacia caesaneura* over scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and low heath of *Ptilotus obovatus* in sandplain (S-AFW7)

The total flora recorded within this vegetation community was represented by a total of 15 Families, 22 Genera and 38 Taxa (Plate 49). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 56. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 56: Vegetation assemblage for Forest of *Acacia caesaneura* over scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and low heath of *Ptilotus obovatus* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Acacia caesaneura*
Shrub >2m	10-30%	*Acacia ramulosa* var. *ramulosa* *Senna artemisioides* subsp. *filifolia*
Shrub <0.5m	30-70%	*Ptilotus obovatus*

Plate 49: Forest of *Acacia caesaneura* over scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and low heath of *Ptilotus obovatus* in sandplain

4.3.46 Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Atriplex bunburyana, Scaevola spinescens, Acacia tetragonophylla, Hakea kippistiana* and low grass of *Aristida contorta* in sandplain (S-AFW8)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 18 Genera and 24 Taxa (Plate 50). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 57. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands (DotE, 2015b).

Table 57: Vegetation assemblage for Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Atriplex bunburyana, Scaevola spinescens, Acacia tetragonophylla, Hakea kippistiana* and low grass of *Aristida contorta* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Trees <5m	10-30%	*Acacia caesaneura* *Acacia incurvaneura*
Shrub 1.5-2m	10-30%	*Acacia tetragonophylla* *Hakea kippistiana*
Shrub 1-1.5m	10-30%	*Atriplex bunburyana* *Scaevola spinescens*
Bunch Grass <0.5m	30-70%	*Aristida contorta*

Plate 50: Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Atriplex bunburyana, Scaevola spinescens, Acacia tetragonophylla, Hakea kippistiana* and low grass of *Aristida contorta* in sandplain

Sandplain: Eucalypt Woodlands

4.3.47 Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia abrupta/ A. ligulata* and dense hummock grass of *Triodia basedowii* in sandplain (S-EW1)

The total flora recorded within this vegetation community was represented by a total of 19 Families, 30 Genera and 46 Taxa (Plate 51). No Threatened Flora taxa were identified within this vegetation community. One Priority Flora taxon was identified within this vegetation community; *Olearia arida* (P4). No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 58. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands (DotE, 2015b).

Table 58: Vegetation assemblage for Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia abrupta/ A. ligulata* and dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Eucalyptus gongylocarpa*
Shrub 1-1.5m	30-70%	*Acacia abrupta* *Acacia ligulata*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 51: Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia abrupta/ A. ligulata* and dense hummock grass of *Triodia basedowii* in sandplain

4.3.48 Open low woodland of *Eucalyptus gongylocarpa* over moderately dense scrub of *Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain (S-EW2)

The total flora recorded within this vegetation community was represented by a total of 11 Families, 12 Genera and 16 Taxa (Plate 52). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 59. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands (DotE, 2015b).

Table 59: Vegetation assemblage for Open low woodland of *Eucalyptus gongylocarpa* over moderately dense scrub of *Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Eucalyptus gongylocarpa*
Shrub 1-1.5m	30-70%	*Hakea francisiana*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 52: Open low woodland of *Eucalyptus gongylocarpa* over moderately dense scrub of *Hakea francisiana* and dense hummock grass of *Triodia basedowii* on sandplain

Sandplain: Eucalypt Woodlands/ Mallee Woodlands and Shrublands

4.3.49 Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-EW/MWS1)

The total flora recorded within this vegetation community was represented by a total of 23 Families, 36 Genera and 59 Taxa (Plate 53). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 60. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 60: Vegetation assemblage for Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Eucalyptus gongylocarpa*
Mallee Shrub form	30-70%	*Eucalyptus youngiana*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 53: Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.50 Low woodland of *Eucalyptus gongylocarpa* over open tree mallee of *Eucalyptus youngiana* and low heath of *Aluta maisonneuvei* subsp. *auriculatal* mid-dense hummock grass of *Triodia basedowii* in sandplain (S-EW/MWS2)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 18 Genera and 26 Taxa (Plate 54). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 61. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 61: Vegetation assemblage for Low woodland of *Eucalyptus gongylocarpa* over open tree mallee of *Eucalyptus youngiana* and low heath of *Aluta maisonneuvei* subsp. *auriculatal* mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Eucalyptus gongylocarpa*
Mallee Tree Form	2-10%	*Eucalyptus youngiana*
Shrub 1-1.5m	10-30%	*Aluta maisonneuvei*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 54: Low woodland of *Eucalyptus gongylocarpa* over open tree mallee of *Eucalyptus youngiana* and low heath of *Aluta maisonneuvei* subsp. *auriculatal* mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.51 Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. concinna/ E. glomerosa* and scrub of *Callitris columellaris* over low heath of *Westringia cephalantha* and dense hummock grass of *Triodia desertorum* in sandplain (S-EW/MWS3)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 16 Genera and 29 Taxa (Plate 55). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 62. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 62: Vegetation assemblage for Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. concinna/ E. glomerosa* and scrub of *Callitris columellaris* over low heath of *Westringia cephalantha* and dense hummock grass of *Triodia desertorum* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Eucalyptus gongylocarpa*
Mallee Shrub Form	30-70%	*Eucalyptus concinna* *Eucalyptus glomerosa*
Shrub <0.5m	30-70%	*Westringia cephalantha*
Hummock Grass	30-70%	*Triodia desertorum*

Plate 55: Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. concinna/ E. glomerosa* and scrub of *Callitris columellaris* over low heath of *Westringia cephalantha* and dense hummock grass of *Triodia desertorum* in sandplain

4.3.52 Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. comitae-vallis*/ low scrub of *Callitris columellaris* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-EW/MWS4)

The total flora recorded within this vegetation community was represented by a total of 10 Families, 15 Genera and 23 Taxa (Plate 56). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 63. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 63: Vegetation assemblage for Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. comitae-vallis*/ low scrub of *Callitris columellaris* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Eucalyptus gongylocarpa*
Mallee Shrub Form	10-30%	*Eucalyptus comitae-vallis*
Shrub 1-1.5m	10-30%	*Callitris columellaris*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 56: Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. comitae-vallis*/ low scrub of *Callitris columellaris* and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.53 Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngianal* scrub of *Acacia pachyacra/ A. desertorum* var. *desertorum* and dense hummock grass of *Triodia basedowii* in sandplain (S-EW/MWS5)

The total flora recorded within this vegetation community was represented by a total of 11 Families, 14 Genera and 28 Taxa (Plate 57). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 64. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 64: Vegetation assemblage for Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngianal* scrub of *Acacia pachyacra/ A. desertorum* var. *desertorum* and dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Eucalyptus gongylocarpa*
Mallee shrub form	10-30%	*Eucalyptus youngiana*
Shrub >2m	10-30%	*Acacia pachyacra* *Acacia desertorum* var. *desertorum*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 57: Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngianal* scrub of *Acacia pachyacra/ A. desertorum* var. *desertorum* and dense hummock grass of *Triodia basedowii* in sandplain

4.3.54 Low woodland of *Eucalyptus gongylocarpa* with occasional *E. youngiana* over low scrub of *Acacia desertorum* var. *desertorum/ Callitris columellaris/ Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain (S-EW/MWS6)

The total flora recorded within this vegetation community was represented by a total of 11 Families, 13 Genera and 19 Taxa (Plate 58). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 65. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 65: Vegetation assemblage for Low woodland of *Eucalyptus gongylocarpa* with occasional *E. youngiana* over low scrub of *Acacia desertorum* var. *desertorum/ Callitris columellaris/ Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	10-30%	*Eucalyptus gongylocarpa*
Shrub <0.5m	10-30%	*Acacia desertorum* var. *desertorum* *Callitris columellaris* *Hakea francisiana*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 58: Low woodland of *Eucalyptus gongylocarpa* with occasional *E. youngiana* over low scrub of *Acacia desertorum* var. *desertorum/ Callitris columellaris/ Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain

Sandplain: Heathlands

4.3.55 Dense heath of *Acacia desertorum* var. *desertorum* over low heath of *Melaleuca hamata/ M. leiocarpa* and dense hummock grass *Triodia basedowii/ T. desertorum* in sandplain (S-H1)

The total flora recorded within this vegetation community was represented by a total of 6 Families, 10 Genera and 11 Taxa (Plate 59). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 66. According to the NVIS, this vegetation community is best represented by the MVG18- Heathlands (DotE, 2015b).

Table 66: Vegetation assemblage for dense heath of *Acacia desertorum* var. *desertorum* over low heath of *Melaleuca hamata/ M. leiocarpa* and dense hummock grass *Triodia basedowii/ T. desertorum* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Shrub 1.5-2m	70-100%	*Acacia desertorum* var. *desertorum*
Shrub 0.5-1m	30-70%	*Melaleuca hamata* *Melaleuca leiocarpa*
Hummock Grass	70-100%	*Triodia basedowii* *Triodia desertorum*

Plate 59: Dense heath of *Acacia desertorum* var. *desertorum* over low heath of *Melaleuca hamata/ M. leiocarpa* and dense hummock grass *Triodia basedowii/ T. desertorum* in sandplain

Sandplain: Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands

4.3.56 Open tree mallee of *Eucalyptus trivalval* low woodland of *Acacia craspedocarpa* over open low scrub of *A. desertorum var. desertorum var. desertorum/A. ligulata* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-MWS/AFW1)

The total flora recorded within this vegetation community was represented by a total of 7 Families, 10 Genera and 19 Taxa (Plate 60). No Threatened Flora taxa were identified within this vegetation community. One Priority Flora taxon was identified within this vegetation community; *Olearia arida* (P4). No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 67. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands and MVG6- Acacia Forests and Woodlands (DotE, 2015b).

Table 67: Vegetation assemblage for Open tree mallee of *Eucalyptus trivalval* low woodland of *Acacia craspedocarpa* over open low scrub of *A. desertorum var. desertorum/A. ligulata* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus trivalva*
Trees <5m	10-30%	*Acacia craspedocarpa*
Shrub 1-1.5m	2-10%	*Acacia desertorum var. desertorum* *Acacia ligulata*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 60: Open tree mallee of *Eucalyptus trivalval* low woodland of *Acacia craspedocarpa* over open low scrub of *A. desertorum var. desertorum/A. ligulata* and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.57 Very open tree mallee of *Eucalyptus youngianal* Open low woodland of *Acacia caesaneura* over low scrub of *A. ligulata* and hummock grass of *Triodia basedowii* in sandplain (S-MWS/AFW2)

The total flora recorded within this vegetation community was represented by a total of 17 Families, 27 Genera and 35 Taxa (Plate 61). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 68. According to the NVIS, this vegetation community is best represented by the MVG6-Acacia Forests and Woodlands and MVG14 – Mallee Woodlands and Shrublands (DotE, 2015b).

Table 68: Vegetation assemblage for Open low woodland of *Acacia caesaneura/ Eucalyptus gongylocarpa* over low scrub of *A. ligulata* and hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Acacia caesaneura* *Eucalyptus gongylocarpa*
Shrub 1-1.5m	10-30%	*Acacia ligulata*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 61: Open low woodland of *Acacia caesaneura/ Eucalyptus gongylocarpa* over low scrub of *A. ligulata* and hummock grass of *Triodia basedowii* in sandplain

Sandplain: Mallee Woodlands and Shrublands

4.3.58 Open tree mallee of *Eucalyptus youngiana/ E. trivalva* over heath of *Acacia abrupta* and dense hummock grass of *Triodia basedowii* in sandplain (S-MWS1)

The total flora recorded within this vegetation community was represented by a total of 8 Families, 10 Genera and 15 Taxa (Plate 62). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 69. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 69: Vegetation assemblage for Open tree mallee of *Eucalyptus youngiana/ E. trivalva* over heath of *Acacia abrupta* and dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus youngiana* *Eucalyptus trivalva*
Shrub 1-1.5m	30-70%	*Acacia abrupta*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 62: Open tree mallee of *Eucalyptus youngiana/ E. trivalva* over heath of *Acacia abrupta* and dense hummock grass of *Triodia basedowii* in sandplain

4.3.59 Open tree mallee of *Eucalyptus concinna/ E. youngiana* over heath of *Acacia desertorum var. desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculatal* mid-dense hummock grass of *Triodia irritans* in sandplain (S-MWS2)

The total flora recorded within this vegetation community was represented by a total of 11 Families, 15 Genera and 24 Taxa (Plate 63). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 70. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 70: Vegetation assemblage for Open tree mallee of *Eucalyptus concinna/ E. youngiana* over heath of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculatal* mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus concinna* *Eucalyptus youngiana*
Shrub 1-1.5m	30-70%	*Acacia desertorum* var. *desertorum* *Acacia grasbyi*
Shrub <0.5m	30-70%	*Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	30-70%	*Triodia irritans*

Plate 63: Open tree mallee of *Eucalyptus concinna/ E. youngiana* over heath of *Acacia desertorum var. desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculatal* mid-dense hummock grass of *Triodia irritans* in sandplain

4.3.60 Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *filiformis* and mid-dense hummock grass of *Triodia irritans* in sandplain (S-MWS3)

The total flora recorded within this vegetation community was represented by a total of 8 Families, 10 Genera and 19 Taxa (Plate 64). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 71. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 71: Vegetation assemblage for Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *filiformis* and mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus concinna*
Shrub 1-1.5m	10-30%	*Eremophila latrobei* subsp. *filiformis*
Hummock Grass	30-70%	*Triodia irritans*

Plate 64: Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *filiformis* and mid-dense hummock grass of *Triodia irritans* in sandplain

4.3.61 Open tree mallee of *Eucalyptus glomerosa/E. youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia irritans* in sandplain (S-MWS4)

The total flora recorded within this vegetation community was represented by a total of 8 Families, 10 Genera and 17 Taxa (Plate 65). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 72. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 72: Vegetation assemblage for Open tree mallee of *Eucalyptus glomerosa/E. youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus glomerosa* *Eucalyptus youngiana*
Shrub 1-1.5m	10-30%	*Acacia ligulata*
Hummock Grass	70-100%	*Triodia irritans*

Plate 65: Open tree mallee of *Eucalyptus glomerosa/E. youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia irritans* in sandplain

4.3.62 Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain (S-MWS5)

The total flora recorded within this vegetation community was represented by a total of 16 Families, 25 Genera and 43 Taxa (Plate 66). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 73. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 73: Vegetation assemblage for Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus youngiana*
Shrub 1-1.5m	30-70%	*Acacia desertorum* var. *desertorum* *Acacia grasbyi*
Shrub <0.5m	30-70%	*Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	30-70%	*Triodia irritans*

Plate 66: Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain

4.3.63 Open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum* var. *desertorum* and mid-dense hummock grass of *Triodia irritans* in sandplain (S-MWS6)

The total flora recorded within this vegetation community was represented by a total of 16 Families, 23 Genera and 28 Taxa (Plate 67). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 74. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 74: Vegetation assemblage for Open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum* var. *desertorum* and mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus youngiana*
Shrub 1-1.5m	10-30%	*Acacia desertorum* var. *desertorum*
Hummock Grass	30-70%	*Triodia irritans*

Plate 67: Open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum var. desertorum* and mid-dense hummock grass of *Triodia irritans* in sandplain

4.3.64 Tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain (S-MWS7)

The total flora recorded within this vegetation community was represented by a total of 10 Families, 13 Genera and 23 Taxa (Plate 68). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 75. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 75: Vegetation assemblage for Tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	30-70%	*Eucalyptus youngiana*
Shrub 1-1.5m	10-30%	*Acacia ligulata*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 68: Tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain

4.3.65 Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain (S-MWS8)

The total flora recorded within this vegetation community was represented by a total of 13 Families, 24 Genera and 40 Taxa (Plate 69). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 76. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 76: Vegetation assemblage for Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus youngiana*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 69: Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain

4.3.66 Open shrub mallee of *Eucalyptus youngiana* over low forest of *Acacia caesaneura/ A. incurvaneura* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-MWS9)

The total flora recorded within this vegetation community was represented by a total of 16 Families, 22 Genera and 33 Taxa (Plate 70). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 77. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 77: Vegetation assemblage for Open shrub mallee of *Eucalyptus youngiana* over low forest of *Acacia caesaneura/ A. incurvaneura* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Shrub Form	10-30%	*Eucalyptus youngiana*
Tree <5m	30-70%	*Acacia caesaneura* *Acacia incurvaneura*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 70: Open shrub mallee of *Eucalyptus youngiana* over low forest of *Acacia caesaneura/ A. incurvaneura* and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.67 Open shrub mallee of *Eucalyptus comitae-vallis* over open low woodland of *Acacia caesaneura/ A. grasbyi* and dense hummock grass of *Triodia desertorum* in sandplain (S-MWS10)

The total flora recorded within this vegetation community was represented by a total of 5 Families, 7 Genera and 10 Taxa (Plate 71). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 78. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 78: Vegetation assemblage for Open shrub mallee of *Eucalyptus comitae-vallis* over open low woodland of *Acacia caesaneura/ A. grasbyi* and dense hummock grass of *Triodia desertorum* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Shrub Form	10-30%	*Eucalyptus comitae-vallis*
Tree <5m	2-10%	*Acacia caesaneura* *Acacia grasbyi*
Hummock Grass	70-100%	*Triodia desertorum*

Plate 71: Open shrub mallee of *Eucalyptus comitae-vallis* over open low woodland of *Acacia caesaneura/ A. grasbyi* and dense hummock grass of *Triodia desertorum* in sandplain

4.3.68 Open shrub mallee of *Eucalyptus concinna* over low scrub of *Scaevola spinescens* and dense hummock grass of *Triodia desertorum* in sandplain (S-MWS11)

The total flora recorded within this vegetation community was represented by a total of 9 Families, 9 Genera and 10 Taxa (Plate 72). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 79. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 79: Vegetation assemblage for Open shrub mallee of *Eucalyptus concinna* over low scrub of *Scaevola spinescens* and dense hummock grass of *Triodia desertorum* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Shrub Form	10-30%	*Eucalyptus concinna*
Shrub 1-1.5m	10-30%	*Scaevola spinescens*
Hummock Grass	70-100%	*Triodia desertorum*

Plate 72: Open shrub mallee of *Eucalyptus concinna* over low scrub of *Scaevola spinescens* and dense hummock grass of *Triodia desertorum* in sandplain

4.3.69 Open shrub mallee of *Eucalyptus glomerosa* over low scrub of *Acacia abrupta/ A. desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia desertorum* in sandplain (S-MWS12)

The total flora recorded within this vegetation community was represented by a total of 10 Families, 15 Genera and 22 Taxa (Plate 73). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 80. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 80: Vegetation assemblage for Open shrub mallee of *Eucalyptus glomerosa* over low scrub of *Acacia abrupta/ A. desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia desertorum* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Shrub Form	10-30%	*Eucalyptus glomerosa*
Shrub 1-1.5m	10-30%	*Acacia abrupta* *Acacia desertorum var. desertorum* *Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	70-100%	*Triodia desertorum*

Plate 73: Open shrub mallee of *Eucalyptus glomerosa* over low scrub of *Acacia abrupta/ A. desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia desertorum* in sandplain

4.3.70 Open Shrub Mallee of *Eucalyptus trivalva/ E. youngiana* over low woodland of *Acacia caesaneura/ A. rigens* and dense hummock grass of *Triodia basedowii* in sandplain (S-MWS13)

The total flora recorded within this vegetation community was represented by a total of 7 Families, 8 Genera and 16 Taxa (Plate 74). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 81. According to the NVIS this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 81: Vegetation assemblage for Open Shrub Mallee of *Eucalyptus trivalva/ E. youngiana* over low woodland of *Acacia caesaneura/ A. rigens* and dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Shrub Form	10-30%	*Eucalyptus trivalva* *Eucalyptus youngiana*
Shrub 1-1.5m	10-30%	*Acacia ligulata* *Acacia rigens*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 74: Open Shrub Mallee of *Eucalyptus trivalva/ E. youngiana* over low woodland of *Acacia caesaneura/ A. rigens* and dense hummock grass of *Triodia basedowii* in sandplain

4.3.71 Open tree mallee of *Eucalyptus concinna/ E. oleosa* subsp. *oleosa* over scrub of *Acacia caesaneura/ Eremophila pantonii/ Senna artemisioides* subsp. *filifolia* and dense hummock grass *Triodia basedowii* in sandplain (S-MWS14)

The total flora recorded within this vegetation community was represented by a total of 7 Families, 8 Genera and 17 Taxa (Plate 75). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 82. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 82: Vegetation assemblage for Open tree mallee of *Eucalyptus concinna/ E. oleosa* subsp. *oleosa* over scrub of *Acacia caesaneura/ Eremophila pantonii/ Senna artemisioides* subsp. *filifolia* and dense hummock grass *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus concinna* *Eucalyptus oleosa* subsp. *oleosa*
Shrub >2m	10-30%	*Acacia caesaneura* *Eremophila pantonii* *Senna artemisioides* subsp. *filifolia*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 75: Open tree mallee of *Eucalyptus concinna/ E. oleosa* subsp. *oleosa* over scrub of *Acacia caesaneura/ Eremophila pantonii/ Senna artemisioides* subsp. *filifolia* and dense hummock grass *Triodia basedowii* in sandplain

4.3.72 Open shrub mallee of *Eucalyptus trivalva* over scrub of *Acacia desertorum* var. *desertorum* and dense hummock grass *Triodia basedowii* in sandplain (S-MWS15)

The total flora recorded within this vegetation community was represented by a total of 9 Families, 13 Genera and 21 Taxa (Plate 76). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 83. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 83: Vegetation assemblage for Open shrub mallee of *Eucalyptus trivalva* over scrub of *Acacia desertorum* var. *desertorum* and dense hummock grass *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee shrub Form	10-30%	*Eucalyptus trivalva*
Shrub 1-1.5m	10-30%	*Acacia desertorum* var. *desertorum*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 76: Open shrub mallee of *Eucalyptus trivalva* over scrub of *Acacia desertorum* var. *desertorum* and dense hummock grass *Triodia basedowii* in sandplain

4.3.73 Open shrub mallee of *Eucalyptus youngiana* over scrub of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense *Triodia basedowii* in sandplain (S-MWS16)

The total flora recorded within this vegetation community was represented by a total of 6 Families, 11 Genera and 13 Taxa (Plate 77). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 84. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 84: Vegetation assemblage for Open shrub mallee of *Eucalyptus youngiana* over scrub of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Shrub Form	10-30%	*Eucalyptus youngiana*
Shrub >2m	10-30%	*Acacia desertorum* var. *desertorum* *Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 77: Open shrub mallee of *Eucalyptus youngiana* over scrub of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense *Triodia basedowii* in sandplain

4.3.74 Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata/ E. youngiana* over open scrub of *Callitris preissii* and dwarf scrub of *Aluta maisonneuvei* subsp. *auriculata/ Phebalium filifolium/* mid-dense hummock grass of *Triodia basedowii* in sandplain (S-MWS17)

The total flora recorded within this vegetation community was represented by a total of 8 Families, 13 Genera and 17 Taxa (Plate 78). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 85. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 85: Vegetation assemblage for Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata/ E. youngiana* over open scrub of *Callitris preissii* and dwarf scrub of *Aluta maisonneuvei* subsp. *auriculata/ Phebalium filifolium/* mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Shrub Form	10-30%	*Eucalyptus leptopoda subsp. elevata* *Eucalyptus youngiana*
Shrub >2m	2-10%	*Callitris preissii*
Shrub 0.5-1m	10-30%	*Aluta maisonneuvei* subsp. *auriculata* *Phebalium filifolium*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 78: Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata/ E. youngiana* over open scrub of *Callitris preissii* and dwarf scrub of *Aluta maisonneuvei* subsp. *auriculata/ Phebalium filifolium/* mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.75 Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata* over open scrub of *Acacia desertorum* var. *desertorum/ Callitris preissii* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-MWS18)

The total flora recorded within this vegetation community was represented by a total of 8 Families, 14 Genera and 18 Taxa (Plate 79). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 86. According to the NVIS, this vegetation community is best represented by the MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 86: Vegetation assemblage for Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata* over open scrub of *Acacia desertorum* var. *desertorum/ Callitris preissii* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Shrub Form	10-30%	*Eucalyptus leptopoda* subsp. *elevata*
Shrub >2m	2-10%	*Acacia desertorum* var. *desertorum* *Callitris preissii*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 79: Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata* over open scrub of *Acacia desertorum* var. *desertorum/ Callitris preissii* and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.76 Open tree mallee of *Eucalyptus trivalva* over low scrub of *Acacia pachyacra/ Senna artemisioides* subsp*. filifolia* and mid-dense hummock grass of *Triodia irritans* on clay-loam plain (S-MWS19)

The total flora recorded within this vegetation community was represented by a total of 10 Families, 14 Genera and 25 Taxa (Plate 80). No Threatened or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 87. According to the NVIS, this vegetation community is best represented by the MVG14- Mallee Woodlands and Shrublands (DotE, 2015b).

Table 87: Vegetation assemblage for Open tree mallee of *Eucalyptus trivalva* over low scrub of *Acacia pachyacra/ Senna artemisioides* subsp*. filifolia* and mid-dense hummock grass of *Triodia irritans* on clay-loam plain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree	10-30%	*Eucalyptus trivalva*
Shrub 1.5-2m	10-30%	*Acacia pachyacra* *Senna artemisioides* subsp. *filifolia*
Hummock Grass	30-70%	*Triodia irritans*

Plate 80: Open tree mallee of *Eucalyptus trivalva* over low scrub of *Acacia pachyacra/ Senna artemisioides* subsp*. filifolia* and mid-dense hummock grass of *Triodia irritans* on clay-loam plain

Sandplain: Regrowth Modified Native Vegetation

4.3.77 Regrowth open low scrub of *Acacia abrupta* over dense hummock grass of *Triodia basedowii* in sandplain (S-RMNV1)

The total flora recorded within this vegetation community was represented by a total of 12 Families, 19 Genera and 24 Taxa (Plate 81). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 88. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 88: Vegetation assemblage for Regrowth open low scrub of *Acacia abrupta* over dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Shrub 1-1.5m	2-10%	*Acacia abrupta*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 81: Regrowth open low scrub of *Acacia abrupta* over dense hummock grass of *Triodia basedowii* in sandplain

4.3.78 Regrowth open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum var. desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculatal* mid-dense hummock grass of *Triodia irritans* in sandplain (S-RMNV2)

The total flora recorded within this vegetation community was represented by a total of 11 Families, 15 Genera and 24 Taxa (Plate 82). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 89. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 89: Vegetation assemblage for Regrowth open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum var. desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculatal* mid-dense hummock grass of *Triodia irritans* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	2-10%	*Eucalyptus youngiana*
Shrub 1-1.5m	10-30%	*Acacia desertorum var desertorum* *A. grasbyi*
Shrub <0.5m	30-70%	*Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 82: Regrowth open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculatal* mid-dense hummock grass of *Triodia irritans* in sandplain

4.3.79 Regrowth Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-RMNV3)

The total flora recorded within this vegetation community was represented by a total of 23 Families, 36 Genera and 59 Taxa (Plate 83). No Threatened Flora taxa were identified within this vegetation community. One Priority Flora taxon was identified within this vegetation community; *Olearia arida* (P4). No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 90. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 90: Vegetation assemblage for Regrowth Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Trees <5m	10-30%	*Eucalyptus gongylocarpa*
Mallee Shrub Form	30-70%	*Eucalyptus youngiana*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 83: Regrowth Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.80 Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain (S-RMNV4)

The total flora recorded within this vegetation community was represented by a total of 10 Families, 18 Genera and 27 Taxa (Plate 84). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 91. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 91: Vegetation assemblage for Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Tree Form	10-30%	*Eucalyptus trivalva*
Mallee Shrub form	2-10%	*Eucalyptus youngiana*
Shrub <0.5m	30-70%	*Alyogyne pinoniana* *Sida calyxhymenia*

Plate 84: Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain

4.3.81 Regrowth low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain (S-RMNV5)

The total flora recorded within this vegetation community was represented by a total of 11 Families, 17 Genera and 26 Taxa (Plate 85). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 92. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 92: Vegetation assemblage for Regrowth low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	10-30%	*Eucalyptus gongylocarpa*
Shrub 1-1.5m	30-70%	*Acacia ligulata*
Shrub <0.5m	70-100%	*Triodia basedowii*

Plate 85: Regrowth low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain

4.3.82 Regrowth open low woodland of *Eucalyptus gongylocarpa* over shrub Mallee *of E. concinnal E. youngiana* and dense hummock grass of *Triodia desertorum* in sandplain (S-RMNV6)

The total flora recorded within this vegetation community was represented by a total of 4 Families, 5 Genera and 9 Taxa (Plate 86). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 93. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 93: Vegetation assemblage for Regrowth open low woodland of *Eucalyptus gongylocarpa* over shrub Mallee *of E. concinnal E. youngiana* and dense hummock grass of *Triodia desertorum* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	2-10%	*Eucalyptus gongylocarpa*
Mallee Shrub form	30-70%	*Eucalyptus concinna* *Eucalyptus youngiana*
Hummock Grass	70-100%	*Triodia desertorum*

Plate 86: Regrowth open low woodland of *Eucalyptus gongylocarpa* over shrub Mallee *of E. concinnal E. youngiana* and dense hummock grass of *Triodia desertorum* in sandplain

4.3.83 Regrowth open shrub mallee of *Eucalyptus glomerosa* over heath of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain (S-RMNV7)

The total flora recorded within this vegetation community was represented by a total of 6 Families, 7 Genera and 10 Taxa (Plate 87). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 94. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 94: Vegetation assemblage for Regrowth open shrub mallee of *Eucalyptus glomerosa* over heath of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Mallee Shrub Form	10-30%	*Eucalyptus glomerosa*
Shrub 1-1.5m	30-70%	*Acacia desertorum* var. *desertorum* *Aluta maisonneuvei* subsp. *auriculata*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 87: Regrowth open shrub mallee of *Eucalyptus glomerosa* over heath of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain

4.3.84 Regrowth open low woodland of *Eucalyptus gongylocarpa/ Acacia caesaneura* over low heath of *Leptosema chambersii/ Newcastelia hexarrhena* in sandplain (S-RMNV8)

The total flora recorded within this vegetation community was represented by a total of 11 Families, 17 Genera and 19 Taxa (Plate 88). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 95. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 95: Vegetation assemblage for Regrowth open low woodland of *Eucalyptus gongylocarpa/ Acacia caesaneura* over low heath of *Leptosema chambersii/ Newcastelia hexarrhena* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	2-10%	*Eucalyptus gongylocarpa* *Acacia caesaneura*
Shrub 0.5-1m	30-70%	*Leptosema chambersii* *Newcastelia hexarrhena*

Plate 88: Regrowth open low woodland of *Eucalyptus gongylocarpa/ Acacia caesaneura* over low heath of *Leptosema chambersii/ Newcastelia hexarrhena* in sandplain

4.3.85 Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus glomerosa* and dense hummock grass of *Triodia basedowii* in sandplain (S-RMNV9)

The total flora recorded within this vegetation community was represented by a total of 4 Families, 4 Genera and 4 Taxa (Plate 89). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 96. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 96: Vegetation assemblage for Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus glomerosa* and dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	2-10%	*Eucalyptus gongylocarpa*
Mallee Shrub form	10-30%	*Eucalyptus glomerosa*
Hummock Grass	70-100%	*Triodia basedowii*

Plate 89: Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus glomerosa* and dense hummock grass of *Triodia basedowii* in sandplain

4.3.86 Regrowth open low woodland of *Acacia* sp. (sterile) over dense hummock grass of *Triodia basedowii* in sandplain (S-RMNV10)

The total flora recorded within this vegetation community was represented by a total of 7 Families, 9 Genera and 12 Taxa (Plate 90). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 97. According to the NVIS, this vegetation community is best represented by the MVG29- Regrowth, modified native vegetation (DotE, 2015b).

Table 97: Vegetation assemblage for Regrowth open low woodland of *Acacia* sp. (sterile) over dense hummock grass of *Triodia basedowii* in sandplain

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree <5m	2-10%	*Acacia* sp. (Sterile)
Hummock Grass	70-100%	*Triodia basedowii*

Plate 90: Regrowth open low woodland of *Acacia* sp. (sterile) over dense hummock grass of *Triodia basedowii* in sandplain

Sand Dune: Eucalypt Woodlands

4.3.87 Occasional *Eucalyptus gongylocarpa* over open low scrub of *Callitris columellaris/ Grevillea juncifolia/ Acacia ligulata/ Thryptomene biseriata/ Anthotroche pannosa* and mid-dense hummock grass of *Triodia basedowii/ T. desertorum* on sand dune (SD-EW1)

The total flora recorded within this vegetation community was represented by a total of 8 Families, 10 Genera and 12 Taxa (Plate 91). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 98. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 98: Vegetation assemblage for Occasional *Eucalyptus gongylocarpa* over open low scrub of *Callitris columellaris/ Grevillea juncifolia/ Acacia ligulata/ Thryptomene biseriata/ Anthotroche pannosa* and mid-dense hummock grass of *Triodia basedowii/ T. desertorum* on sand dune

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Eucalyptus gongylocarpa*
Shrub 1-1.5m	2-10%	*Callitris columellaris* *Grevillea juncifolia* *Acacia ligulata* *Thryptomene biseriata* *Anthotroche pannosa*
Hummock Grass	30-70%	*Triodia basedowii* *Triodia desertorum*

Plate 91: Occasional *Eucalyptus gongylocarpa* over open low scrub of *Callitris columellaris/ Grevillea juncifolia/ Acacia ligulata/ Thryptomene biseriata/ Anthotroche pannosa* and mid-dense hummock grass of *Triodia basedowii/ T. desertorum* on sand dune

Sand Dune: Eucalypt Woodlands/Mallee Woodlands and Shrublands

4.3.88 Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune (SD-EW/MWS1)

The total flora recorded within this vegetation community was represented by a total of 17 Families, 23 Genera and 32 Taxa (Plate 92). No Threatened Flora or Priority Flora taxa were identified within this vegetation community. No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 99. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 99: Vegetation assemblage for Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Eucalyptus gongylocarpa*
Mallee Tree Form	10-30%	*Eucalyptus youngiana*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 92: Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune

Sand Dune: Regrowth Modified Native Vegetation

4.3.89 Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune (SD-RMNV1)

The total flora recorded within this vegetation community was represented by a total of 17 Families, 24 Genera and 33 Taxa (Plate 93). No Threatened Flora taxa were identified within this vegetation community. One Priority Flora taxon was identified within this vegetation community; *Conospermum toddii* (P4). No introduced taxa were recorded within this vegetation community. Dominant taxa from the vegetation assemblage are shown in Table 100. According to the NVIS, this vegetation community is best represented by the MVG5- Eucalypt Woodlands and MVG14-Mallee Woodlands and Shrublands (DotE, 2015b).

Table 100: Vegetation assemblage for Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune

Life Form/Height Class	Canopy Cover	Dominant taxa present
Tree 5-15m	2-10%	*Eucalyptus gongylocarpa*
Mallee Tree Form	10-30%	*Eucalyptus youngiana*
Hummock Grass	30-70%	*Triodia basedowii*

Plate 93: Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune

4.4 Vegetation of Conservation Significance

No TEC pursuant to the EPBC Act or as listed by the DPaW are located within the Gas pipeline survey area (DotE, 2015a; DPaW, 2015c). The White Cliffs Road survey area intersects the 'Priority 1 Ecological Community' *Mount Morgan calcrete groundwater assemblage type on Carey palaeodrainage on Mt Weld Station*. The White Cliffs Road survey area is located in close proximity (~3km north) to Priority 3 Ecological Community *Mount Jumbo Range vegetation complex (banded ironstone formation).* There was no PEC as listed by DPaW located within the Midline survey area.

No Threatened Flora, pursuant to subsection (2) of section 23F of the WC Act and the EPBC Act were identified within the Gas Pipeline survey area. Two Priority Flora taxa as listed by the DPaW (2015b) were identified within the survey area; *Olearia arida* (P4) and *Conospermum toddii* (P4). Two Priority Flora taxa previously identified by BC (BC, 2014a) occur within close proximity (10-60m) to the White Cliffs Road survey area; *Calytrix warburtonensis* (P2) and *Thryptomene nealensis* (P3).

The Gas Pipeline survey area is not located within an ESA as listed under the EP Act. The White Cliffs Road survey area intersects two Schedule 1 Areas as described in Regulation 6 and Schedule 1, clause 4 of the EP Regulations; one centered on the abandoned Mt Morgan Mine and a section of the Old Laverton Road extending south-west of Mt Morgan; the second is centred on Laverton town site. The Midline survey area is not located within any Schedule 1 Areas. The Gas Pipeline survey area is not located within any conservation reserves managed by the DPaW or proposed reserves listed under the *EPA Red Books Recommended Conservation Reserves List 1976-1991.*

4.5 Vegetation Condition: White Cliffs Road survey area

Based on Keighery' s vegetation health rating scale (1994), the White Cliffs Road survey area has twenty-six vegetation communities (Table 101) that were rated as 'good', the Midline survey area has eleven vegetation communities rated as 'good' (Table 102). 'Good' vegetation depicts vegetation structures that have been significantly altered by very obvious signs of multiple disturbances, in this instance as a result of fire, exploration activities, grazing, vehicle access, historic clearing and introduced species; however it retains its basic structure and has capacity to regenerate (Appendix 6).

The White Cliffs Road survey area has twenty-eight vegetation communities (Table 101) that were rated as 'very good', the Midline survey area has twenty-three vegetation communities that were rated as 'very good' (Table 102) A 'very good' vegetation community which is defined as "*vegetation that is altered due to obvious signs of disturbance"* including exploration activities, fire and camel grazing; however the impacts on native vegetation within the survey area was minimal.

The Midline survey area has fourteen vegetation communities that were rated as 'Pristine' (Table 102). A Pristine vegetation community is defined as "*Pristine or nearly so, no obvious signs of disturbance*". A map of the health condition of the Gas Pipeline survey area is provided in Figure 10 and Figure 11.

One vegetation community (burnt dunefield) in the Midline survey area was rated as 'degraded' (Table 102). A degraded vegetation community is defined as "*Basic vegetation structure severely impacted by disturbance. There is scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing."* In

this instance the vegetation community has been affected by disturbance from frequent and recent fires (Plate 94).

Plate 94: Burnt dunefield within the Midline survey area

Table 101: Health Rating of Vegetation Communities within the White Cliffs Road survey area

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
Breakaway	Casuarina Forests and Woodlands/ Acacia Shrublands	Low woodland of *Casuarina pauper*/*Acacia incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea viscosa* and low heath of *Frankenia georgei/ Prostanthera wilkieana* on breakaway	B-CFW/AFW1	Very Good
Clay-Loam Plain	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura* over low scrub *Hakea preissii/ A. colletioides/ Atriplex bunburyana* and dwarf scrub *Maireana pyramidata* on clay-loam plain	CLP-AFW1	Good
		Low forest of *Acacia incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila latrobei* subsp. *glabra/ Senna artemisioides* subsp. x *artemisioides/ Eremophila jucunda* and dwarf scrub of *Eremophila forrestii* subsp. *forrestii* on clay-loam plain	CLP-AFW2	Good
		Low woodland of *Acacia caesaneura/ A. incurvaneura* over open low scrub of *Eremophila margarethae* and open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AFW4	Good
	Acacia Open Woodlands	Low woodland of *Acacia caesaneura*/*A. incurvaneura* over heath of *Eremophila latrobei* subsp. *filiformis/ Senna artemisioides* subsp. *x artemisioides* and low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AOW1	Very Good

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
		Open low woodland of *Acacia incurvaneura/ Hakea preissii* over low scrub *Eremophila pantonii/ Maireana pyramidata/ Maireana sedifolia/ Maireana glomerifolia* and dwarf scrub *Maireana triptera* on clay-loam plain	CLP-AOW2	Very Good
		Open low woodland of *Acacia aptaneura* over low scrub of *Eremophila pantonii, Atriplex bunburyana, Cratystylis subspinescens* and *Maireana pyramidata* on clay-loam plain	CLP-AOW3	Good
	Acacia Open Woodlands	Open low woodland of *Acacia ayersiana/ A. caesaneura* over low scrub of *A. ramulosa* var. *ramulosa/ A. tetragonophylla/ Eremophila* spp. and dwarf scrub of *Maireana triptera/ Solanum lasiophyllum/ Ptilotus obovatus* and open low grass of *Eragrostis eriopoda* in clay-loam plain	CLP-AOW4	Very Good
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Open tree mallee of *Eucalyptus lucasii/* Low woodland of *Acacia incurvaneura/ A. caesaneura* over heath of *Eremophila latrobei* subsp. *filiformis* and very open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-MWS/AFW1	Very Good
		Open tree mallee of *Eucalyptus youngiana/* Forest of *Acacia incurvaneura/A. mulganeura* over heath of *Eremophila forrestii* subsp. *forrestii* and dense low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-MWS/AFW2	Good
Drainage Depression	Acacia Open Woodlands	Open low woodland of *Acacia incurvaneura* over dwarf scrub of *Maireana pyramidata/* Low heath of *Frankenia georgei and Sclerolaena densiflora* in drainage depression	DD-AOW1	Good
		Open low woodland of *Acacia caesaneura/A. macraneura/A. ayersiana* over low scrub of *A. ramulosa* var. *ramulosa/Eremophila forrestii* subsp. *forrestii/ Eremophila margarethae/ Maireana triptera* and open low grass of *Eragrostis laniflora* in drainage depression	DD-AOW2	Good
		Open low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *A. craspedocarpa/ A. tetragonophylla/ Eremophila margarethae/ Atriplex bunburyana* and dwarf scrub of *Cratystylis subspinescens* in drainage depression	DD-AOW3	Good
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Very open tree mallee of *Eucalyptus lucasii/* Low forest of *Acacia burkittii/ A. incurvaneura/ A. caesaneura* over low scrub of *Eremophila latrobei* subsp. *latrobei/ Senna artemisioides* subsp. x *artemisioides* and dwarf scrub of *Eremophila gilesii/ Ptilotus obovatus* in drainage depression	DD-MWS/AFW1	Good
Quartz/Rocky Plain	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura/ A. caesaneura* over heath of *Scaevola spinescens*/ *Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain	QRP-AFW1	Very Good
		Low woodland of *Acacia incurvaneura* over heath of *Eremophila latrobei* subsp. *latrobei* and low heath of *Eremophila exilifolia* on quartz/rocky plain	QRP-AFW2	Good

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
		Low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *Eremophila abietina* subsp. *ciliata/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW3	Very Good
		Low woodland of *Acacia aptaneura/ A. caesaneura* over scrub of *A. burkittii/ Senna artemisioides* subsp. *filifolia* and low scrub of *Ptilotus obovatus*/ mid-dense hummock grass of *Triodia irritans* on quartz/rocky plain	QRP-AFW4	Very Good
		Low woodland of *Acacia burkittii* over low scrub of *Senna artemisioides* subsp. x *artemisioides* and mid-dense hummock grass of *Triodia irritans* on quartz/rocky plain	QRP-AFW5	Good
		Open low woodland of *Acacia caesaneura*/ open scrub of *Eremophila oldfieldii* subsp. *angustifolia* over low scrub of *A. burkittii/ Dodonaea lobulata* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW6	Very Good
		Low forest of *Acacia caesaneura/ A. quadrimarginea* over low scrub of *Senna artemisioides* subsp. *helmsii/ A. tetragonophylla/ A. burkittii/ Eremophila margarethae/ Ptilotus obovatus/ Solanum lasiophyllum* and dwarf scrub of *Maireana triptera* on quartz/rocky plain	QRP-AFW7	Good
		Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and dwarf scrub of *Ptilotus obovatus/* open low grass of *Eragrostis eriopoda* on quartz/rocky plain	QRP-AFW10	Very Good
	Acacia Open Woodlands	Open low woodland of *Acacia caesaneura* over low scrub of *Eremophila pantonii/ Ptilotus obovatus* and dwarf scrub of *Maireana triptera* on quartz/rocky plain	QRP-AOW1	Good
	Casuarina Forests and Woodlands	Low woodland of *Casuarina pauper* over heath of *Eremophila scoparia/ Senna artemisioides* subsp. x *artemisioides* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain	QRP-CFW1	Good
	Eucalypt Woodlands	Open low woodland of *Eucalyptus gypsophila* over low scrub of *Eremophila scoparia* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-EW1	Very Good
	Mallee Woodlands and Shrublands	Open shrub mallee of *Eucalyptus trichopoda* over open low scrub of *Eremophila pantonii* and dwarf scrub of *Tecticornia disarticulata* on quartz/rocky plain	QRP-MWS1	Good
Rocky Hillslope	Acacia Forests and Woodlands	Open low woodland of *Acacia quadrimarginea* over heath of *Eremophila abietina* subsp. *ciliata* and dwarf scrub of *Ptilotus obovatus* on rocky hillslope	RH-AFW1	Very Good
		Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Scaevola spinescens/ Senna cardiosperma* and dwarf scrub of *Ptilotus obovatus/ Sida* sp. Excedentifolia (J.L. Egan 1925) on rocky hillslope	RH-AFW2	Very Good

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
		Low Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Dodonaea rigida/ Senna* spp. and dwarf scrub of *Ptilotus obovatus* on Banded Ironstone Hill	RH-AFW3	Very Good
Sandplain	Acacia Forests and Woodlands	Low forest of *Acacia caesaneura/ A. incurvaneura* over dense hummock grass of *Triodia basedowii* in sandplain	S-AFW1	Good
		Low forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of mixed shrubs and dwarf scrub of *Eremophila gilesii/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW2	Good
		Forest of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa* and dense tall grass of *Eragrostis eriopoda* in sandplain.	S-AFW3	Good
		Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/ Eremophila forrestii* subsp. *forrestii* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW4	Very Good
		Low woodland of *Acacia aptaneura/ A. caesaneura/ A. incurvaneura* over open low scrub of *A. mulganeura/ Eremophila latrobei* subsp. *latrobei* and dense hummock grass of *Triodia irritans* in sandplain	S-AFW5	Very Good
		Low woodland of *Acacia aptaneura/ A. incurvaneura* over heath of *Cratystylis subspinescens* and dwarf scrub of *Frankenia setosa*/ mid-dense hummock grass of *Triodia irritans* in sandplain	S-AFW6	Very Good
		Forest of *Acacia caesaneura* over scrub of *A. ramulosa* var. *ramulosa/ Senna artemisioides* subsp. *filifolia* and low heath of *Ptilotus obovatus* in sandplain	S-AFW7	Very Good
		Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *Atriplex bunburyana*, *Scaevola spinescens, Acacia tetragonophylla, Hakea kippistiana* and low grass of *Aristida contorta* in sandplain	S-AFW8	Good
	Eucalypt Woodlands	Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia abrupta/ A. ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW1	Very Good
	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS1	Very Good
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Open tree mallee of *Eucalyptus trivalva*/ Low woodland of *Acacia craspedocarpa* over open low scrub of *A. desertorum* var. *desertorum/ A. ligulata* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS/AFW1	Very Good
		Very open tree mallee of *Eucalyptus youngiana/* Open low woodland of *Acacia caesaneura* over low scrub of *A. ligulata* and hummock grass of *Triodia basedowii* in sandplain	S-MWS/AFW2	Good

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
	Mallee Woodlands and Shrublands	Open tree mallee of *Eucalyptus youngiana/ E. trivalva* over heath of *Acacia abrupta* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS1	Very Good
		Open tree mallee of *Eucalyptus concinna/ E. youngiana* over heath of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS2	Good
		Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *filiformis* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS3	Very Good
		Open tree mallee of *Eucalyptus glomerosa/ E. youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia irritans* in sandplain	S-MWS4	Good
		Open tree mallee of *Eucalyptus youngiana* over heath of *Acacia desertorum* var. *desertorum/A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS5	Very Good
		Open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum* var. *desertorum* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS6	Very Good
		Tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS7	Very Good
		Open tree mallee of *Eucalyptus trivalva* over low scrub of *Acacia pachyacra/ Senna artemisioides* subsp. *filifolia* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS19	Very Good
	Regrowth, modified native vegetation	Regrowth open low scrub of *Acacia abrupta* over dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV1	Good
		Regrowth open tree mallee of *Eucalyptus youngiana* over low scrub of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-RMNV2	Good
		Regrowth low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV3	Good
		Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain	S-RMNV4	Good
Sand Dune	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune	SD-EW/MWS1	Very Good

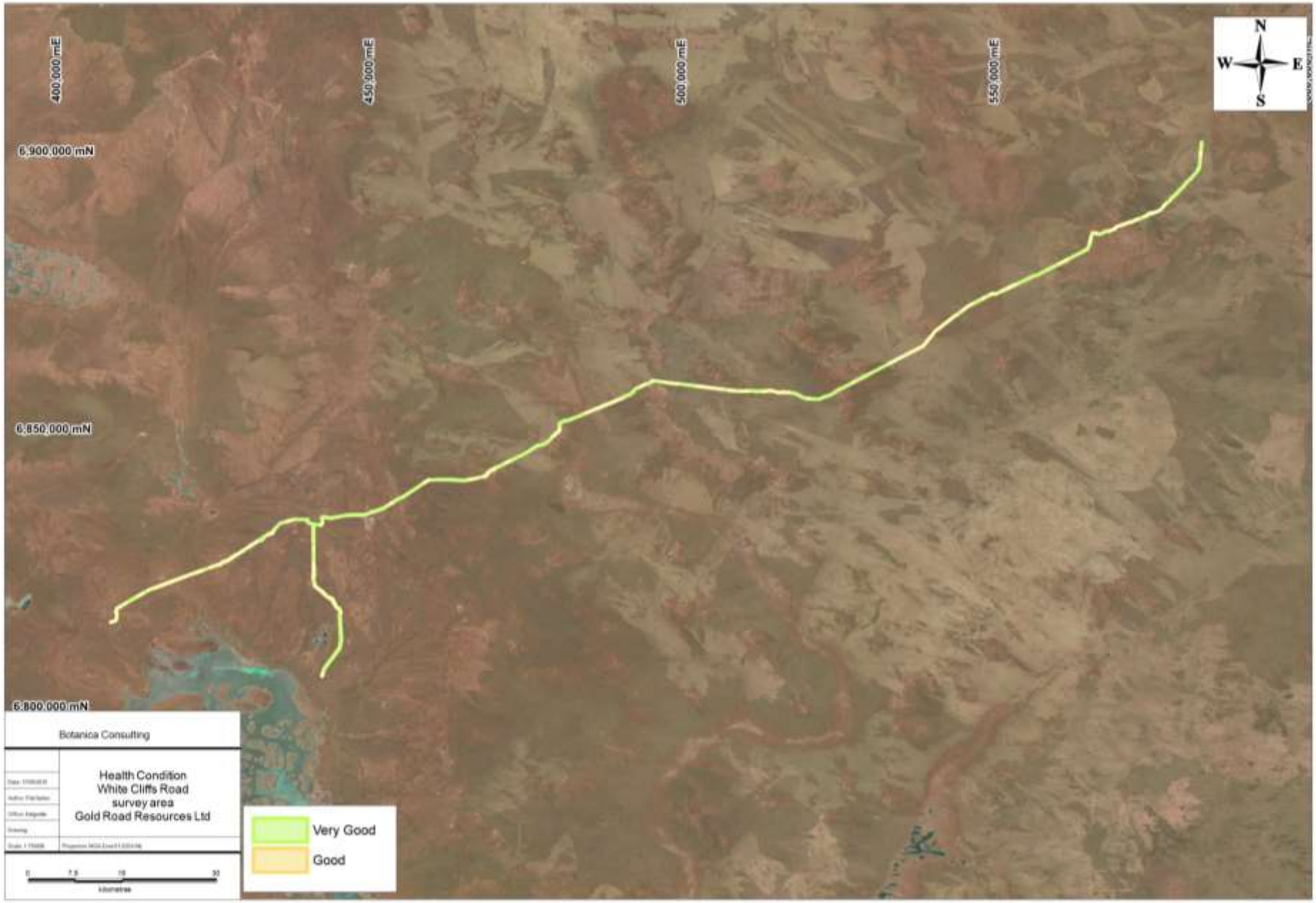

Figure 10: Health Condition of vegetation within the White Cliffs Road survey area

Table 102: Health Rating of Vegetation Communities within the Midline survey area

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
Breakaway	Casuarina Forests and Woodlands/ Acacia Shrublands	Low woodland of *Casuarina pauper*/*Acacia incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea viscosa* and low heath of *Frankenia georgei/ Prostanthera wilkieana* on breakaway	B-CFW/AFW1	Very Good
	Acacia Forests and Woodlands	Low woodland of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. quadrimarginea/ Dodonaea rigida/ Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Ptilotus obovatus* on breakaway	B-AFW1	Pristine
Clay-Loam Plain	Acacia Forests and Woodlands	Low woodland of *Acacia caesaneura/ Acacia incurvaneura* over low scrub of *Eremophila forrestii* subsp. *forrestii/ Eremophila latrobei* subsp. *latrobei* and low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-AFW3	Very Good
	Mallee Woodlands and Shrublands/ Acacia Forests and Woodlands	Open tree mallee of *Eucalyptus lucasii/* Low woodland of *Acacia incurvaneura/ A. caesaneura* over heath of *Eremophila latrobei* subsp. *filiformis* and very open low grass of *Eragrostis eriopoda* on clay-loam plain	CLP-MWS/AFW1	Very Good
Drainage Depression	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura/ Acacia caesaneura* over open low scrub of *Eremophila latrobei* subsp. *latrobei* and dwarf scrub of *Eremophila gilesii/ Eremophila malacoides* with occasional *Eragrostis eriopoda* in drainage depression	DD-AFW1	Very Good
		Low woodland of *Acacia incurvaneura/ Acacia quadrimarginea* over low scrub of *Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Eremophila malacoides* in drainage depression	DD-AFW2	Very Good
Closed Depression	Chenopod Shrublands, Samphire Shrublands and Forblands	Low heath of *Tecticornia halocnemoides/ T. indica* subsp. *bidens/ T. indica* subsp. *leiostachya* on playa	CD-CSSF1	Very Good
	Mallee Woodlands and Shrublands	Shrub mallee of *Eucalyptus horistes* over low woodland of *Acacia caesaneura* and open scrub of *Acacia rigens* over mid-dense hummock grass of *Triodia basedowii* on playa edge	CD-MWS1	Very Good
Quartz/Rocky Plain	Acacia Forests and Woodlands	Low woodland of *Acacia aptaneura/ A. caesaneura* over heath of *Scaevola spinescens/ Senna artemisioides* subsp. x *artemisioides/ Senna artemisioides* subsp. *helmsii* and low heath of *Ptilotus obovatus/ Maireana triptera* on quartz/rocky plain	QRP-AFW1	Very Good
		Low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *Eremophila abietina* subsp. *ciliata/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW3	Very Good
		Low forest of *Acacia incurvaneura/ Acacia caesaneura* over heath of mixed shrubs and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain	QRP-AFW8	Very Good
		Low forest of *Acacia caesaneura/A. incurvaneura* over low heath of *Eremophila gilesii* subsp. *variabilis* and mid-dense hummock grass of *Triodia irritans/* low grass of *Eragrostis eriopoda* on quartz-rocky plain	QRP-AFW9	Very Good
Rocky Hillslope	Acacia Forests and Woodlands	Low forest of *Acacia caesaneura* over low heath of *Eremophila latrobei* subsp. *latrobei/ Scaevola spinescens/ Senna* sp. Meekatharra (E. Bailey 1-26) and dwarf scrub of *Ptilotus obovatus* on rocky hillslope	RH-AFW4	Very Good
Sandplain	Acacia Forests and Woodlands	Low forest of *Acacia caesaneura*/ *A. incurvaneura* over dense hummock grass of *Triodia basedowii* in sandplain	S-AFW1	Good
	Eucalypt Woodlands	Low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia abrupta/ A. ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW1	Very Good

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
		Open low woodland of *Eucalyptus gongylocarpa* over heath of *Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW2	Pristine
	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS1	Very Good
		Low woodland of *Eucalyptus gongylocarpa* over open tree mallee of *Eucalyptus youngiana* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS2	Pristine
		Low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. concinna/ E. glomerosa* and scrub of *Callitris columellaris* over low heath of *Westringia cephalantha* and dense hummock grass of *Triodia desertorum* in sandplain	S-EW/MWS3	Very Good
		Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. comitae-vallis*/ low scrub of *Callitris columellaris* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS4	Pristine
		Low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana/* scrub of *Acacia pachyacra/ A. desertorum* var. *desertorum* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS5	Pristine
		Low woodland of *Eucalyptus gongylocarpa* with occasional *E. youngiana* over low scrub of *Acacia desertorum* var. *desertorum/ Callitris columellaris/ Hakea francisiana* and dense hummock grass of *Triodia basedowii* in sandplain	S-EW/MWS6	Pristine
	Heathlands	Dense heath of *Acacia desertorum* var. *desertorum* over low heath of *Melaleuca hamata/ M. leiocarpa* and dense hummock grass *Triodia desertorum/ T. basedowii* in sandplain	S-H1	Very Good
	Mallee Woodlands and Shrublands	Open tree mallee of *Eucalyptus youngiana/ E. trivalva* over heath of *Acacia abrupta* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS1	Very Good
		Open tree mallee of *Eucalyptus concinna/ E. youngiana* over heath of *Acacia desertorum* var. *desertorum/ A. grasbyi* and low heath of *Aluta maisonneuvei* subsp. *auriculata/* mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS2	Good
		Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *filiformis* and mid-dense hummock grass of *Triodia irritans* in sandplain	S-MWS3	Very Good
		Open tree mallee of *Eucalyptus youngiana* over dense hummock grass of *Triodia basedowii* in sandplain	S-MWS8	Very Good
		Open shrub mallee of *Eucalyptus youngiana* over low forest of *Acacia caesaneura/ A. incurvaneura* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS9	Very Good
		Open shrub mallee of *Eucalyptus comitae-vallis* over open low woodland of *Acacia caesaneura/ A. grasbyi* and dense hummock grass of *Triodia desertorum* in sandplain	S-MWS10	Very Good
		Open shrub mallee of *Eucalyptus concinna* over low scrub of *Scaevola spinescens* and dense hummock grass of *Triodia desertorum* in sandplain	S-MWS11	Very Good
		Open shrub mallee of *Eucalyptus glomerosa* over low scrub of *Acacia abrupta/ A. desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia desertorum* in sandplain	S-MWS12	Very Good
		Open Shrub Mallee of *Eucalyptus trivalva/ E. youngiana* over low woodland of *Acacia caesaneura/ A. rigens* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS13	Pristine

Landform	NVIS Vegetation Group	Vegetation Community	Code	Health
		Open tree mallee of *Eucalyptus concinna/ E. oleosa* subsp. *oleosa* over scrub of *Acacia caesaneura/ Eremophila pantonii/ Senna artemisioides* subsp. *filifolia* and dense hummock grass *Triodia basedowii* in sandplain	S-MWS14	Pristine
		Open shrub mallee of *Eucalyptus trivalva* over scrub of *Acacia desertorum* var. *desertorum* and dense hummock grass of *Triodia basedowii* in sandplain	S-MWS15	Pristine
		Open shrub mallee of *Eucalyptus youngiana* over scrub of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS16	Pristine
		Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata/ E. youngiana* over open scrub of *Callitris preissii* and dwarf scrub of *Aluta maisonneuvei* subsp. *auriculata/ Phebalium filifolium/* mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS17	Pristine
		Open Shrub Mallee of *Eucalyptus leptopoda* subsp. *elevata* over open scrub of *Acacia desertorum* var. *desertorum/ Callitris preissii* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-MWS18	Pristine
	Regrowth, modified native vegetation	Regrowth low woodland of *Eucalyptus gongylocarpa* over shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV3	Good
		Regrowth open tree mallee of *Eucalyptus trivalva* over very open shrub mallee of *E. youngiana* and low heath of *Alyogyne pinoniana/ Sida calyxhymenia* in sandplain	S-RMNV4	Good
		Regrowth low woodland of *Eucalyptus gongylocarpa* over heath of *Acacia ligulata* and dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV5	Good
		Regrowth open low woodland of *Eucalyptus gongylocarpa* over shrub Mallee of E. concinna/ *E. youngiana* and dense hummock grass of *Triodia desertorum* in sandplain	S-RMNV6	Good
		Regrowth open shrub mallee of *Eucalyptus glomerosa* over heath of *Acacia desertorum* var. *desertorum/ Aluta maisonneuvei* subsp. *auriculata* and mid-dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV7	Good
		Regrowth open low woodland of *Eucalyptus gongylocarpa/ Acacia caesaneura* over low heath of L*eptosema chambersii/ Newcastelia hexarrhena* in sandplain	S-RMNV8	Good
		Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus glomerosa* and dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV9	Good
		Regrowth open low woodland of *Acacia* sp. (sterile) over dense hummock grass of *Triodia basedowii* in sandplain	S-RMNV10	Good
Sand Dune	Eucalypt Woodlands	Occasional *Eucalyptus gongylocarpa* over open low scrub of *Callitris columellaris/ Grevillea juncifolia/ Acacia ligulata/ Thryptomene biseriata/ Anthotroche pannosa* and mid-dense hummock grass of *Triodia desertorum/T. basedowii* on sand dune	SD-EW1	Pristine
	Eucalypt Woodlands/Mallee Woodlands and Shrublands	Open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *E. youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune	SD-EW/MWS1	Pristine
	Regrowth, modified native vegetation	Regrowth open low woodland of *Eucalyptus gongylocarpa* over open shrub mallee of *Eucalyptus youngiana* and mid-dense hummock grass of *Triodia basedowii* on sand dune	SD-RMNV1	Good
Burnt Dunefield			BD	Degraded

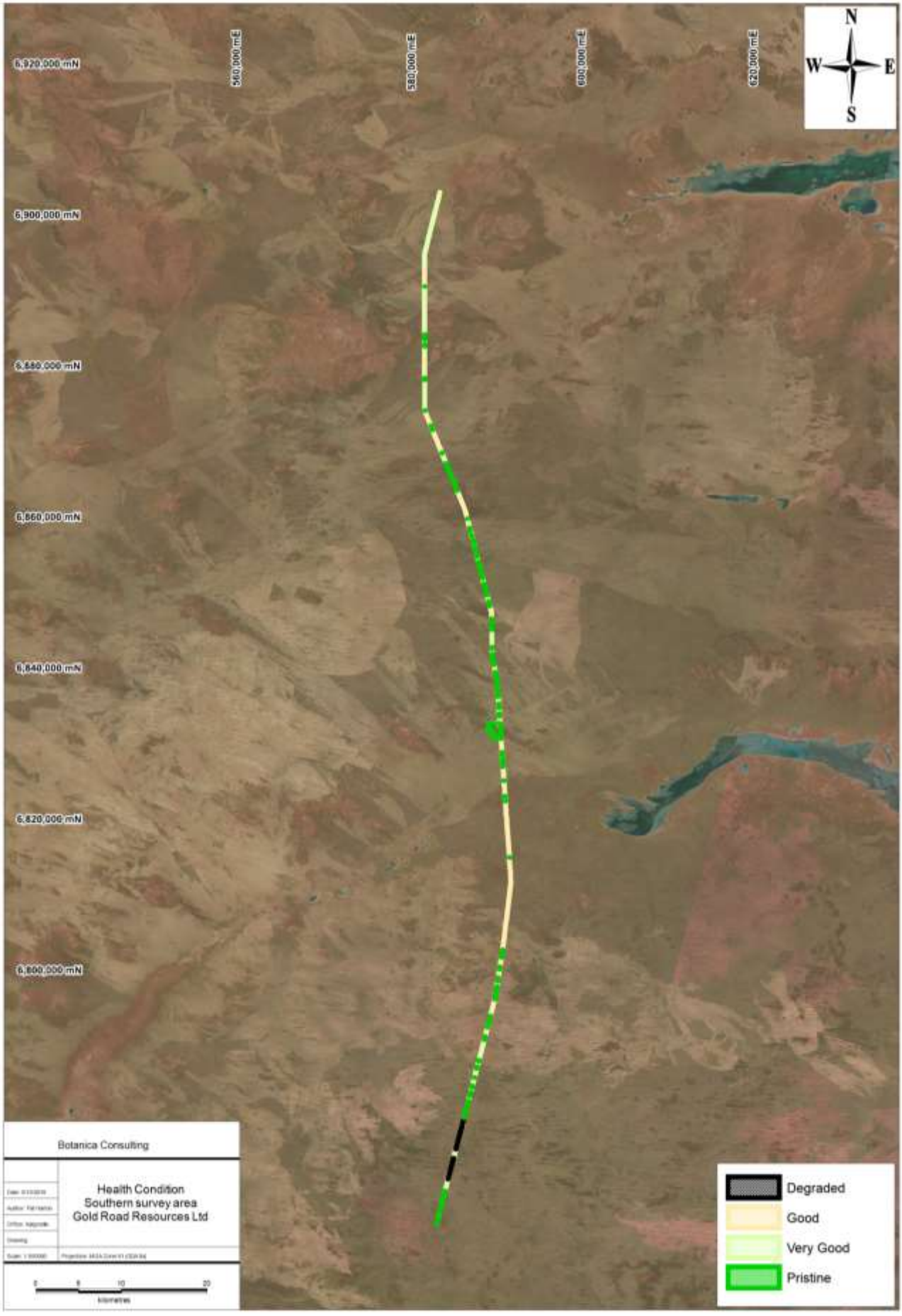

Figure 11: Health Condition of vegetation within the Midline survey area

4.6 Introduced Plant Taxa

Ten introduced taxa were identified within the White Cliffs Road survey area:

1. *Acetosa vesicaria* (Ruby Dock);
2. *Cenchrus ciliaris* (Buffel Grass);
3. *Centaurea melitensis* (Maltese Cockspur);
4. *Cucumis myriocarpus* (Paddy Melon);
5. *Lysimachia arvensis* (Pimpernel);
6. *Nicotiana glauca* (Tree Tobacco);
7. *Salvia verbenaca* (Wild Sage);
8. *Schinus molle* (Peppercorn Tree);
9. *Sonchus oleraceus* (Common Sowthistle); and
10. *Tamarix aphylla* (Athel Tree).

One introduced taxa were identified within the Midline survey area; *Cucumis myriocarpus* (Paddy Melon).

A map showing the locations of these introduced taxa is provided in Figure 12. According to the DAFWA one of these taxon *Tamarix aphylla* (Athel Tree) is listed as a Declared Plant under Section 22 of the BAM Act.

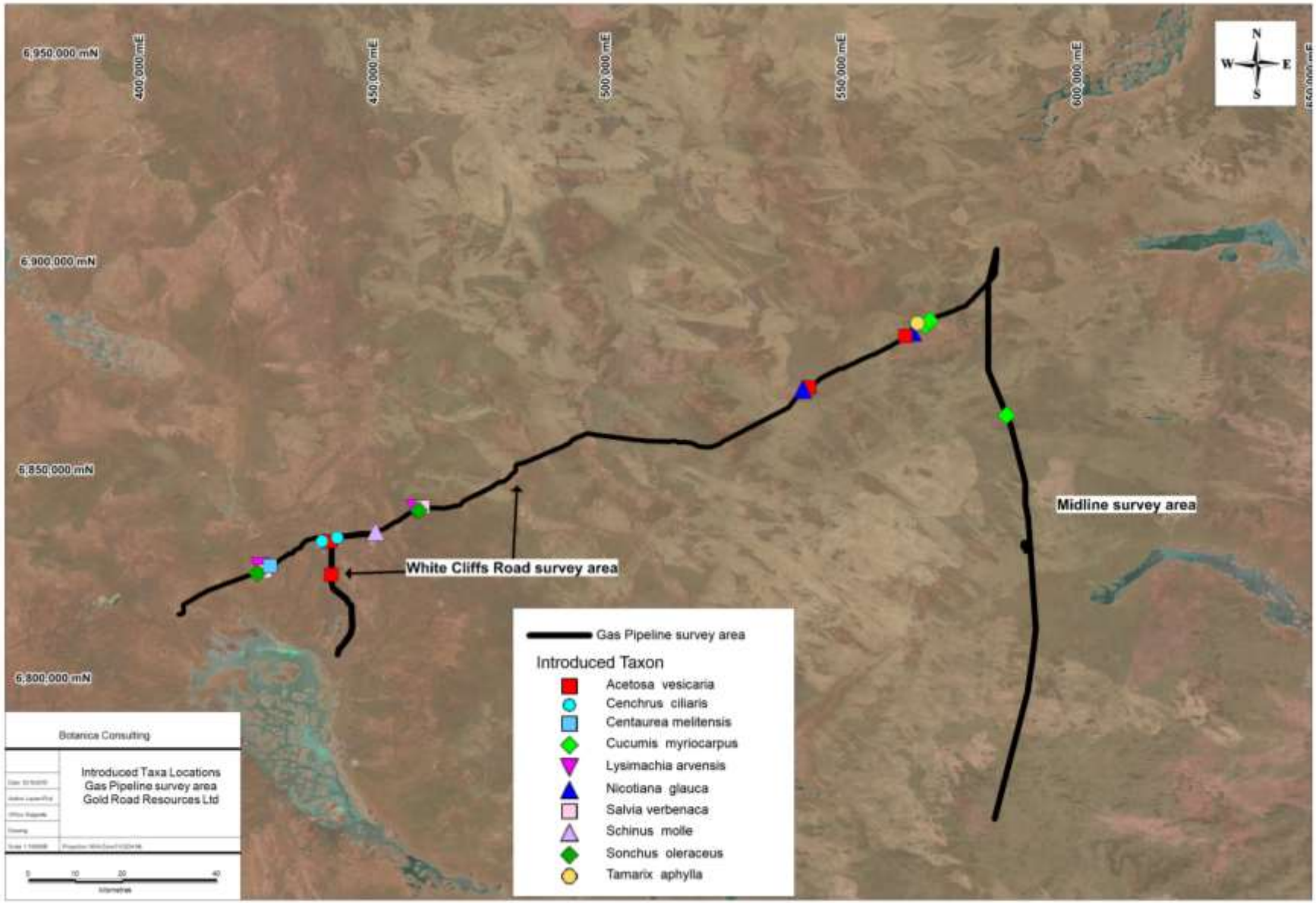

Figure 12: Location of Introduced Taxa identified within the Gas Pipeline survey area

4.6.1 *Acetosa vesicaria* (Ruby dock)

This taxon is described as an erect, stout, fleshy, hollow-stemmed, annual herb that can grow between 0.2 to 1m high (Plate 95). It has red-pink flowers from July to September. It grows in sandy alluvial soils and gravelly ironstone soils, it is found along roadsides and in disturbed areas (WAHERB, 2015). This taxon was identified at four locations listed below:

1. Along the Laverton town bypass road approximately 1.5km west of Laverton (51 J 441560 6832612) within Low Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/Dodonaea rigida/Senna* ssp. and dwarf scrub of *Ptilotus obovatus* on Banded Ironstone Hill (RH-AFW3);
2. Along the White Cliffs Road approximately 2km south of the Historic Yamarna Station/ Gold Road camp (51 J 565197 6882781) within Low woodland of *Acacia caesaneura/A. incurvaneura* over heath of *Eremophila latrobei* subsp. *filiformis/ Senna artemisioides* subsp. x *artemisioides* and low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-AOW1);
3. Along the White Cliffs Road approximately 27km south-west of historic Yamarna Station/ Gold Road camp (51 J 543161 6869636) within Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *filiformis* and mid-dense hummock grass of *Triodia irritans* in sandplain (S-AFW3); and
4. Along the Mt Weld Road approximately 8km south of Laverton (51 J 441854 6824552) within Open shrub mallee of *Eucalyptus trichopoda* over open low scrub of *Eremophila pantonii* and dwarf scrub of *Tecticornia disarticulata* on quartz/rocky plain (QRP-MWS1).

Plate 95: Image of *Acetosa vesicaria* (Ruby dock)

4.6.2 *Cenchrus ciliaris* (Buffel Grass)

This taxon is described as a tufted or sometimes stoloniferous perennial, grass-like or herbaceous plant which grows between 0.2-1.5 m high (Plate 96). It produces purple flowers from February to October. It occurs on white, red or brown sand, stony red loam, black cracking clay soils (WAHERB, 2015). This taxon was identified at five locations listed below:

1. Along the Laverton town bypass road approximately 1.5km west of Laverton (51 J 441560 6832612) within Low Forest of *Acacia caesaneura/ A. incurvaneura* over low scrub of *A. ramulosa* var. *ramulosa/Dodonaea rigida/Senna* ssp. and dwarf scrub of *Ptilotus obovatus* on Banded Ironstone Hill (RH-AFW3);
2. Along the White Cliffs Road approximately 1km north-east of Laverton (51 J 443107 6833493) within Open low woodland of *Acacia ayersiana/ A. caesaneura* over low scrub of *A. ramulosa* var. *ramulosa/ A. tetragonophylla/ Eremophila* spp. and dwarf scrub of *Maireana triptera/ Solanum lasiophyllum/ Ptilotus obovatus* and open low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-AOW4);
3. Near the historic Yamarna Station/current Gold Road Camp (51 J 566208 6884900) within Very open tree mallee of *Eucalyptus lucasii/* low forest of *Acacia burkittii/A. incurvaneura/ A. caesaneura* over low scrub of *Eremophila latrobei* subsp. *latrobei/ Senna artemisioides* subsp *artemisioides* and dwarf scrub of *Eremophila gilesii/Ptilotus obovatus* in drainage depression (DD-MWS/AFW1);
4. Approximately 700m south-west of Central Bore along the Gold Road site access road (51 J 568864 6885506) within Open low woodland of *Acacia incurvaneura* over dwarf scrub of *Maireana pyramidata*/low heath of *Frankenia georgei* and *Sclerolaena densiflora* in drainage depression (DD-AOW1); and
5. Along the White Cliffs Road approximately 20km east of Laverton (51 J 460190 6840654) within Very open tree mallee of *Eucalyptus youngiana*/forest of *Acacia incurvaneura/A. mulganeura/* heath of *Eremophila forrestii* subsp. *forrestii* and dense low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-MWS/AFW2).

Plate 96: *Cenchrus ciliaris* (Buffel Grass) (WAHERB, 2015)

4.6.3 *Centaurea melitensis* (Maltese Cockspur)

This taxon is described as an erect annual or biennial herb that can grow between 0.2-1m high (Plate 97). It has yellow flowers from September to December, or January to March. It is a weed of roadsides, cultivated areas and other disturbed areas (WAHERB, 2015). *Centaurea melitensis* was identified at one location along the White Cliffs Road approximately 15km south-west of Laverton (51 J 428878 6826556). This taxon was identified within Open Low Woodland of *Acacia caesaneura* over low scrub of *Eremophila pantonii/ Ptilotus obovatus* and dwarf scrub of *Maireana triptera* on quartz/rocky plain (QRP-AOW1).

Plate 97: *Centaurea melitensis* (Maltese Cockspur)

4.6.4 *Cucumis myriocarpus* (Prickly Paddy Melon)

This taxon is described as a prostrate, annual herb. It produces yellow flower from January to February, or April to May. It is found in disturbed areas (WAHERB, 2015) (Plate 98). This taxon was identified at four locations listed below:

1. Near the historic Yamarna Station/current Gold Road Camp (51 J 566208 6884900) within Very open tree mallee of *Eucalyptus lucasii*/ low forest of *Acacia burkittii/A. incurvaneura/ A. caesaneura* over low scrub of *Eremophila latrobei* subsp. *latrobei/ Senna artemisioides* subsp *artemisioides* and dwarf scrub of *Eremophila gilesii/Ptilotus obovatus* in drainage depression (DD-MWS/AFW1);
2. Approximately 700m south-west of Central Bore along the Gold Road site access road (51 J 568864 6885506) within Open low woodland of *Acacia incurvaneura* over dwarf scrub of *Maireana pyramidata*/low heath of *Frankenia georgei* and *Sclerolaena densiflora* in drainage depression (DD-AOW1);
3. Approximately 1km south-west of Central Bore along the Gold Road site access road (51 J 568438 6885324) within Low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *Eremophila abietina* subsp. *ciliata/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain (QRP-AFW3); and
4. Approximately 25km south of the Anne Beadell Highway (along Midline survey) (51 J 585017 6862648) within Low woodland of *Acacia aptaneura/ A. incurvaneura* over low scrub of *Eremophila abietina* subsp. *ciliata/ Senna artemisioides* subsp. *helmsii* and dwarf scrub of *Ptilotus obovatus* on quartz/rocky plain (QRP-AFW3).

Plate 98: Image of *Cucumis myriocarpus* (Prickly Paddy Melon)

4.6.5 *Lysimachia arvensis* (Blue Pimpernel)

No description is available for this taxon (Plate 99). *Lysimachia arvensis* was identified at two locations:

1. Along the White Cliffs Road approximately 20km east of Laverton (51 J 460190 6840654) within Very open tree mallee of *Eucalyptus youngiana*/forest of *Acacia incurvaneura/A. mulganeura*/ heath of *Eremophila forrestii* subsp. *forrestii* and dense low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-MWS/AFW2); and
2. Along the White Cliffs Road near the Hawks Nest Well approximately 16km south-west of Laverton (51 J 426933 6825222) within Open Woodland of *Acacia caesaneura/A. macraneura/A. ayersiana* over low scrub of *A. ramulosa* var. *ramulosa/Eremophila forrestii* subsp. *forrestii/ Eremophila margarethae*/ *Maireana triptera* and open low grass of *Eragrostis laniflora* in drainage line (DD-AOW2).

Plate 99: *Lysimachia arvensis* (Pimpernel)

4.6.6 *Nicotiana glauca* (Tobacco Plant)

This taxon is described as an erect, spindly shrub or tree, which grows between 1-6 m high. It produces yellow flowers from March to May or from August to December (Plate 100). It occurs on sand, clay or clay loam soils (WAHERB, 2015). *Nicotiana glauca* was recorded at two locations:

1. Along the White Cliffs Road approximately 2km south of the Historic Yamarna Station/ Gold Road camp (51 J 565197 6882781) within Low woodland of *Acacia caesaneura/A. incurvaneura* over heath of *Eremophila latrobei* subsp. *filiformis/ Senna artemisioides* subsp. x *artemisioides* and low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-AOW1); and
2. Along the White Cliffs Road approximately 27km south-west of historic Yamarna Station/ Gold Road camp (51 J 543161 6869636) within Open tree mallee of *Eucalyptus concinna* over low scrub of *Eremophila latrobei* subsp. *filiformis* and mid-dense hummock grass of *Triodia irritans* in sandplain (S-AFW3).

Plate 100: Image of *Nicotiana glauca*

4.6.7 *Salvia verbenaca* (Wild Sage)

This taxon is described as being a slight aromatic perennial herb that can grow between 0.1-1m high (Plate 101). It has blue-pink-purple flowers in April, or July to October. It is often found along roadsides (WAHERB, 2015). *Salvia verbenaca* was recorded at three locations:

1. Along the White Cliffs Road approximately 20km east of Laverton (51 J 460190 6840654) within Very open tree mallee of *Eucalyptus youngiana*/forest of *Acacia incurvaneura/A. mulganeura*/ heath of *Eremophila forrestii* subsp. *forrestii* and dense low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-MWS/AFW2); and
2. Along the White Cliffs Road near the Hawks Nest Well approximately 16km south-west of Laverton (51 J 426933 6825222) within Open Woodland of *Acacia caesaneura/A. macraneura/A. ayersiana* over low scrub of *A. ramulosa* var. *ramulosa/Eremophila forrestii* subsp. *forrestii/ Eremophila margarethae*/ *Maireana triptera* and open low grass of *Eragrostis laniflora* in drainage line (DD-AOW2).
3. Along the White Cliffs Road approximately 15km south-west of Laverton (51 J 428878 6826556) within Open Low Woodland of *Acacia caesaneura* over low scrub of *Eremophila pantonii/ Ptilotus obovatus* and dwarf scrub of *Maireana triptera* on quartz/rocky plain (QRP-AOW1).

Plate 101: *Salvia verbenaca* (Wild Sage)

4.6.8 *Schinus molle* (Peppercorn Tree)

This taxon is described as a tree that grows from 2 to 5m with a maximum height of eight meters (Plate 102). It produces white-cream flowers in April or July to October; it is often associated with red sandy-loam soils or alluvium and granite. *Schinus molle* is often found growing in or around old mine sites, rubbish tips, drainage lines and creek banks (WAHERB, 2015). *Schinus molle* was recorded at one location (51 J 451167 6834920) near the abandoned Barmicoat Mine approximately 8km east of Laverton. This taxon was identified within one vegetation community; Open Low Woodland to Woodland of *Acacia ayersiana/ A. caesaneura* over low scrub of *A. ramulosa* var. *ramulosa/ A. tetragonophylla/ Eremophila* spp./ *Maireana triptera/ Solanum lasiophyllum/ Ptilotus obovatus* and open low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-AOW4).

Plate 102: *Schinus molle* (Peppercorn Tree)

4.6.9 *Sonchus oleraceus* (Common Sowthistle)

This taxon is described as an erect annual, herbaceous plant which grows up to 1.5 m high (Plate 103). It produces yellow flowers from January to December and occurs on a variety of soils. It is commonly a weed of waste places and disturbed ground (WAHERB, 2015). This taxon was identified at two locations:

1. Along the White Cliffs Road approximately 20km east of Laverton (51 J 460190 6840654) within Very open tree mallee of *Eucalyptus youngiana*/forest of *Acacia incurvaneura/A. mulganeura/* heath of *Eremophila forrestii* subsp. *forrestii* and dense low grass of *Eragrostis eriopoda* on clay-loam plain (CLP-MWS/AFW2); and
2. Along the White Cliffs Road near the Hawks Nest Well approximately 16km south-west of Laverton (51 J 426933 6825222) within Open Woodland of *Acacia caesaneura/A. macraneura/A. ayersiana* over low scrub of *A. ramulosa* var. *ramulosa/Eremophila forrestii* subsp. *forrestii/ Eremophila margarethae/ Maireana triptera* and open low grass of *Eragrostis laniflora* in drainage line (DD-AOW2).

Plate 103: *Sonchus oleraceus* (Common Sowthistle)

4.6.10 *Tamarix aphylla* (Athel Tree)

This taxon is described as a tree, which grows up to 12 m high (Plate 104). It produces pink-white flowers in February or May. It commonly occurs along river banks (WAHERB, 2015). According to the DAFWA (2012) this species is a Priority 1 Declared Plant for the whole of the state and a weed of National Significance This taxon was identified at one location (51 J 566208 6884900) near the historic Yamarna Station/current Gold Road Camp within one vegetation community; Very open tree

mallee of *Eucalyptus lucasii/* low forest of *Acacia burkittii/A. incurvaneura/ A. caesaneura* over low scrub of *Eremophila latrobei* subsp. *latrobei/ Senna artemisioides* subsp *artemisioides* and dwarf scrub of *Eremophila gilesii/Ptilotus obovatus* in drainage depression (DD-MWS/AFW1). This area was highly disturbed as it is located near a pastoral watering point where camels were located.

Plate 104: Image of *Tamarix aphylla* (Athel tree) WAHERB, 2015

5 Relevant Legislation and Compliance with Recognised Standards

5.1 Commonwealth Legislation

Commonwealth *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*

The aim of this Act is to protect matters of national environmental significance, and is used by the Commonwealth Department of Sustainability, Environment, Water, Population and Communities (DSEWPC) to list threatened taxa and ecological communities into categories based on the criteria set out in the Act (www.environment.gov.au/epbc/index.html). The Act provides a national environmental assessment and approval system for proposed developments and enforces strict penalties for unauthorised actions that may affect matters of national environmental significance.

The survey area does not have national environmental significance under the EPBC Act. There are no TEC or Threatened Flora as listed under the EPBC Act identified within the survey area.

5.2 State Legislation

5.2.1 Clearing of Native Vegetation

Under Section 51C of the EP Act and the EP Regulations any clearing of native vegetation in Western Australia that is not eligible for exemption under Schedule 6 of the EP Act or under the EP Regulations requires a clearing permit from the DER or DMP. Under Section 51A of the EP Act native vegetation includes aquatic and terrestrial vegetation indigenous to Western Australia, and intentionally planted vegetation declared by regulation to be native vegetation, but not vegetation planted in a plantation or planted with commercial intent. Section 51A of the EP Act defines clearing as "*the killing or destruction of; the removal of; the severing or ringbarking of trunks or stems of; or the doing of substantial damage to some or all of the native vegetation in an area, including the flooding of land, the burning of vegetation, the grazing of stock or an act or activity that results in the above*".

Exemptions under Schedule 6 of the EP Act and the EP Regulations do not apply for clearing an area exceeding 10ha per tenement; clearing in ESA's as declared under Section 51B of the EP Act or within Schedule 1 Areas as described in Regulation 6 and Schedule 1, clause 4 of the EP Regulations.

The Gas Pipeline survey area is not located within an ESA, however Option 1, the White Cliffs Road survey area intersects two Schedule 1 Areas; one centred on the abandoned Mt Morgan Mine and a section of the Old Laverton Road extending south-west of Mt Morgan; the second is centred on Laverton town site (Appendix 1). As development of the project will require >10ha of clearing, a clearing permit is required.

5.2.2 Environmental Protection Act WA 1986

This Act pertains to the assessment of applications for clearing permits and aims to protect Declared Rare Flora and Threatened Ecological Communities from clearing. Threatened Ecological Communities are protected even where exemptions for a clearing permit may apply. The act enforces both financial and/or imprisonment penalties on those who unlawfully damage a TEC.

The survey area does not contain any TEC or Threatened Flora.

5.2.3 Wildlife Conservation Act WA 1950

This Act is used by the Western Australian DPaW to list flora taxa as being protected and the level of protection needed for such flora. Flora taxa are classified as 'Declared Rare Flora' when their populations are geographically restricted or are threatened by local processes. Under this Act all native flora (spermatophytes, Pteridophyta, bryophytes and thallophytes) are protected throughout the State. Financial penalties are enforced under this Act if threatened plant taxa are collected without an appropriate licence.

5.2.4 DPaW Priority lists

The DPaW lists 'Priority' flora taxa which are under consideration for declaration as Rare Flora. Taxa classed as Priority 1-3 are in urgent need of further survey, whereas Priority 4 taxa are considered to have been adequately surveyed but may become vulnerable or rare in future years. Priority 4 taxa are also taxa that have been removed from the threatened taxa list in the past 5 years. Priority 5 taxa are those taxa which are not currently threatened but are subject to a specific conservation program, the cessation of which would result in the taxon likely to become threatened within 5 years The DPaW also lists PECs, which identifies those communities that may need monitoring before possible nomination for TEC status. These priority taxa and communities have no formal legal protection until they are endorsed by the Minister as being Declared Rare Flora and TEC's respectively.

Results of the DPaW databases search (DPaW, 2014) revealed thirty-two flora of conservation significance within a 50km radius of the Gas Pipeline survey area, of which thirty-three had the potential to occur within the survey area. Two Priority Flora taxa were identified within the survey area; *Olearia arida* (P4) and *Conospermum toddii* (P4). Details on these taxa will be provided to DPaW to update their records. Two Priority Flora taxa previously identified by BC (BC, 2014a) occur within close proximity (10-60m) to the White Cliffs Road survey area; *Calytrix warburtonensis* (P2) and *Thryptomene nealensis* (P3). Location details for these taxa have been previously lodged with DPaW.

As shown in Appendix 1 the White Cliffs Road survey area intersects the 'Priority 1 Ecological Community' *Mount Morgan calcrete groundwater assemblage type on Carey palaeodrainage on Mt Weld Station*. The White Cliffs Road survey area is located in close proximity (~3km north) to Priority 3 Ecological Community *Mount Jumbo Range vegetation complex (banded ironstone formation).* No PEC as listed by DPaW was located within the Midline survey area.

5.3 EPA Position Statements

The EPA develops Position Statements to inform the public about environmental issues facing Western Australia, and the plans for the future to ensure protection and ecological sustainability of environmentally important ecosystems. It provides a set of principles to assist the public and decision-makers on their responsibilities for managing land with care. These principles also provide the basis for the Environmental Protection Authority to evaluate and report upon achieving environmental and ecological sustainability, and the protection of natural resources.

5.3.1 Position Statement No. 2

Environmental Protection of Native Vegetation in Western Australia (EPA 2000) outlines EPA policy on the protection of native vegetation in Western Australia, particularly in the agricultural area. It identifies basic elements that the EPA should consider when assessing proposals that impact on biological diversity. These include comparison of all proposal options; avoidance of taxa and community extinctions; an expectation that implementing the proposal will not take a vegetation

type below the "threshold level" of 30%; and that proponents should demonstrate that on- and off-site impacts can be managed.

The survey area does not contain any Threatened Flora or TEC suggesting that clearing within the area will meet the EPA standards outlined in Position statement No. 2. According to DAFWA (2011) the survey area occurs within the pre-European Beard vegetation associations Great Victoria Desert 18, 24, 84, 85, 239, 1239 & 1446 and Laverton 18 & 389 all of which retain approximately 98-100% of the original pre-European vegetation extent.

5.3.2 Position Statement No. 3

Terrestrial Biological Surveys as an Element of Biodiversity Protection establishes that the EPA has adopted the definition and principles of biological diversity as defined in the *National Strategy for the Conservation of Australia's Biological Diversity* (Commonwealth of Australia, 1996), and has stipulated the following requirements:

- The quality of information and scope of field surveys should meet standards, requirements and protocols as determined and published by the EPA; and
- The IBRA regionalisations should be used as the largest unit for Environmental Impact assessment (EIA) decision-making in relation to the conservation of biodiversity.

Pursuant to the IBRA regionalisation's, 26 bioregions in WA, which are affected by a range of different threatening processes and have varying levels of sensitivity to impact, have been identified. Terrestrial biological surveys should provide sufficient information to address both biodiversity conservation and ecological functional values within the context of proposals and the results of surveys should be publicly available.

The flora survey was planned and implemented as far as practicable according to the EPA Guidance Statement No. 51 *Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* (EPA, 2004). Also, the IBRA regionalisation's have been used in preparing the report to identify the conservation status of the area and identify the main threats to the biodiversity of plant taxa in the region.

5.1 Native Vegetation Clearing Principles

Based on the outcomes from the survey undertaken, as presented in this report, BC provides the following comments regarding the native vegetation clearing principles (relevant to vegetation only) listed under Schedule 5 of the EP Act (Table 103).

Table 103: Assessment of development within the Gas Pipeline survey area against native vegetation clearing principles

Letter	Principle	Assessment	Outcome
(a)	Native vegetation should not be cleared if it comprises a high level of biological diversity.	Vegetation identified within the survey area is not considered to be of high biological diversity, and is well represented outside of the proposed impact area.	Development within the Gas Pipeline survey area is unlikely to be at variance to this principle
(c)	Native vegetation should not be cleared if it includes, or is necessary for the continued existence of rare flora.	No Threatened Flora taxa, pursuant to subsection (2) of section 23F of the *Wildlife Conservation Act 1950* and the *EPBC Act 1999* were identified within the survey area	Development within the Gas Pipeline survey area is unlikely to be at variance to this principle
(d)	Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of a threatened ecological community (TEC).	No TEC listed under the *EPBC Act 1999* or by the DPaW occur within the survey area.	Development within the Gas Pipeline survey area is unlikely to be at variance to this principle
(e)	Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared	According to DAFWA (2011), the survey area occurs in pre-European Beard vegetation associations Great Victoria Desert 18, 24, 84, 85, 239, 1239 & 1446 and Laverton 18 & 389 in the Shield (GVD1), Central (GVD2) and Eastern Murchison (MUR1) subregions, all of which retain approximately 98-100% of the original vegetation extent.	Development within the Gas Pipeline survey area is unlikely to be at variance to this principle
(f)	Native vegetation should not be cleared if it is growing, in, or in association with, an environment associated with a watercourse or wetland	According to the Geoscience Australia GIS database a river/stream (non-perennial/intermittent) intersects the White Cliffs Road survey area at several points. A river/stream (non-perennial/intermittent) listed by Geoscience Australia intersects the Midline survey area at one point. The Midline gas pipeline route also intersects a small playa.	Development within the Gas Pipeline survey area may be at variance to this principle
(g)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	According to DAFWA (2011), the survey area occurs in pre-European Beard vegetation associations Great Victoria Desert 18, 24, 84, 85, 239, 1239 & 1446 and Laverton 18 & 389 in the Shield (GVD1), Central (GVD2) and Eastern Murchison (MUR1) subregions, all of which retain approximately 98-100% of the original vegetation extent. Clearing within these vegetation associations is not likely to lead to land degradation issues such as salinity, water logging or acidic soils.	Development within the Gas Pipeline survey area is unlikely to be at variance to this principle
(h)	Native vegetation should not be cleared if	The White Cliffs Road survey area Intersects the Priority 1 Ecological	Development within the

Letter	Principle	Assessment	Outcome
	the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	Community "*Mount Morgan calcrete groundwater assemblage type on Carey palaeodrainage on Mt Weld Station".* The White Cliffs Road survey area is also Located in close proximity (~3km north) to Priority 3 Ecological Community *Mount Jumbo Range vegetation complex (banded ironstone formation).* Development within the White Cliffs Road survey area is not expected to have significant impact on PEC's. No PEC as listed by DPaW is located within the Midline survey area.	Gas Pipeline survey area may be at variance to this principle

6 Conclusions and Recommendations

6.1 Conclusions

A summary of the findings of the flora and vegetation survey are provided in the Table 104 below.

Table 104: Summary of Level 1 Gas Pipeline Flora and Vegetation Survey findings

Environmental Aspect	White Cliffs Road Survey Area	Midline Survey Area
Vegetation Communities	Fifty-four vegetation communities. Eight different landform types and seven NVIS major vegetation groups. Total 54 Families, 133 Genera and 314 Taxa.	Forty-eight vegetation communities. Eight different landform types and nine NVIS major vegetation groups. Total of 53 Families, 123 Genera and 282 Taxa
Vegetation Condition	Ranged from good (fire, exploration, grazing, vehicle access, introduced species) to very good (fire, camel grazing). Majority good. Vegetation in various stages of fire regrowth (5 to 10+ years)	Ranged from degraded (completely burnt vegetation) to pristine (no access tracks, disturbance, invasive species etc.). Majority very good. Vegetation in various stages of fire regrowth (<6 months to 10+ years)
Threatened Flora Taxa	No	No
Priority Flora Taxa	*Olearia arida* (P4)[5]	*Olearia arida* (P4) and *Conospermum toddii* (P4)
Introduced Flora Taxa	1. *Acetosa vesicaria* (Ruby Dock) 2. *Cenchrus ciliaris* (Buffel Grass) 3. *Centaurea melitensis* (Maltese Cockspur) 4. *Cucumis myriocarpus* (Paddy Melon) 5. *Lysimachia arvensis* (Pimpernel) 6. *Nicotiana glauca* (Tree Tobacco) 7. *Salvia verbenaca* (Wild Sage) 8. *Schinus molle* (Peppercorn Tree) 9. *Sonchus oleraceus* (Common Sowthistle) 10. *Tamarix aphylla* (Athel Tree)	*1. Cucumis myriocarpus* (Prickly Paddy Melon)
Threatened Ecological Communities	No	No

[5] Two Priority Flora taxa previously identified by BC occur within close proximity (10-60m) to the White Cliffs Road survey area; *Calytrix warburtonensis* (P2) and *Thryptomene nealensis* (P3).

Environmental Aspect	White Cliffs Road Survey Area	Midline Survey Area
Priority Ecological Communities	Intesects Priority 1 Ecological Community *Mount Morgan calcrete groundwater assemblage type on Carey palaeodrainage on Mt Weld Station.* Located in close proximity (~3km north) to Priority 3 Ecological Community *Mount Jumbo Range vegetation complex (banded ironstone formation)*	No
Environmentally Sensitive Areas	No	No
Schedule 1 Areas	Area intersects two Schedule 1 Areas; 1. Centered on the abandoned Mt Morgan Mine and a section of the Old Laverton Road extending south-west of Mt Morgan. 2. Centred on Laverton town site	No
DPaW Managed Land	No	No

6.2 Recommendations

- Avoidance of disturbance to Priority Flora identified within the survey area. Should disturbance be unavoidable, an application to impact Priority Flora should be submitted to the Regional DPaW office.
- Implementation of a weed management plan during clearing operations to prevent further spread of weeds.
- Development of a vehicle hygiene management plan prior to coming and leaving the site.

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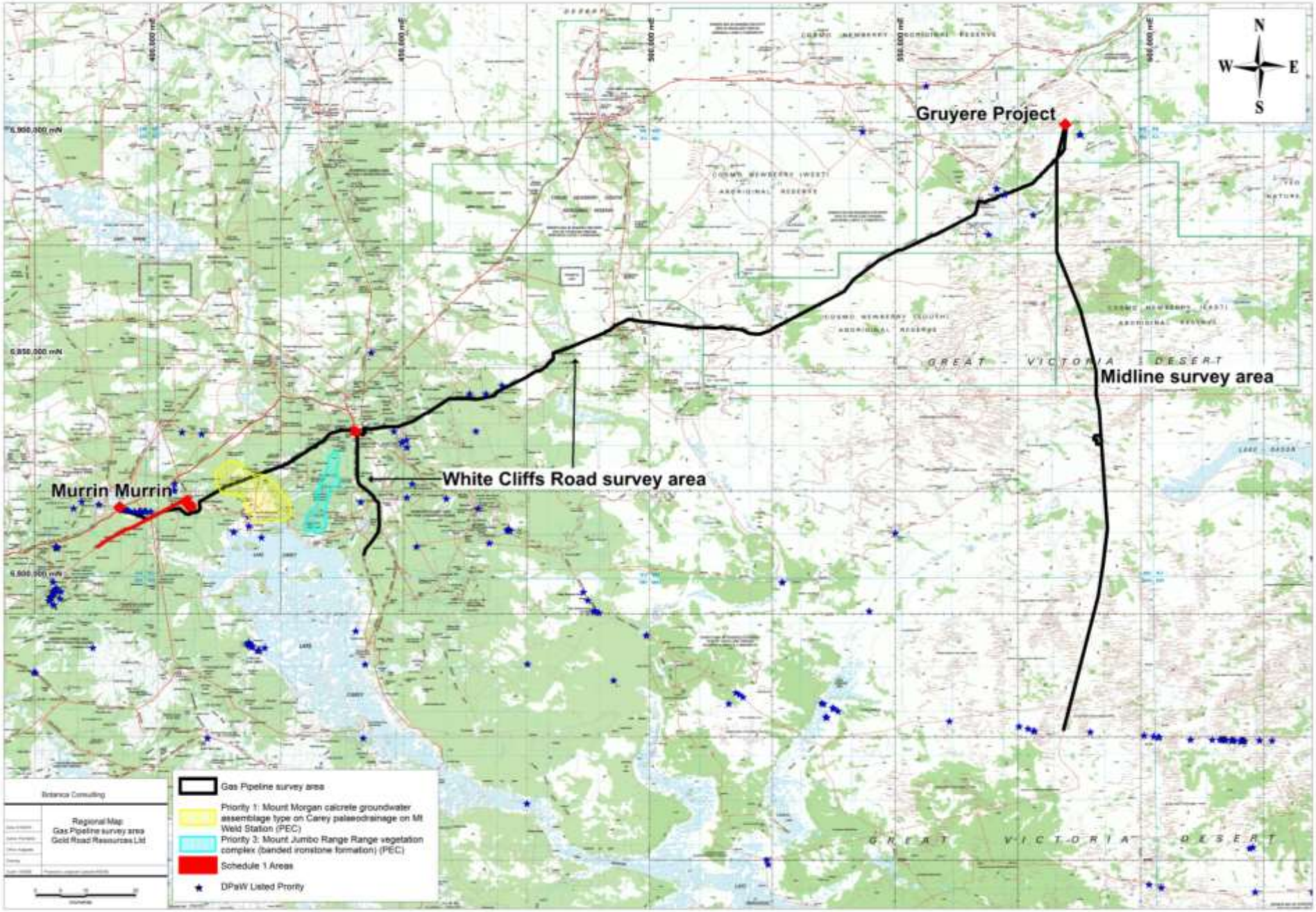
8 Appendices

Appendix 1: Regional map of the Gas Pipeline survey area including areas of conservation significance



Appendix 2: Vegetation maps of the Gas Pipeline survey area

Provided as a separate document.

Appendix 3: List of species identified within each vegetation community

(A) Denotes Annual species; (W) Denotes Introduced species; (P) Denotes Priority Flora as listed on Florabase (WAHERB, 2015)

White Cliffs Road Survey Area

Family	Genus	Taxon	B-CFW/AFW1	CLP-AFW1	CLP-AFW2	CLP-AFW4	CLP-AOW1	CLP-AOW2	CLP-AOW3	CLP-AOW4	CLP-MWS/AFW1	CLP-MWS/AFW2	DD-AOW1	DD-AOW2	DD-AOW3	DD-MWS/AFW1	QRP-AFW1	QRP-AFW2	QRP-AFW3	QRP-AFW4	QRP-AFW5	QRP-AFW6	QRP-AFW7	QRP-AFW10	QRP-AOW1	QRP-CFW1	QRP-EW1	QRP-MWS1	RH-AFW1	RH-AFW2	RH-AFW3	S-AFW1	S-AFW2	S-AFW3	S-AFW4	S-AFW5	S-AFW6	S-AFW7	S-AFW8	S-EW1	S-EW/MWS1	S-MWS/AFW1	S-MWS/AFW2	S-MWS1	S-MWS2	S-MWS3	S-MWS4	S-MWS5	S-MWS6	S-MWS7	S-MWS19	S-RMNV1	S-RMNV2	S-RMNV3	S-RMNV4	SD-EW/MWS1
Aizoaceae	*Disphyma*	*crassifolium*							*																																														
Aizoaceae	*Gunniopsis*	*quadrifida*							*																													*																			
Amaranthaceae	*Ptilotus*	*aervoides (A)*										*		*			*		*																																						
Amaranthaceae	*Ptilotus*	*chamaecladus (A)*					*																										*																							
Amaranthaceae	*Ptilotus*	*gaudichaudii (A)*							*							*																																								
Amaranthaceae	*Ptilotus*	*helipteroides (A)*											*			*	*					*					*		*	*							*																				
Amaranthaceae	*Ptilotus*	*macrocephalus (A)*					*								*																				*																							
Amaranthaceae	*Ptilotus*	*nobilis (A)*				*								*											*													*																	*	
Amaranthaceae	*Ptilotus*	*obovatus*	*			*		*	*		*	*	*	*		*	*	*	*	*		*	*	*	*	*	*		*	*	*		*			*	*	*	*			*									*				*	
Amaranthaceae	*Ptilotus*	*polystachyus (A)*					*																										*				*			*		*												*		
Amaranthaceae	*Ptilotus*	*schwartzii*			*	*						*		*				*					*			*	*																												
Amaranthaceae	*Ptilotus*	*albidus*													*																																										
Amaranthaceae	*Ptilotus*	*polystachyus (A)*																			*																																				
Amaranthaceae	*Ptilotus*	*helipteroides (A)*																	*																																						
Anacardiaceae	*Schinus*	*molle (W)*								*																																													
Apiaceae	*Daucus*	*glochidiatus (A)*									*																										*																			
Apocynaceae	*Marsdenia*	*australis (A)*								*		*		*	*													*							*					*																		
Araliaceae	*Trachymene*	*ornata (A)*															*																																								
Asparagaceae	*Lomandra*	*leucocephala* subsp. *robusta*																																																							*
Asparagaceae	*Thysanotus*	*manglesianus*					*										*																*																							
Asparagaceae	*Thysanotus*	sp. Eremaean (S. van Leeuwen 1067)															*																																								
Asteraceae	*Actinobole*	*uliginosum (A)*					*																										*																							
Asteraceae	*Brachyscome*	*ciliaris (A)*					*														*			*					*				*			*																						
Asteraceae	*Brachyscome*	*iberidifolia (A)*																						*																															
Asteraceae	*Calotis*	*multicaulis (A)*					*												*		*								*						*										*												
Asteraceae	*Centaurea*	*melitensis (W)*																							*																														
Asteraceae	*Cephalipterum*	*drummondii (A)*											*				*																																								
Asteraceae	*Chrysocephalum*	*puteale (A)*														*	*	*	*						*			*	*		*																									*
Asteraceae	*Cratystylis*	*subspinescens*						*	*				*		*																						*		*																	
Asteraceae	*Helipterum*	*craspedioides (A)*					*																										*																							
Asteraceae	*Lawrencella*	*davenportii (A)*					*																										*									*														
Asteraceae	*Olearia*	*arida (P4)*																																						*	*												*		
Asteraceae	*Olearia*	*muelleri*															*																																								
Asteraceae	*Olearia*	*stuartii*																																										*			*					*		
Asteraceae	*Podolepis*	*capillaris (A)*																*	*																*		*				*														
Asteraceae	*Rhodanthe*	*tietkensii (A)*											*			*																																										
Asteraceae	*Rhodanthe*	*charsleyae (A)*										*	*	*		*			*				*					*	*						*																				
Asteraceae	*Rhodanthe*	*chlorocephala* subsp. *rosea (A)*											*			*	*																	*																							
Asteraceae	*Sonchus*	*oleraceus (W)*										*		*																																											
Asteraceae	*Vittadinia*	*eremaea (A)*																										*																											
Asteraceae	*Waitzia*	*acuminata (A)*																																								*														
Boraginaceae	*Halgania*	*andromedifolia*														*																																										
Boraginaceae	*Halgania*	*cyanea* var. Allambi Stn (B.W. Strong 676)																																						*	*				*		*	*					*	*		
Boraginaceae	*Halgania*	*cyanea* var. *charleville*																																																		*				
Boraginaceae	*Halgania*	*integerrima*									*													*																*	*														*		

Boraginaceae	*Trichodesma*	*zeylanicum* (A)																																																					*
Brassicaceae	*Lepidium*	*platypetalum*										*		*																																									
Brassicaceae	*Lepidium*	*oxytrichum (A)*																	*																																				
Brassicaceae	*Menkea*	*sphaerocarpa (A)*					*																										*																						
Campanulaceae	*Isotoma*	*petraea (A)*	*																																																				
Casuarinaceae	*Allocasuarina*	*helmsii*																																													*							
Casuarinaceae	*Casuarina*	*pauper*	*																						*	*																													
Celastraceae	*Stackhousia*	*muricata* subsp. annual (W.R. Barker 2172) (A)																		*								*																											
Chenopodiaceae	*Atriplex*	*bunburyana*		*				*	*						*								*					*											*																	
Chenopodiaceae	*Atriplex*	*codonocarpa*																																		*																			
Chenopodiaceae	*Atriplex*	*vesicaria*	*																																	*																			
Chenopodiaceae	*Chenopodium*	*curvispicatum*														*																																							
Chenopodiaceae	*Dissocarpus*	*paradoxus*																				*																																	
Chenopodiaceae	*Dysphania*	*kalpari (A)*	*				*			*		*												*					*				*						*										*			*	*	
Chenopodiaceae	*Dysphania*	*melanocarpa (A)*							*										*	*																																			
Chenopodiaceae	*Enchylaena*	*tomentosa*																							*											*																			
Chenopodiaceae	*Enchylaena*	*lanata*										*		*																							*																	
Chenopodiaceae	*Maireana*	*brevifolia*							*				*																																										
Chenopodiaceae	*Maireana*	*carnosa*										*	*	*																																									
Chenopodiaceae	*Maireana*	*convexa*										*		*										*												*																			
Chenopodiaceae	*Maireana*	*georgei*	*			*		*	*			*		*			*		*	*	*	*	*		*		*			*								*												*				*	
Chenopodiaceae	*Maireana*	*glomerifolia*						*									*					*														*																			
Chenopodiaceae	*Maireana*	*integra*									*													*																															
Chenopodiaceae	*Maireana*	*planifolia*											*																																										
Chenopodiaceae	*Maireana*	*pyramidata*		*		*		*	*				*		*	*						*			*	*	*									*		*																	
Chenopodiaceae	*Maireana*	*sedifolia*		*		*		*	*																*											*																			
Chenopodiaceae	*Maireana*	*thesioides*										*		*																			*																						
Chenopodiaceae	*Maireana*	*trichoptera*																								*																													
Chenopodiaceae	*Maireana*	*triptera*				*		*				*	*	*		*	*	*					*		*	*	*	*			*							*	*												*					
Chenopodiaceae	*Maireana*	*platycarpa*											*						*	*		*																																	
Chenopodiaceae	*Rhagodia*	*eremaeum*					*				*	*								*			*	*									*	*				*	*																	
Chenopodiaceae	*Rhagodia*	*preissii* subsp. *preissii*																																					*	*												*			
Chenopodiaceae	*Rhagodia*	*eremaea*				*						*		*											*																														
Chenopodiaceae	*Salsola*	*australis* (A)										*		*		*													*																										
Chenopodiaceae	*Sclerolaena*	*cuneata*				*		*								*							*		*																														
Chenopodiaceae	*Sclerolaena*	*densiflora*				*						*	*	*		*	*								*			*									*																		
Chenopodiaceae	*Sclerolaena*	*diacantha*						*				*	*	*						*		*		*		*	*																												
Chenopodiaceae	*Sclerolaena*	*eriacantha*										*		*																																									
Chenopodiaceae	*Sclerolaena*	*eurotioides*							*								*																																						
Chenopodiaceae	*Sclerolaena*	*fimbriolata*							*								*																																						
Chenopodiaceae	*Sclerolaena*	*parviflora*																				*																									*							*	
Chenopodiaceae	*Sclerolaena*	*patenticuspis*															*																																						
Chenopodiaceae	*Tecticornia*	*disarticulata*							*				*									*						*																											
Cleomaceae	*Cleome*	*viscosa (A)*												*																																									
Colchicaceae	*Wurmbea*	*deserticola*																						*															*	*							*					*		
Convolvulaceae	*Bonamia*	*erecta*																																					*	*							*	*	*				*		
Cucurbitaceae	*Cucumis*	*myriocarpus (W)*											*			*			*																																				
Cupressaceae	*Callitris*	*preissii*																																					*	*												*		*
Cupressaceae	*Callitris*	*columellaris*	*																																																				
Cyperaceae	*Caustis*	*dioica*	*								*							*						*																															
Cyperaceae	*Cyperus*	*iria (A)*																																																*				
Ericaceae	*Leucopogon*	*?cuneifolius*																																					*	*												*		
Euphorbiaceae	*Euphorbia*	*tannensis (A)*												*																																								*
Euphorbiaceae	*Euphorbia*	*drummondii (A)*										*		*														*																					*				*	
Fabaceae	*Acacia*	*abrupta*																																					*	*			*	*	*		*				*	*	*		
Fabaceae	*Acacia*	*aptaneura*		*		*			*	*		*		*	*		*		*	*				*	*				*				*	*	*	*			*										*						
Fabaceae	*Acacia*	*assimilis*																		*																													*	*				*	
Fabaceae	*Acacia*	*ayersiana*			*															*																		*																	
Fabaceae	*Acacia*	*burkittii*				*	*					*		*		*	*			*	*	*	*		*					*				*			*	*				*								*					
Fabaceae	*Acacia*	*caesaneura*	*			*	*			*	*	*		*		*	*		*	*		*	*	*	*	*				*	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*		*		*	*		*	*		
Fabaceae	*Acacia*	*colletioides*		*																																																	*	
Fabaceae	*Acacia*	*craspedocarpa*			*							*	*	*	*	*		*						*																*												*		

Fabaceae	*Acacia*	*cuthbertsonii*														*				*	*								*	*												*				*		*								
Fabaceae	*Acacia*	*desertorum* var. *desertorum*																																						*	*	*	*		*			*	*				*	*		
Fabaceae	*Acacia*	*duriuscula*	*																							*																														
Fabaceae	*Acacia*	*effusifolia*														*																										*													
Fabaceae	*Acacia*	*erinacea*										*		*																																										
Fabaceae	*Acacia*	*exocarpoides*	*																																																					
Fabaceae	*Acacia*	*grasbyi*																																										*			*					*			
Fabaceae	*Acacia*	*incurvaneura*	*		*	*	*	*		*	*	*	*	*	*	*	*	*	*					*	*	*	*		*	*	*	*	*	*	*	*	*	*	*	*	*					*	*							*	*	
Fabaceae	*Acacia*	*jennerae*																																				*	*							*						*		
Fabaceae	*Acacia*	*kempeana*				*																*			*																													
Fabaceae	*Acacia*	*ligulata*																		*												*								*	*	*	*	*			*		*	*	*			*		*
Fabaceae	*Acacia*	*mulganeura*										*																																												
Fabaceae	*Acacia*	*murrayana*																																		*					*							*						*	*	*
Fabaceae	*Acacia*	*oswaldii*						*																						*																										
Fabaceae	*Acacia*	*pachyacra*																																						*													*		
Fabaceae	*Acacia*	*pteraneura*				*																			*																															
Fabaceae	*Acacia*	*quadrimarginea*	*								*	*		*		*		*					*	*					*	*																	*									
Fabaceae	*Acacia*	*ramulosa* var. *ramulosa*			*	*	*			*														*	*					*	*		*	*	*	*		*													*					
Fabaceae	*Acacia*	*stowardii*																																										*			*					*			
Fabaceae	*Acacia*	*tetragonophylla*				*				*	*	*		*	*	*	*	*	*	*			*	*	*	*			*				*				*	*	*			*										*				
Fabaceae	*Acacia*	*victoriae*		*		*			*			*		*											*														*																	
Fabaceae	*Daviesia*	*purpurascens*																																																				*
Fabaceae	*Indigofera*	*georgei*																																							*													
Fabaceae	*Kennedia*	*prorepens*										*																																												
Fabaceae	*Leptosema*	*chambersii*																													*								*	*		*	*	*			*	*	*		*	*	*	*	
Fabaceae	*Mirbelia*	*microphylla*	*																																																					
Fabaceae	*Senna*	*artemisioides* subsp. *filifolia*		*		*		*	*			*	*	*			*			*		*		*	*	*		*									*	*	*	*	*										*	*		*		*
Fabaceae	*Senna*	*artemisioides* subsp. *helmsii*						*	*			*		*			*	*	*				*				*		*		*																									
Fabaceae	*Senna*	*artemisioides* subsp. x *artemisioides*			*		*					*		*		*	*	*		*	*					*	*			*		*	*	*								*								*						
Fabaceae	*Senna*	*cardiosperma*																												*	*							*																		
Fabaceae	*Senna*	*pleurocarpa* var. *angustifolia*				*						*		*											*																															
Fabaceae	*Swainsona*	*kingii (A)*					*						*																*					*				*					*								*				*	
Fabaceae	*Templetonia*	*egena*															*			*	*																																		
Frankeniaceae	*Frankenia*	*georgei*	*										*				*											*									*																			
Frankeniaceae	*Frankenia*	*interioris*																								*																													
Frankeniaceae	*Frankenia*	*setosa*						*	*																			*									*		*																	
Geraniaceae	*Erodium*	*crinitum*					*										*		*								*							*																						
Goodeniaceae	*Brunonia*	*australis (A)*					*					*		*																				*								*									*				
Goodeniaceae	*Goodenia*	*centralis (A)*																														*																				*				
Goodeniaceae	*Goodenia*	*macroplectra (A)*										*					*				*	*																*																		
Goodeniaceae	*Goodenia*	*mimuloides (A)*																																													*								
Goodeniaceae	*Goodenia*	*ramelii*																																																				*
Goodeniaceae	*Goodenia*	*xanthosperma*																													*								*	*				*			*	*				*	*		
Goodeniaceae	*Goodenia*	*peacockiana (A)*											*						*								*		*																											
Goodeniaceae	*Scaevola*	*basedowii*																																						*													*		
Goodeniaceae	*Scaevola*	*parvifolia*																								*													*	*				*	*		*					*	*		
Goodeniaceae	*Scaevola*	*spinescens*	*			*	*	*		*	*						*	*				*	*	*	*	*	*	*		*	*		*	*				*	*	*																
Goodeniaceae	*Velleia*	*connata (A)*															*					*		*																		*													
Goodeniaceae	*Velleia*	*rosea (A)*					*			*																				*				*																						
Gyrostemonaceae	*Codonocarpus*	*cotinifolius*																																							*	*					*							
Gyrostemonaceae	*Gyrostemon*	*ramulosus*																																						*													*		*
Haloragaceae	*Glischrocaryon*	*aureum*																																				*	*													*		
Haloragaceae	*Haloragis*	*odontocarpa (A)*					*				*													*										*	*							*					*							
Haloragaceae	*Haloragis*	*trigonocarpa (A)*					*														*													*																					
Hemerocallidaceae	*Corynotheca*	*micrantha* var. *divaricata*																																																				*
Hemerocallidaceae	*Dianella*	*revoluta*								*		*		*																																	*	*						
Lamiaceae	*Dicrastylis*	*doranii*																													*								*	*				*	*		*					*	*		
Lamiaceae	*Dicrastylis*	*exsuccosa*																																							*						*	*					*	

Lamiaceae	*Dicrastylis*	*sessilifolia*																																					*	*				*			*					*	*		
Lamiaceae	*Microcorys*	*macrediana*																												*									*							*						*		
Lamiaceae	*Prostanthera*	*campbellii*									*							*						*									*																						
Lamiaceae	*Prostanthera*	*prostantheroides*	*																																																					
Lamiaceae	*Prostanthera*	*wilkieana*																																											*					*				
Lamiaceae	*Salvia*	*verbenaca (W)*										*		*											*																														
Lamiaceae	*Spartothamnella*	*teucriiflora*								*		*											*	*									*		*			*		*							*									
Lamiaceae	*Westringia*	*rigida*																			*																																			
Loranthaceae	*Amyema*	*gibberula* var. *tatei*						*																																																
Loranthaceae	*Amyema*	*fitzgeraldii*										*		*																						*																		
Loranthaceae	*Amyema*	*miquelii*																																		*			*	*												*		
Malvaceae	*Abutilon*	*otocarpum*											*			*																*						*																*
Malvaceae	*Abutilon*	*cryptopetalum*																																												*								
Malvaceae	*Alyogyne*	*pinoniana*																																					*	*	*	*			*				*				*	*	*
Malvaceae	*Androcalva*	*cuneata*																																															*				*	
Malvaceae	*Androcalva*	*loxophylla*																																									*			*					*			
Malvaceae	*Androcalva*	*luteiflora*																																												*								
Malvaceae	*Brachychiton*	*gregorii*										*		*									*	*														*				*						*							
Malvaceae	*Commersonia*	*craurophylla*																																												*	*							
Malvaceae	*Hibiscus*	*burtonii*																																					*	*			*									*		
Malvaceae	*Hibiscus*	sp.(sterile)																									*																											
Malvaceae	*Keraudrenia*	*integrifolia*																																												*								
Malvaceae	*Keraudrenia*	*prorepens*																																						*				*			*			*		*		
Malvaceae	*Keraudrenia*	*velutina*																	*											*										*		*			*					*		*		*
Malvaceae	*Sida*	*calyxhymenia*	*								*						*		*					*		*	*	*	*				*					*		*	*											*		
Malvaceae	*Sida*	*cardiophylla*																																																			*	
Malvaceae	*Sida*	*intricata*											*																																									
Malvaceae	*Sida*	sp. Excedentifolia (J.L. Egan 1925)	*			*		*			*	*	*	*		*	*	*					*	*	*	*				*			*				*	*													*				
Malvaceae	*Sida*	sp. Golden calyces glabrous (H.N. Foote 32)										*																																												
Malvaceae	*Sida*	*arenicola*																											*																										
Malvaceae	*Sida*	sp. spiciform panicles (E. Leyland s.n. 14/8/90)																																																			*	
Malvaceae	*Sida*	*spodochroma*														*												*																											
Myrtaceae	*Aluta*	*maisonneuvei* subsp. *auriculata*																																					*	*			*			*	*			*	*	*		*
Myrtaceae	*Baeckea*	sp. Great Victoria Desert (A.S. Weston 14813)																																													*							
Myrtaceae	*Cryptandra*	*connata*								*																																												
Myrtaceae	*Eucalyptus*	*camaldulensis*														*																																						
Myrtaceae	*Eucalyptus*	*clelandii*																								*																												
Myrtaceae	*Eucalyptus*	*comitae-vallis*																																												*			*					
Myrtaceae	*Eucalyptus*	*concinna*																	*																				*			*	*	*	*	*	*	*	*		*	*	*	
Myrtaceae	*Eucalyptus*	*eremicola*										*		*																									*									*				*		
Myrtaceae	*Eucalyptus*	*ewartiana*																													*		*																					
Myrtaceae	*Eucalyptus*	*glomerosa*																																				*	*						*							*		*
Myrtaceae	*Eucalyptus*	*gongylocarpa*																																				*	*	*	*	*	*	*		*		*			*	*		*
Myrtaceae	*Eucalyptus*	*gypsophila*																							*																													
Myrtaceae	*Eucalyptus*	*horistes*																																															*					
Myrtaceae	*Eucalyptus*	*hypolaena*																																											*									
Myrtaceae	*Eucalyptus*	*kingsmillii*																					*																															
Myrtaceae	*Eucalyptus*	*leptopoda* subsp. *elevata*																																								*	*			*	*				*			*
Myrtaceae	*Eucalyptus*	*lucasii*					*				*	*				*	*	*			*			*						*		*	*	*				*					*			*	*								
Myrtaceae	*Eucalyptus*	*rigidula*																												*																								*
Myrtaceae	*Eucalyptus*	*trichopoda*																									*																											
Myrtaceae	*Eucalyptus*	*trivalva*																															*					*	*	*		*						*	*			*	*	
Myrtaceae	*Eucalyptus*	*youngiana*										*											*							*	*			*				*	*	*	*	*	*	*	*	*	*	*			*	*	*	*
Myrtaceae	*Melaleuca*	*leiocarpa*																	*																																			

Myrtaceae	*Micromyrtus*	*flaviflora*																																					*	*							*				*		*		
Nyctaginaceae	*Boerhavia*	*coccinea*					*				*					*								*										*																							
Oleaceae	*Jasminum*	*didymum* subsp. *lineare*																																		*		*	*													*		
Pittosporaceae	*Pittosporum*	*angustifolium*		*		*			*															*	*			*													*			*										*		*
Poaceae	*Aristida*	*contorta* (A)				*	*	*				*	*	*		*	*		*							*	*					*			*					*																	
Poaceae	*Aristida*	*holathera* (A)																																						*				*			*					*	*		
Poaceae	*Austrostipa*	*nitida*																		*																																			
Poaceae	*Cenchrus*	*ciliaris* (W)								*		*		*		*															*																										
Poaceae	*Chloris*	*truncata*							*	*																													*																		
Poaceae	*Cymbopogon*	*ambiguus*																																								*													
Poaceae	*Ennapogon*	*caerulescens*							*								*																																						
Poaceae	*Enneapogon*	*avenaceus* (A)												*																																									
Poaceae	*Enneapogon*	*caerulescens*	*			*						*		*		*		*								*						*																										
Poaceae	*Enteropogon*	*ramosus*											*																																									
Poaceae	*Eragrostis*	*dielsii* (A)																																		*																			
Poaceae	*Eragrostis*	*eriopoda*				*	*			*	*	*		*		*	*	*						*	*			*			*		*	*			*			*		*				*	*				*	*			*	
Poaceae	*Eragrostis*	*kennedyae*														*			*							*																													
Poaceae	*Eragrostis*	*lanipes*																									*																											
Poaceae	*Eriachne*	*flaccida*					*																										*																						
Poaceae	*Eriachne*	*mucronata*	*																																																				
Poaceae	*Eriachne*	*pulchella* (A)																*								*											*																			
Poaceae	*Monachather*	*paradoxus*	*									*																														*													
Poaceae	*Paspalidium*	*clementii* (A)												*																																									
Poaceae	*Themeda*	*triandra*										*		*																																									
Poaceae	*Triodia*	*basedowii*								*																						*								*	*	*	*	*			*	*		*		*		*	*	*
Poaceae	*Triodia*	*irritans*					*													*	*												*	*	*	*	*	*		*	*						*	*	*		*		*	*		
Polygonaceae	*Acetosa*	*vesicaria* (W)					*									*												*			*			*																						
Portulacaceae	*Calandrinia*	*translucens*										*																																											
Portulacaceae	*Calandrinia*	*eremaea* (A)								*		*		*																																									
Portulacaceae	*Caladenia*	*polychroma*																										*														*													
Portulacaceae	*Calandrinia*	sp. sterile (A)																*																																					
Portulacaceae	*Calandrinia*	*polyandra* (A)															*							*						*																			*							
Primulaceae	*Lysimachia*	*arvensis* (W)										*		*																																									
Proteaceae	*Grevillea*	*acacioides*																																								*									*				*
Proteaceae	*Grevillea*	*acuaria*							*	*																																													
Proteaceae	*Grevillea*	*berryana*			*							*		*										*							*																									
Proteaceae	*Grevillea*	*juncifolia* subsp. *juncifolia*																																						*			*					*			*		*		*
Proteaceae	*Grevillea*	*nematophylla* subsp. *supraplana*																																										*			*					*			
Proteaceae	*Grevillea*	*pterosperma*																																				*	*						*							*		*
Proteaceae	*Hakea*	*francisiana*																																				*	*			*					*					*		*
Proteaceae	*Hakea*	*kippistiana*		*		*		*	*																	*														*																		
Proteaceae	*Hakea*	*lorea*					*									*																*		*									*						*			*				
Proteaceae	*Hakea*	*preissii*											*																								*																			
Pteridaceae	*Cheilanthes*	*sieberi* subsp. *sieberi*	*								*					*		*						*		*						*																*									
Rubiaceae	*Psydrax*	*latifolia*	*				*					*		*		*		*													*	*	*	*		*		*							*			*			*		*			
Santalaceae	*Anthobolus*	*leptomerioides*									*													*									*																							
Santalaceae	*Exocarpos*	*aphyllus*																									*										*				*							*						*		
Santalaceae	*Exocarpos*	*sparteus*																																				*	*		*					*	*	*		*		*		*
Santalaceae	*Santalum*	*acuminatum*																																			*																	
Santalaceae	*Santalum*	*lanceolatum*						*				*		*										*																										*						
Santalaceae	*Santalum*	*spicatum*	*				*		*			*		*		*	*					*		*		*	*							*			*	*																		
Sapindaceae	*Dodonaea*	*lobulata* subsp. *lobulata*																				*								*																										
Sapindaceae	*Dodonaea*	*rigida*																				*								*	*							*																		
Sapindaceae	*Dodonaea*	*viscosa* subsp. *angustissima*	*																																			*					*													*
Scrophulariaceae	*Eremophila*	*abietina* subsp. *ciliata*																	*										*	*																										
Scrophulariaceae	*Eremophila*	*alternifolia*							*												*																		*																		
Scrophulariaceae	*Eremophila*	*clarkei*								*		*		*						*				*			*			*									*																		*
Scrophulariaceae	*Eremophila*	*compacta* subsp. *compacta*																																		*																			
Scrophulariaceae	*Eremophila*	*exilifolia*																*												*																										

e																																																								
Scrophulariaceae	*Eremophila*	*forrestii* subsp. *forrestii*			*					*	*	*		*						*			*	*						*					*	*		*		*	*			*	*		*	*	*				*	*		*
Scrophulariaceae	*Eremophila*	*georgei*																								*																														
Scrophulariaceae	*Eremophila*	*gilesii*					*									*		*															*	*																						
Scrophulariaceae	*Eremophila*	*gilesii* subsp. *variabilis*					*			*	*													*					*					*									*													
Scrophulariaceae	*Eremophila*	*glabra*							*													*															*		*		*	*						*			*			*		
Scrophulariaceae	*Eremophila*	*glutinosa*													*																																									
Scrophulariaceae	*Eremophila*	*homoplastica*									*							*						*						*		*			*																					
Scrophulariaceae	*Eremophila*	*jucunda*			*																			*													*	*													*				*	
Scrophulariaceae	*Eremophila*	*latrobei* subsp. *filiformis*									*													*									*												*	*						*	*			
Scrophulariaceae	*Eremophila*	*latrobei* subsp. *glabra*			*							*																														*						*		*	*					
Scrophulariaceae	*Eremophila*	*latrobei* subsp. *latrobei*	*				*			*		*		*		*	*	*	*		*					*			*	*		*	*	*	*	*				*			*													
Scrophulariaceae	*Eremophila*	*longifolia*						*												*			*														*	*								*			*	*					*	
Scrophulariaceae	*Eremophila*	*maculata*																																			*																			
Scrophulariaceae	*Eremophila*	*margarethae*			*	*				*		*		*	*								*	*													*	*													*				*	
Scrophulariaceae	*Eremophila*	*miniata*																					*																																	
Scrophulariaceae	*Eremophila*	*oldfieldii* subsp. *angustifolia*				*		*					*			*	*					*			*	*	*			*																										
Scrophulariaceae	*Eremophila*	*paisleyi* subsp. *paisleyi*										*		*																																										
Scrophulariaceae	*Eremophila*	*pantonii*				*		*														*			*			*									*																			
Scrophulariaceae	*Eremophila*	*platythamnos* subsp. *platythamnos*															*																							*	*	*	*											*		*
Scrophulariaceae	*Eremophila*	*pustulata*																												*																										
Scrophulariaceae	*Eremophila*	*scoparia*															*									*	*																													
Scrophulariaceae	*Eremophila*	*serrulata*											*		*	*	*			*				*		*																														
Scrophulariaceae	*Eremophila*	*spectabilis*																																				*																		
Solanaceae	*Anthotroche*	*pannosa*																																					*	*								*	*					*		
Solanaceae	*Lycium*	*australe*		*																																																				
Solanaceae	*Nicotiana*	*glauca (W)*					*																											*																						
Solanaceae	*Solanum*	*austropiceum*																											*																											
Solanaceae	*Solanum*	*centrale*									*													*								*								*	*											*		*		
Solanaceae	*Solanum*	*ferocissimum*																*																																						
Solanaceae	*Solanum*	*lasiophyllum*	*		*	*		*	*		*	*	*	*		*	*	*	*	*			*	*	*	*	*		*	*	*	*	*			*	*	*	*	*	*		*			*				*	*	*		*	*	
Solanaceae	*Solanum*	*nummularium*																																															*					*	
Solanaceae	*Solanum*	*orbiculatum*					*					*					*			*-												*		*									*			*			*	*		*				
Solanaceae	*Solanum*	*plicatile*										*		*																																										
Tamaricaceae	*Tamarix*	*aphylla (W)*														*																																								
Thymelaeaceae	*Pimelea*	*microcephala*															*																																							
Thymelaeaceae	*Pimelea*	*trichostachya (A)*																											*																											
Zygophyllaceae	*Zygophyllum*	*eremaeum* (A)																	*	*	*	*					*	*																												

Midline Survey Area

Family	Genus	Taxon	B-CFW/AFW1	B-AFW1	CLP-AFW3	CLP-MWS/AFW1	DD-AFW1	DD-AFW2	CD-CSSF1	CD-MWS1	QRP-AFW1	QRP-AFW3	QRP-AFW8	QRP-AFW9	RH-AFW4	S-AFW1	S-EW1	S-EW2	S-EW/MWS1	S-EW/MWS2	S-EW/MWS3	S-EW/MWS4	S-EW/MWS5	S-EW/MWS6	S-H1	S-MWS1	S-MWS2	S-MWS3	S-MWS8	S-MWS9	S-MWS10	S-MWS11	S-MWS12	S-MWS13	S-MWS14	S-MWS15	S-MWS16	S-MWS17	S-MWS18	S-RMNV3	S-RMNV4	S-RMNV5	S-RMNV6	S-RMNV7	S-RMNV8	S-RMNV9	S-RMNV10	SD-EW1	SD-EW/MWS1	SD-RMNV1
Amaranthaceae	*Ptilotus*	*aervoides (A)*			*		*	*			*	*																																					
Amaranthaceae	*Ptilotus*	*chamaecladus (A)*					*																																									
Amaranthaceae	*Ptilotus*	*gaudichaudii (A)*					*	*																																								
Amaranthaceae	*Ptilotus*	*helipteroides (A)*		*							*		*	*	*															*																		
Amaranthaceae	*Ptilotus*	*nobilis (A)*																																							*								
Amaranthaceae	*Ptilotus*	*obovatus*	*	*	*	*	*	*			*	*	*		*														*	*											*								
Amaranthaceae	*Ptilotus*	*polystachyus (A)*																	*																					*										
Amaranthaceae	*Ptilotus*	*schwartzii*											*																																					
Amaranthaceae	*Ptilous*	*helipteroides (A)*										*																																					
Apiaceae	*Daucus*	*glochidiatus (A)*				*				*																																							
Apocynaceae	*Marsdenia*	*australis (A)*			*								*																																				
Araliaceae	*Trachymene*	*ornata (A)*									*																																					
Asparagaceae	*Lomandra*	*leucocephala* subsp. *robusta*																						*																							*		*	*
Asparagaceae	*Thysanotus*	*manglesianus*									*				*																																		
Asparagaceae	*Thysanotus*	sp. Eremaean (S. van Leeuwen 1067)									*																																						
Asteraceae	*Brachyscome*	*ciliaris (A)*		*	*		*	*					*																																			
Asteraceae	*Calotis*	*multicaulis (A)*			*			*				*																																				
Asteraceae	*Cephalipterum*	*drummondii (A)*									*																																					
Asteraceae	*Chrysocephalum*	*puteale (A)*		*			*	*			*	*	*			*														*															*		*	*
Asteraceae	*Helipterum*	*craspedioides (A)*					*																																									
Asteraceae	*Lawrencella*	*davenportii (A)*												*																																			
Asteraceae	*Leucochrysum*	*fitzgibbonii (A)*					*								*																																		
Asteraceae	*Olearia*	*arida (P4)*															*																									*								
Asteraceae	*Olearia*	*muelleri*									*																																					
Asteraceae	*Olearia*	*pimelioides*								*																																						
Asteraceae	*Olearia*	*stuartii*																			*						*																						
Asteraceae	*Podolepis*	*capillaris (A)*							*			*	*	*																																		
Asteraceae	*Rhodanthe*	*chlorocephala* subsp. *splendida (A)*						*																																								
Asteraceae	*Rhodanthe*	*charsleyae (A)*					*	*				*	*																																		
Asteraceae	*Rhodanthe*	*chlorocephala* subsp. *rosea (A)*					*				*			*																																		
Boraginaceae	*Halgania*	*cyanea* var. Allambi Stn (B.W. Strong 676)																	*	*	*	*					*														*		*						
Boraginaceae	*Halgania*	*cyanea* var. *charleville*																											*																				
Boraginaceae	*Halgania*	*integerrima*				*													*		*		*			*							*	*							*		*						
Boraginaceae	*Trichodesma*	*zeylanicum (A)*																																														*	*
Brassicaceae	*Lepidium*	*phlebopetalum (A)*					*	*					*																																				
Brassicaceae	*Lepidium*	*oxytrichum (A)*					*	*				*	*																																			
Campanulaceae	*Isotoma*	*petraea (A)*	*	*																																													
Campanulaceae	*Wahlenbergia*	*tumidifructa (A)*					*	*																																								
Casuarinaceae	*Casuarina*	*pauper*	*	*																																												
Celastraceae	*Stackhousia*	*muricata* subsp. annual (W.R. Barker 2172) (A)					*																																									
Chenopodiaceae	*Atriplex*	*vesicaria*	*	*			*		*																																						
Chenopodiaceae	*Dysphania*	*kalpari (A)*	*	*				*	*										*																						*	*							
Chenopodiaceae	*Dysphania*	*melanocarpa (A)*						*				*																																				
Chenopodiaceae	*Enchylaena*	*tomentosa*								*			*																																			
Chenopodiaceae	*Enchylaena*	*lanata*					*	*																																								
Chenopodiaceae	*Maireana*	*brevifolia*					*																																									
Chenopodiaceae	*Maireana*	*georgei*	*	*			*				*	*	*		*																												*						
Chenopodiaceae	*Maireana*	*glomerifolia*									*		*																																				
Chenopodiaceae	*Maireana*	*integra*				*																																										
Chenopodiaceae	*Maireana*	*planifolia*					*																							*																		
Chenopodiaceae	*Maireana*	*pyramidata*					*																																									
Chenopodiaceae	*Maireana*	*thesioides*			*		*	*					*																																			

Family	Genus	Taxon	B-CFW/AFW1	B-AFW1	CLP-AFW3	CLP-MWS/AFW1	DD-AFW1	DD-AFW2	CD-CSSF1	CD-MWS1	QRP-AFW1	QRP-AFW3	QRP-AFW8	QRP-AFW9	RH-AFW4	S-AFW1	S-EW1	S-EW2	S-EW/MWS1	S-EW/MWS2	S-EW/MWS3	S-EW/MWS4	S-EW/MWS5	S-EW/MWS6	S-H1	S-MWS1	S-MWS2	S-MWS3	S-MWS8	S-MWS9	S-MWS10	S-MWS11	S-MWS12	S-MWS13	S-MWS14	S-MWS15	S-MWS16	S-MWS17	S-MWS18	S-RMNV3	S-RMNV4	S-RMNV5	S-RMNV6	S-RMNV7	S-RMNV8	S-RMNV9	S-RMNV10	SD-EW1	SD-EW/MWS1	SD-RMNV1
Chenopodiaceae	*Maireana*	*triptera*					*	*			*		*		*																																		
Chenopodiaceae	*Maireana*	*platycarpa*										*																																						
Chenopodiaceae	*Rhagodia*	*eremaea*				*	*			*																																						
Chenopodiaceae	*Rhagodia*	*preissii* subsp. *preissii*															*		*																						*									
Chenopodiaceae	*Rhagodia*	*eremaea*						*					*																																				
Chenopodiaceae	*Sclerolaena*	*cuneata*							*						*																																		
Chenopodiaceae	*Sclerolaena*	*densiflora*					*				*		*																																				
Chenopodiaceae	*Sclerolaena*	*diacantha*					*																																										
Chenopodiaceae	*Sclerolaena*	*eurotioides*									*																																						
Chenopodiaceae	*Sclerolaena*	*fimbriolata*									*																																						
Chenopodiaceae	*Sclerolaena*	*parviflora*													*																																			
Chenopodiaceae	*Sclerolaena*	*patenticuspis*									*																																						
Chenopodiaceae	*Tecticornia*	*disarticulata*					*		*																																								
Chenopodiaceae	*Tecticornia*	*halocnemoides*							*																																								
Chenopodiaceae	*Tecticornia*	*indica* subsp. *bidens*							*																																								
Chenopodiaceae	*Tecticornia*	*indica* subsp. *leiostachya*							*																																								
Colchicaceae	*Wurmbea*	*deserticola*															*		*										*												*		*							
Convolvulaceae	*Bonamia*	*erecta*															*		*	*																					*		*							
Cucurbitaceae	*Cucumis*	*myriocarpus (W)*										*																																						
Cupressaceae	*Callitris*	*preissii*															*		*			*										*	*			*		*	*	*			*			*	*	*
Cupressaceae	*Callitris*	*columellaris*	*	*																	*	*	*	*												*			*						*			
Cyperaceae	*Caustis*	*dioica*	*	*		*																														*			*						*			
Cyperaceae	*Cyperus*	*iria (A)*					*																																										
Cyperaceae	*Fimbristylis*	*dichotoma*			*																																											
Cyperaceae	*Chrysitrix*	*distigmatosa*																*					*																									
Ericaceae	*Leucopogon*	*?cuneifolius*															*		*																						*								
Euphorbiaceae	*Beyeria*	*sulcata* var. *sulcata*																			*	*												*			*		*	*								
Euphorbiaceae	*Euphorbia*	*tannensis (A)*					*						*																																			*	*
Euphorbiaceae	*Euphorbia*	*drummondii (A)*		*	*		*	*																																									
Fabaceae	*Acacia*	*abrupta*															*		*		*			*		*	*	*	*				*							*								
Fabaceae	*Acacia*	*aptaneura*		*			*				*	*					*																		*													
Fabaceae	*Acacia*	*ayersiana*																																													*			
Fabaceae	*Acacia*	*burkittii*		*							*		*	*																																			
Fabaceae	*Acacia*	*caesaneura*	*	*	*	*	*	*		*	*	*	*	*	*	*	*	*	*		*						*	*	*	*	*			*	*						*		*		*			*	*	
Fabaceae	*Acacia*	*colletioides*								*											*	*	*											*			*		*	*		*							
Fabaceae	*Acacia*	*craspedocarpa*																	*																						*									
Fabaceae	*Acacia*	*cuthbertsonii*		*									*		*												*					*																
Fabaceae	*Acacia*	*desertorum* var. *desertorum*															*		*	*	*	*	*	*	*		*		*				*			*		*	*	*	*	*	*		*		*	*			
Fabaceae	*Acacia*	*duriuscula*	*	*																																													
Fabaceae	*Acacia*	*eremophila* var. *eremophila*																	*																														
Fabaceae	*Acacia*	*exocarpoides*	*	*											*																																			
Fabaceae	*Acacia*	*grasbyi*																									*					*																
Fabaceae	*Acacia*	*hemiteles*																					*																			*							
Fabaceae	*Acacia*	*incurvaneura*	*	*	*	*	*	*			*	*	*	*	*	*	*		*		*	*						*	*	*								*				*	*	*				*		
Fabaceae	*Acacia*	*jennerae*															*		*				*																			*								
Fabaceae	*Acacia*	*kempeana*																																	*														
Fabaceae	*Acacia*	*ligulata*														*	*	*	*	*	*		*	*		*			*				*		*					*			*				*	*	*
Fabaceae	*Acacia*	*murrayana*																	*																						*	*							*	*
Fabaceae	*Acacia*	*pachyacra*													*				*		*		*						*	*										*	*								
Fabaceae	*Acacia*	*prainii*																					*																					*						
Fabaceae	*Acacia*	*quadrimarginea*	*	*	*	*		*					*		*																																		
Fabaceae	*Acacia*	*ramulosa* var. *ramulosa*		*	*		*	*						*	*							*							*					*			*											
Fabaceae	*Acacia*	*rigens*								*														*										*														
Fabaceae	*Acacia*	*sibirica*																				*															*	*										
Fabaceae	*Acacia*	*stowardii*																									*																						
Fabaceae	*Acacia*	*tetragonophylla*		*		*	*	*			*	*	*	*	*														*	*				*														
Fabaceae	*Acacia*	*mulganeura*													*																																			
Fabaceae	*Daviesia*	*benthamii*																			*																												
Fabaceae	*Daviesia*	*purpurascens*																																														*	*
Fabaceae	*Daviesia*	*ulicifolia* subsp. *aridicola*																															*						*	*						*			

Family	Genus	Taxon	B-CFW/AFW1	B-AFW1	CLP-AFW3	CLP-MWS/AFW1	DD-AFW1	DD-AFW2	CD-CSSF1	CD-MWS1	QRP-AFW1	QRP-AFW3	QRP-AFW8	QRP-AFW9	RH-AFW4	S-AFW1	S-EW1	S-EW2	S-EW/MWS1	S-EW/MWS2	S-EW/MWS3	S-EW/MWS4	S-EW/MWS5	S-EW/MWS6	S-H1	S-MWS1	S-MWS2	S-MWS3	S-MWS8	S-MWS9	S-MWS10	S-MWS11	S-MWS12	S-MWS13	S-MWS14	S-MWS15	S-MWS16	S-MWS17	S-MWS18	S-RMNV3	S-RMNV4	S-RMNV5	S-RMNV6	S-RMNV7	S-RMNV8	S-RMNV9	S-RMNV10	SD-EW1	SD-EW/MWS1	SD-RMNV1
Fabaceae	*Kennedia*	*prorepens*																											*	*																				
Fabaceae	*Leptosema*	*chambersii*														*	*		*						*	*	*		*	*										*	*	*			*		*			
Fabaceae	*Mirbelia*	*microphylla*	*	*																																														
Fabaceae	*Senna*	*artemisioides* subsp. *filifolia*		*			*	*		*	*		*		*		*		*										*	*					*					*								*	*
Fabaceae	*Senna*	*artemisioides* subsp. *helmsii*			*			*			*	*	*		*																																		
Fabaceae	*Senna*	*artemisioides* subsp. x *artemisioides*		*			*	*			*		*		*	*		*		*			*						*	*																			
Fabaceae	*Senna*	*cardiosperma*											*																																					
Fabaceae	*Senna*	*pleurocarpa var. angustifolia*																					*																										
Fabaceae	*Senna*	sp. Meekatharra (E. Bailey 1-26)													*																																			
Fabaceae	*Swainsona*	*kingii (A)*																																									*							
Fabaceae	*Templetonia*	*egena*									*																																						
Frankeniaceae	*Frankenia*	*georgei*	*	*			*				*		*																																				
Frankeniaceae	*Frankenia*	*setosa*							*	*					*																																		
Geraniaceae	*Erodium*	*cygnorum (A)*					*																																										
Geraniaceae	*Erodium*	*crinitum*			*		*	*			*	*	*																																			
Goodeniaceae	*Brunonia*	*australis (A)*			*									*	*														*	*																		
Goodeniaceae	*Goodenia*	*australis (A)*			*																																												
Goodeniaceae	*Goodenia*	*centralis (A)*														*													*																				
Goodeniaceae	*Goodenia*	*macroplectra (A)*									*				*																																		
Goodeniaceae	*Goodenia*	*mimuloides (A)*											*																																			*			
Goodeniaceae	*Goodenia*	*ramelii*																																															*	*
Goodeniaceae	*Goodenia*	*xanthosperma*														*	*		*			*					*															*								
Goodeniaceae	*Goodenia*	*peacockiana (A)*		*								*																																						
Goodeniaceae	*Scaevola*	*basedowii*																	*																							*								
Goodeniaceae	*Scaevola*	*parvifolia*															*		*								*	*													*								
Goodeniaceae	*Scaevola*	*restiacea*																			*												*						*	*									
Goodeniaceae	*Scaevola*	*spinescens*	*	*	*	*					*		*	*	*		*	*			*	*								*		*		*															
Goodeniaceae	*Velleia*	*connata (A)*									*																																							
Goodeniaceae	*Scaevola*	*collaris*																																																
Gyrostemonaceae	*Codonocarpus*	*cotinifolius*											*						*							*																					*			
Gyrostemonaceae	*Gyrostemon*	*ramulosus*																	*																							*								*	*
Haloragaceae	*Glischrocaryon*	*aureum*															*		*																							*								
Haloragaceae	*Haloragis*	*odontocarpa (A)*				*	*																							*																			
Hemerocallidaceae	*Corynotheca*	*micrantha* var. *divaricata*																																															*	*
Hemerocallidaceae	*Dianella*	*revoluta*																															*																
Lamiaceae	*Dicrastylis*	*brunnea*																						*																									
Lamiaceae	*Dicrastylis*	*doranii*														*	*		*								*	*													*		*						
Lamiaceae	*Dicrastylis*	*exsuccosa*																																									*							
Lamiaceae	*Dicrastylis*	*sessilifolia*															*		*								*															*		*			*		
Lamiaceae	*Microcorys*	*macrediana*														*			*	*	*																					*								
Lamiaceae	*Prostanthera*	*althoferi*																				*																				*								
Lamiaceae	*Prostanthera*	*campbellii*				*																																											
Lamiaceae	*Prostanthera*	*prostantheroides*	*	*																																													
Lamiaceae	*Prostanthera*	*wilkieana*			*								*																																				
Lamiaceae	*Spartothamnella*	*teucriiflora*			*		*						*		*		*												*																			
Lamiaceae	*Westringia*	*cephalantha*																			*	*	*										*									*							
Lamiaceae	*Westringia*	*rigida*																			*	*	*	*									*									*							
Lamiaceae	*Newcatselia*	*hexarrhena*																																															*			
Lamiaceae	*Pityrodia*	*loricata*																						*																									
Loranthaceae	*Amyema*	*miquelii*															*		*																							*								
Malvaceae	*Abutilon*	*otocarpum*					*	*								*																															*		*	*
Malvaceae	*Abutilon*	*cryptopetalum*						*																																									
Malvaceae	*Alyogyne*	*pinoniana*															*		*	*								*		*											*	*	*						*	*
Malvaceae	*Androcalva*	*cuneata*																																									*							
Malvaceae	*Androcalva*	*loxophylla*																		*							*		*																			
Malvaceae	*Androcalva*	*luteiflora*																											*																			
Malvaceae	*Brachychiton*	*gregorii*																																	*													
Malvaceae	*Commersonia*	*craurophylla*																											*																			
Malvaceae	*Hibiscus*	*burtonii*															*		*							*															*		*						

Family	Genus	Taxon	B-CFW/AFW1	B-AFW1	CLP-AFW3	CLP-MWS/AFW1	DD-AFW1	DD-AFW2	CD-CSSF1	CD-MWS1	QRP-AFW1	QRP-AFW3	QRP-AFW8	QRP-AFW9	RH-AFW4	S-AFW1	S-EW1	S-EW2	S-EW/MWS1	S-EW/MWS2	S-EW/MWS3	S-EW/MWS4	S-EW/MWS5	S-EW/MWS6	S-H1	S-MWS1	S-MWS2	S-MWS3	S-MWS8	S-MWS9	S-MWS10	S-MWS11	S-MWS12	S-MWS13	S-MWS14	S-MWS15	S-MWS16	S-MWS17	S-MWS18	S-RMNV3	S-RMNV4	S-RMNV5	S-RMNV6	S-RMNV7	S-RMNV8	S-RMNV9	S-RMNV10	SD-EW1	SD-EW/MWS1	SD-RMNV1
Malvaceae	*Keraudrenia*	*prorepens*																	*									*																						
Malvaceae	*Keraudrenia*	*velutina*														*		*	*	*		*	*	*	*			*	*		*				*	*	*			*				*	*		*		*	*
Malvaceae	*Sida*	*calyxhymenia*	*	*		*					*	*					*		*															*						*		*								
Malvaceae	*Sida*	*cardiophylla*																																							*										
Malvaceae	*Sida*	*fibulifera*					*																																											
Malvaceae	*Sida*	*intricata*					*																																											
Malvaceae	*Sida*	sp. Excedentifolia (J.L. Egan 1925)	*	*		*	*	*			*		*		*														*	*																				
Malvaceae	*Sida*	sp. Golden calyces glabrous (H.N. Foote 32)		*																																														
Malvaceae	*Sida*	*arenicola*		*																																													
Malvaceae	*Sida*	sp. spiciform panicles (E. Leyland s.n. 14/8/90)																																																
Myrtaceae	*Aluta*	*maisonneuvei* subsp. *auriculata*															*		*	*	*	*	*	*	*		*		*		*		*			*	*	*	*	*			*	*	*			*	*
Myrtaceae	*Baeckea*	sp. Great Victoria Desert (A.S. Weston 14813)																				*												*			*		*	*									
Myrtaceae	*Calothamnus*	*gilesii*																																			*													
Myrtaceae	*Eucalyptus*	*comitae-vallis*																				*									*																		
Myrtaceae	*Eucalyptus*	*concinna*								*								*	*		*		*			*	*	*				*			*						*	*		*						
Myrtaceae	*Eucalyptus*	*eremicola*																	*		*																					*									
Myrtaceae	*Eucalyptus*	*glomerosa*															*		*	*														*				*		*		*		*	*			*	*
Myrtaceae	*Eucalyptus*	*gongylocarpa*															*	*	*	*	*	*	*	*		*	*	*	*					*			*		*	*	*		*	*		*	*		*	*
Myrtaceae	*Eucalyptus*	*horistes*								*											*			*										*															
Myrtaceae	*Eucalyptus*	*hypolaena*																																	*															
Myrtaceae	*Eucalyptus*	*leptopoda* subsp. *elevata*																				*				*	*			*				*	*		*	*	*	*							*	*	*
Myrtaceae	*Eucalyptus*	*lucasii*				*		*			*					*											*		*						*											*			
Myrtaceae	*Eucalyptus*	*oleosa* subsp. *oleosa*																*					*	*											*														
Myrtaceae	*Eucalyptus*	*rigidula*														*																																*	*
Myrtaceae	*Eucalyptus*	*trivalva*															*		*			*				*									*		*				*	*	*						
Myrtaceae	*Eucalyptus*	*youngiana*														*	*	*	*	*			*	*	*	*	*	*	*	*	*		*	*	*		*	*	*	*	*	*	*		*		*		*	*
Myrtaceae	*Leptospermum*	*roei*																															*				*	*	*							*				
Myrtaceae	*Melaleuca*	*hamata*																							*												*												
Myrtaceae	*Melaleuca*	*leiocarpa*																							*						*																		
Myrtaceae	*Micromyrtus*	*flaviflora*															*		*	*									*												*								
Myrtaceae	*Thryptomene*	*biseriata*																																															*		
Nyctaginaceae	*Boerhavia*	*coccinea*				*																																											
Oleaceae	*Jasminum*	*didymum* subsp. *lineare*			*												*		*																						*		*							
Pittosporaceae	*Pittosporum*	*angustifolium*																*	*	*						*																						*	*
Poaceae	*Aristida*	*contorta (A)*			*		*	*			*	*	*	*	*																																	
Poaceae	*Aristida*	*holathera (A)*																	*								*														*					*				
Poaceae	*Ennapogon*	*caerulescens*						*			*																																						
Poaceae	*Enneapogon*	*caerulescens*	*	*																																													
Poaceae	*Enteropogon*	*ramosus*					*																																										
Poaceae	*Eragrostis*	*dielsii (A)*					*																																										
Poaceae	*Eragrostis*	*eriopoda*			*	*	*	*			*		*	*	*		*										*	*	*														*	*			*		
Poaceae	*Eragrostis*	*kennedyae*										*																																					
Poaceae	*Eragrostis*	*setifolia*					*																																										
Poaceae	*Eriachne*	*mucronata*	*	*	*								*	*																																			
Poaceae	*Eriachne*	*pulchella (A)*											*																																				
Poaceae	*Monachather*	*paradoxus*	*	*			*	*		*			*																																			
Poaceae	*Paspalidium*	*clementii (A)*						*																																								
Poaceae	*Themeda*	*triandra*						*																																								
Poaceae	*Triodia*	*basedowii*								*						*	*	*	*	*		*	*	*	*	*			*				*	*	*	*		*	*	*	*	*	*	*	*	*	*	*
Poaceae	*Triodia*	*desertorum*																			*		*								*	*	*	*		*											*		
Poaceae	*Triodia*	*irritans*			*								*		*		*		*	*							*	*	*	*									*	*		*							
Portulacaceae	*Caladenia*	*polychroma*		*										*																																				
Portulacaceae	*Calandrinia*	sp. sterile (A)						*																					*																				
Portulacaceae	*Calandrinia*	*polyandra (A)*		*					*		*																			*																		
Proteaceae	*Conospermum*	*toddii* (P4)																																															*
Proteaceae	*Grevillea*	*acacioides*																										*																				*	*
Proteaceae	*Grevillea*	*juncifolia* subsp. *juncifolia*																	*	*	*		*		*	*								*				*	*	*	*					*	*	*
Proteaceae	*Grevillea*	*nematophylla* subsp. *suprapla na*																									*																						

Family	Genus	Taxon	B-CFW/AFW1	B-AFW1	CLP-AFW3	CLP-MWS/AFW1	DD-AFW1	DD-AFW2	CD-CSSF1	CD-MWS1	QRP-AFW1	QRP-AFW3	QRP-AFW8	QRP-AFW9	RH-AFW4	S-AFW1	S-EW1	S-EW2	S-EW/MWS1	S-EW/MWS2	S-EW/MWS3	S-EW/MWS4	S-EW/MWS5	S-EW/MWS6	S-H1	S-MWS1	S-MWS2	S-MWS3	S-MWS8	S-MWS9	S-MWS10	S-MWS11	S-MWS12	S-MWS13	S-MWS14	S-MWS15	S-MWS16	S-MWS17	S-MWS18	S-RMNV3	S-RMNV4	S-RMNV5	S-RMNV6	S-RMNV7	S-RMNV8	S-RMNV9	S-RMNV10	SD-EW1	SD-EW/MWS1	SD-RMNV1
Proteaceae	*Grevillea*	*pterosperma*															*		*	*																												*	*
Proteaceae	*Hakea*	*francisiana*															*	*	*	*	*	*	*	*	*	*						*	*			*	*	*	*	*		*		*	*				*	*
Proteaceae	*Hakea*	*lorea*														*													*						*															
Proteaceae	*Grevillea*	*didymobotrya* subsp. *didymobotrya*																																			*															
Proteaceae	*Persoonia*	*coriacea*																																			*														
Pteridaceae	*Cheilanthes*	*sieberi* subsp. *sieberi*	*	*	*	*	*	*					*			*																																	*		
Restionaceae	*Lepidobolus*	*deserti*																																																*		
Rubiaceae	*Psydrax*	*latifolia*	*	*	*		*									*											*			*																					
Rutaceae	*Phebalium*	*filifolium*																															*					*	*												
Rutaceae	*Philotheca*	*tomentella*																					*																												
Santalaceae	*Anthobolus*	*leptomerioides*				*																																													
Santalaceae	*Exocarpos*	*aphyllus*																*	*																						*										
Santalaceae	*Exocarpos*	*sparteus*															*		*	*									*												*								*	*
Santalaceae	*Santalum*	*spicatum*	*	*				*			*		*		*															*				*															
Sapindaceae	*Dodonaea*	*adenophora*																					*																												
Sapindaceae	*Dodonaea*	*lobulata* subsp. *lobulata*		*									*																																						
Sapindaceae	*Dodonaea*	*rigida*		*	*			*					*		*															*				*															
Sapindaceae	*Dodonaea*	*viscosa* subsp. *angustissima*	*	*																																													*	*
Scrophulariaceae	*Eremophila*	*abietina* subsp. *ciliata*										*																																						
Scrophulariaceae	*Eremophila*	*clarkei*		*			*								*																																		*	*
Scrophulariaceae	*Eremophila*	*decipiens*								*																																								
Scrophulariaceae	*Eremophila*	*deserti*																			*																														
Scrophulariaceae	*Eremophila*	*exilifolia*		*																																														
Scrophulariaceae	*Eremophila*	*fallax*																*																																	
Scrophulariaceae	*Eremophila*	*forrestii* subsp. *forrestii*			*	*							*				*		*	*						*	*		*												*								*	*
Scrophulariaceae	*Eremophila*	*gilesii*					*																							*																				
Scrophulariaceae	*Eremophila*	*gilesii* subsp. *variabilis*		*		*								*																																					
Scrophulariaceae	*Eremophila*	*glabra*																	*				*						*												*									
Scrophulariaceae	*Eremophila*	*homoplastica*			*	*							*			*																																		
Scrophulariaceae	*Eremophila*	*jucunda*																																																	
Scrophulariaceae	*Eremophila*	*latrobei* subsp. *filiformis*				*																					*	*																							
Scrophulariaceae	*Eremophila*	*latrobei* subsp. *glabra*			*								*		*						*								*	*																					
Scrophulariaceae	*Eremophila*	*latrobei* subsp. *latrobei*	*	*	*		*	*			*	*	*		*	*	*			*											*																				
Scrophulariaceae	*Eremophila*	*longifolia*																		*			*					*	*																							
Scrophulariaceae	*Eremophila*	*malacoides*						*																																											
Scrophulariaceae	*Eremophila*	*oldfieldii* subsp. *angustifolia*		*							*		*																																						
Scrophulariaceae	*Eremophila*	*pantonii*																																		*															
Scrophulariaceae	*Eremophila*	*platythamnos* subsp. *platythamnos*									*						*		*	*		*	*	*									*				*										*	*	*
Scrophulariaceae	*Eremophila*	*punctata*			*																																														
Scrophulariaceae	*Eremophila*	*scoparia*									*																																								
Scrophulariaceae	*Eremophila*	*serrulata*					*				*																																							
Solanaceae	*Anthotroche*	*pannosa*															*		*	*	*												*							*		*	*				*		
Solanaceae	*Nicotiana*	*rosulata* subsp. *rosulata (A)*						*					*																																			*				
Solanaceae	*Solanum*	*centrale*				*										*	*		*										*												*									
Solanaceae	*Solanum*	*lasiophyllum*	*	*		*	*	*			*	*	*	*	*	*	*		*									*	*	*											*		*					*		
Solanaceae	*Solanum*	*nummularium*																												*																					
Solanaceae	*Solanum*	*orbiculatum*					*			*	*					*													*	*																		*		
Solanaceae	*Solanum*	*plicatile*																												*																					
Solanaceae	*Duboisia*	*hopwoodii*																					*																												
Thymelaeaceae	*Pimelea*	*microcephala*									*																																								
Zygophyllaceae	*Zygophyllum*	*eremaeum (A)*			*							*	*																																						

Appendix 4: DPaW Threatened Flora Database search results (DPaW, 2015b)

Taxon	Conservation Code	Description (WAHERB, 2015)
Acacia websteri	1	Shrub, 1.2-5 m high, bark fibrous. Fl. yellow. Red sand, clay or loam. Low-lying areas, flats.
Angianthus prostratus	3	Prostrate annual, herb. Fl. white-yellow, Jul to Sep. Red clay or loamy soils. Saline depressions.
Bossiaea eremaea	3	Divaricately-bramnched, spreading shrub, to 1.2 m high. Fl. red-yellow-purple-brown, Jul to Sep. Deep red sand.
Calytrix warburtonensis	2	Shrub, 0.3-0.6 m high. Fl. white, Mar or Sep to Oct. Rocky hills, breakaways.
Calytrix praecipua	3	Shrub, 0.3-0.7 m high. Fl. pink-white, Jun to Jul or Sep to Nov. Skeletal sandy soils over granite or laterite. Breakaways, outcrops.
Comesperma viscidulum	4	Shrub, to ca 0.7 m high.
Conospermum toddii	4	Spreading shrub, 1.2-2 m high. Fl. white/white-yellow, Jul to Oct. Yellow sand. Sand dunes.
Cratystylis centralis	3	Much-branched, brittle, greyish shrub, to 1 m high. Red sandy loam with ironstone gravel. Flat plains, breakaway country.
Dicrastylis cundeeleensis	4	Woolly shrub, 0.2-0.5 m high. Yellow sand, red or reddish-yellow sand. Sandplains.
Eremophila annosocaulis	3	Erect shrub, 40 cm high x 40 cm wide. Flowers purple / violet. Population structure: adult. Reproductive method: seeds. Rocky sloping plain in rangeland with brown loam / rocky soil. Stony, flat, sandy plain. Red sand.
Eremophila arachnoides subsp*. tenera*	3	Broom-like shrub, to 3 m high, branches with circular, discrete tubercles. Fl. white/blue-purple, Sep. Shallow loam over limestone.
Eremophila aureivisca	1	Dense much-branched shrub, ca 1 m high. Fl. blue-purple, Sep. Stony, skeletal red clay. Between breakways & claypans.
Eucalyptus nigrifunda	4	Tree, 5-7 m high, bark rough & black on trunk. Sandy clay. Breakaways of decomposing granite.
Eucalyptus pimpiniana	3	Straggly shrubby mallee, 0.7-2 m high, bark smooth. Fl. white, May to Oct. Red sand. Sand dunes & plains.
Goodenia lyrata	3	Prostrate herb, with lyrate leaves. Fl. yellow, Aug. Red sandy loam. Near claypan.
Grevillea inconspicua	4	Intricately branched, spreading shrub, 0.6-2 m high. Fl. white/pink-white, Jun to Aug. Loam, gravel. Along drainage lines on rocky outcrops, creeklines.
Grevillea secunda	4	Low spreading shrub, 0.3-0.8 m high. Fl. red, Sep to Oct. Yellow or red sand. Sand dunes, sandplains.
Gunniopsis propinqua	3	Prostrate annual or perennial, herb, 0.03-0.1 m high. Fl. white/pink, Aug to Sep. Stony sandy loam. Lateritic outcrops, winter-wet sites.
Hemigenia exilis	4	Erect, multi-stemmed shrub, 0.5-2 m high. Fl. blue-purple/white, Apr or Sep to Nov. Laterite. Breakaways, slopes.
Hybanthus floribundus subsp. chloroxanthus	3	Multi-stemmed shrub, to 0.7 m high. Fl. blue & white, Aug to Oct. Dark red-brown soil, never sandy, rich in iron oxide, laterite. Rocky areas, creek banks, along drainage lines.
Melaleuca apostiba	3	Spreading shrub, to 2 m high, with grey fissured bark and dull green leaves. Fl. red, Jun.
Olearia arida	4	Erect shrub, to 0.4 m high. Fl. white, Jul to Sep. Red or yellow sand. Undulating low rises.
Olearia mucronata	3	Densely branched, unpleasantly aromatic shrub, 0.6-1 m high. Fl. white & yellow, Aug to Dec or Jan. Schistose hills, along drainage channels.
Phyllanthus baeckeoides	3	Shrub, 0.5-1.5 m high. Fl. white-yellow/green-yellow, Jul to Sep. Red lateritic & sandy clay soils. Granite outcrops.
Ptilotus tetrandrus	1	Annual, herb, 0.15-0.3 m high. Fl. Oct. Loamy sand.
Sauropus ramosissimus	3	Slender, much-branched shrub, to 0.3 m high.
Tecticornia cymbiformis	3	Erect, perennial shrub, 0.3-0.5 m high. Saline soils. Along the edge of creeklines.
Tecticornia mellaria	1	Erect, perennial shrub, 0.2-0.4 m high. Well-drained red gypseous sand, clay. Gypseous dunes, margins of playa lakes, on clay pans.

Taxon	Conservation Code	Description (WAHERB, 2015)
Tecticornia sp. Lake Way (P. Armstrong 05/961)	1	Small upright shrub 30 to 40 cm tall with a spread to 10 cm. dense succulent, foliage yellow and green. Flat, clay, salt lake on playa surface at edge of lake.
Thryptomene nealensis	3	Shrub, ca 0.3 m high. Fl. pink, Oct. Lateritic breakaways
Triglochin protuberans	3	Annual, herb, 0.03-0.13 m high. Red loam, grey mud over clay. Winter-wet sites, claypans, near salt lakes, margins of pools.
Vittadinia cervicularis var. *oldfieldii*	1	Annual, herb, 0.1-0.3 m high. Fl. white-purple-blue, Aug to Sep. Alluvium.

Appendix 5: Muir Life Form/Height Class (Muir, 1977).

LIFE FORM/HEIGHT CLASS	CANOPY COVER			
	DENSE 70% -100%	**MID-DENSE 30% -70%**	**SPARSE 10% -30%**	**VERY SPARSE 2% -10%**
Trees > 30m Trees 15 – 30m Trees 5 – 15m Trees < 5m	Dense Tall Forest Dense Forest Dense Low Forest A Dense Low Forest B	Tall Forest Forest Low Forest A Low Forest B	Tall Woodland Woodland Low woodland A Low Woodland B	Open Tall Woodland Open Woodland Open Low Woodland A Open Low Woodland B
Mallee Tree Form Mallee Shrub Form	Dense Tree Mallee Dense Shrub Mallee	Tree Mallee Shrub Mallee	Open Tree Mallee Open Shrub Mallee	Very Open Tree Mallee Very Open Shrub Mallee
Shrubs > 2m Shrubs 1.5 – 2m Shrubs 1 – 1.5m Shrubs 0.5 – 1m Shrubs 0 – 0.5m	Dense Thicket Dense Heath A Dense Heath B Dense Low Heath C Dense Low Heath D	Thicket Heath A Heath B Low Heath C Low Heath D	Scrub Low Scrub A Low Scrub B Dwarf Scrub C Dwarf Scrub D	Open Scrub Open Low Scrub A Open Low Scrub B Open Dwarf Scrub C Open Dwarf Scrub D
Mat Plants Hummock Grass Bunch grass >0.5m Bunch grass < 0.5m Herbaceous spp.	Dense Mat Plants Dense Hummock Grass Dense Tall Grass Dense Low Grass Dense Herbs	Mat Plants Mid-dense Hummock Grass Tall Grass Low Grass Herbs	Open Mat Plants Hummock Grass Open Tall Grass Open Low Grass Open Herbs	Very Open Mat Plants Open Hummock Grass Very Open Tall Grass Very Open Low Grass Very Open Herbs
Sedges > 0.5m Sedges < 0.5m	Dense Tall Sedges Dense Low Sedges	Tall Sedges Low Sedges	Open Tall Sedges Open Low Sedges	Very Open Tall Sedges Very Open Low Sedges
Ferns Mosses, liverworts	Dense ferns Dense Mosses	Ferns Mosses	Open Ferns Open Mosses	Very Open Ferns Very Open Mosses

Appendix 6: Keighery Health rating scale (1994).

Health Description	Definition
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.
Very Good	Vegetation structure altered obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and grazing.
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.
Completely Degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as “parkland cleared’ with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix 7: GPS locations of Priority Flora recorded by BC

Taxon	Zone	Easting	Northing	Survey Area
Calytrix warburtonensis (P2)	51 J	570820	6886629	Gruyere
Calytrix warburtonensis (P2)	51 J	570935	6886623	Gruyere
Calytrix warburtonensis (P2)	51 J	570956	6886625	Gruyere
Conospermum toddii (P4)	51 J	582931	6868620	Midline
Olearia arida (P4)	51 J	587308	6853839	Midline
Olearia arida (P4)	51 J	588906	6841232	Midline
Olearia arida (P4)	51 J	588901	6841769	Midline
Olearia arida (P4)	51 J	534164	6862126	White Cliffs Road
Olearia arida (P4)	51 J	512700	6856654	White Cliffs Road
Olearia arida (P4)	51 J	512714	6856665	White Cliffs Road
Thryptomene nealensis (P3)	51 J	570820	6886629	Gruyere