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**FLORA AND VEGETATION  
ON THE  
CLOUD BREAK  
AND  
WHITE KNIGHT LEASES**

Prepared for:  
**Fortescue Metals Group Limited**

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**MATTISKE CONSULTING PTY LTD**

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## 1. SUMMARY

Mattiske Consulting Pty Ltd was commissioned by Fortescue Metals Group Limited to undertake a Flora and Vegetation study on a proposed iron ore mining area and associated access roads on the Cloud Break and White Knight leases. The study was conducted via foot and vehicle traverses and through the establishment of 56 vegetation-recording sites in representative areas. These sites were established in the plant communities defined and mapped during surveys in October and November 2004. Additional opportunistic sampling was undertaken in May 2005.

A total of 234 taxa (including subspecies and varieties) from 106 genera and 41 families were recorded within the survey area. The most common families recorded were Poaceae (34 taxa), Mimosaceae (34 taxa), Chenopodiaceae (21 taxa), Malvaceae (19 taxa), Asteraceae (12 taxa), Myrtaceae (12 taxa) and Papilionaceae (8 taxa) constituting a floral composition typical of the Pilbara Region. As the first survey work for this project area was undertaken in the drier summer months, with a total of 175 taxa (including subspecies and varieties) from 94 genera and 41 families recorded, an increase was expected for additional collections made in the more favourable autumn with the localised rainfall events. An additional 59 taxa were recorded in May 2005.

No plant taxon recorded in the surveys is gazetted as Declared Rare Flora pursuant to subsection (2) of section 23F of the Wildlife Conservation Act (1950). No plant taxon listed as Threatened pursuant to Schedule 1 of the Environmental Protection Biodiversity Conservation Act (1999) were recorded in the surveyed area.

A total of four Priority flora species were recorded in the surveyed area. There were one Priority 1 flora species, two Priority 3 flora species and one Priority 4 flora species recorded.

The Priority 1 species *Eremophila spongiocarpa* (ms) was recorded in plant community 2. This species is represented by seven vouchered specimens in the Western Australian Herbarium. It is a shrub to one metre in height, inhabiting weakly saline flats and moister areas. This species was recorded south of the lease area.

The Priority 3 species *Rostellularia adscendens* var. *latifolia* was recorded in plant communities 4 and 5. This taxon is relatively restricted, and to date has been recorded at seven locations in two key areas within the Pilbara Region. The plant communities that support the Priority species (*Rostellularia adscendens* var. *latifolia*) are also locally significant. On the basis of Western Australian Herbarium records, it appears that this species is relatively widespread locally in a range of habitats from alluvial fringes of creeklines to rocky hillslopes (red ironstone to volcanic soils). This herb or small shrub flowers after the summer rains (April – May) and consequently it would be favoured by heavy rains associated with cyclonic rainfall events.

The second Priority 3 species, *Themeda* sp. Hamersley Station (M.E.Trudgen 11431) PN, was recorded in plant community 9. It is restricted to the Pilbara Bioregion, and is represented by ten vouchered specimens in the Western Australian Herbarium. This perennial species is found in red clay in clay pans or on grass plains, and may form tussocks or take on a herbaceous habit between 90 to 180 centimetres in height.

The Priority 4 species *Eremophila youngii* subsp. *lepidola* ms was recorded in plant community 10. This species is represented by eleven vouchered specimens in the Western Australian Herbarium from the Pilbara, Gascoyne and Carnarvon Bioregions. Herbarium records appears to indicate a range of habitats including well-drained stony sandy loam, semi-saline floodplains, mudflats and clayflats, and may be associated with *Acacia pruinocarpa*, *Senna artemisioides* subsp. *oligophylla*, *Hakea preissii*, and halophytes. This dense spreading shrub flowers in summer (January – March) and again in winter to early spring (June – September).

Eighteen plant communities were defined and mapped during the surveys. None of these plant communities are considered Threatened Ecological Communities pursuant to Schedule 2 of the Environmental Protection Biodiversity Conservation Act (1999) or according to English and Blyth (1997).

The complexity of the flora values across the Fortescue valley system is reflected in the shift of communities from the fringes of the marshes to the hillslopes on the southern edges of the Chichester Ranges (Figure 1 to 7). These findings support the earlier observations of van Leeuwen and Bromilow (2002) as recognized by Biota Environmental Sciences (2005). The low undulating hills and flats are dissected by a series of major flowlines. The dense woodlands and shrublands near these flowlines support the highest diversity of species within the respective communities.

The plant communities near the fringes of the Fortescue Marshes are locally restricted and form part of the regionally and nationally significant marshes. The occurrence of these different communities on the fringes of the marshes is largely controlled by the local site conditions and the seasonal inundation of some of the areas. The Mulga communities are of local significance as they support a range of Priority species and also as they occur on the northern limit of their occurrence. The Mulga communities extend well beyond the project area within the Fortescue valley system. As indicated by the review of data for the proposed Cloud Break mining area, the proposed extent of clearing for the proposed mining activities is relatively small in relation to the total area of the Mulga communities within the Fortescue valley system.

A total of four introduced species was recorded in the project area. These include the Declared Weeds Cobbler's Peg (*Bidens pilosa*) and Spiked Malvastrum (*Malvastrum americanum*). The majority of these four species occurred in the disturbed areas. The latter disturbance largely relates to the recent passage of fire in extensive patches of the project area, as well as the areas near the wells, which had been severely modified by cattle. This modification includes loss of surface soil, loss of annual species in heavily grazed areas and in recently burnt areas.

## 2. INTRODUCTION

Mattiske Consulting Pty Ltd was commissioned by Fortescue Metals Group Limited to undertake a Flora and Vegetation study of the proposed Cloud Break and White Knight mining lease areas. In October/November 2005, an extensive survey of the project area was conducted to define the plant communities and to search for Rare or Priority Flora. As part of this survey work, 56 plots were established across the different plant communities. Additional opportunistic sampling was undertaken in May 2005.

### 2.1 Location

The survey area is located within the Fortescue Botanical District, as part of the Eremaean Botanical Province (Beard 1990). The vegetation system of the survey area is dominated by tree- and shrub- steppe communities with *Eucalyptus* trees, *Acacia* shrubs, *Triodia pungens* and *Triodia wiseana*. The valley floors and creek lines are dominated by Mulga communities over local shrubs and a range of grass species. Hopkins *et al.* (2001) has updated the previous mapping by Beard for the Pilbara Region.

The project area has been modified by a range of railway and road transport infrastructures and pastoral grazing activities.

## 2.2 Climate

Beard (1990) described the climate of the Pilbara region as arid tropical with summer rain; annual precipitation, 250-300mm. Beard noted the local influence of topography on the rainfall recordings.

The average rainfall at Newman is 312mm. Average maximum summer temperatures are generally between 34°C and 49°C and winter temperatures between 22°C and 31°C. In this climatic area, the evaporation greatly exceeds the mean annual rainfall.

Updated climatic data from the Bureau of Meteorology ([www.bom.gov.au](http://www.bom.gov.au)) for Newman indicates that the rainfall mainly occurs in the months from December to June, Table 1. The other major influence on the flora and vegetation in the Pilbara Region is the heavy rains that occur during and immediately following cyclonic events. These cyclones develop off the northwest coast and often cross the coastline between Karratha and Port Headland, then travel inland over the Fortescue valley system towards Newman.

**Table 1: Climatic Data for Newman from 1965 to 2004 (Bureau of Meteorology, 2005)**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Ann
Mean Daily Max. Temp (°C)	38.8	37.2	35.8	31.6	26.2	22.4	22.2	24.8	29.4	33.6	36.5	38.5	31.3
Mean Daily Min. Temp (°C)	25.3	24.4	22.5	18.5	13.3	9.6	8	10.2	13.7	18	21.5	24.1	17.3
Mean Monthly Rainfall (mm)	51	80	39	25	23	25	13	11	4	4	10	27	312
Highest Monthly Rainfall (mm)	226	286	199	212	119	156	64	96	43	23	63	140	

## 2.3 Land Systems

The regional land system mapping by Payne *et al.* (2002) delineated a series of mapping units in the Pilbara Region. The following land systems overlap with the Cloud Break and White Knight lease areas (including the areas of occurrence in brackets), namely:

- . Adrian Land System (1.70ha) - Stony plains and low silcrete hills supporting hard spinifex grasslands.
- . Christmas Land System (10390.01ha) – Stony alluvial plains supporting snakewood and mulga shrublands with sparse tussock grasses.
- . Coolibah Land System (782.94h) – Flood plains with weakly gilgaied clay soils supporting coolibah woodlands with tussock grass understorey.
- . Cowra Land System (3206.07ha) – Plains fringing the Marsh land system and supporting snakewood and mulga shrublands with some halophytic undershrubs.
- . Jamindie Land System (31708.75ha) – Stony hardpan plains and rises supporting groved mulga shrublands, occasionally with spinifex understorey.
- . McKay Land System (689.17ha) - Hills, ridges, plateaux remnants and breakaways of metasedimentary and sedimentary rocks supporting hard spinifex grasslands.
- . Marsh Land System (272.07ha) - Lake beds and flood plains subject to regular inundation supporting samphire shrublands, salt water couch grasslands and halophytic shrublands.
- . Newman Land System (8322.52ha) - Rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands.

The dominant land systems within the Cloud Break and White Knight lease areas belong to the Christmas, Jamindie and Newman land systems.

## 2.4 Vegetation

The Cloud Break and White Knight project areas occur within the Pilbara Bioregion as defined in the Interim Biogeographical Regionalisation for Australia (IBRA) (Thackway and Cresswell 1995 and Environment Australia 2000, 2005). These subdivisions largely relied on the earlier physiographic work of Beard (1975).

The Chichester Range occurs on the northeastern fringes of the project area and comprises Archaean granite and basalt plains supporting shrub steppe characterized by *Acacia pyrifolia* over *Triodia pungens* hummock grasses. Snappy Gum (*Eucalyptus leucophloia*) tree steppes occur on the ranges. The proposed Cloud Break and White Knight sites occur on the southern fringes of the Chichester Ranges and in this aspect can be compared with earlier studies by Biota Environmental Sciences at Christmas Creek, Mt Lewin and Mt Nicholas mine sites (Biota Environmental Sciences 2005).

The proposed mine site at Cloud Break occurs north of the Fortescue Marshes within the wider Fortescue Valley. This area is referred to as the Fortescue Plains and is comprised of alluvial plains and river frontages supporting salt marshes, Mulga-bunch grass, River Gum woodlands fringing drainage lines and short grass communities on alluvial plains (Beard 1975). The Mulga communities within this valley system are recognized as the main northerly occurrence of Mulga (*Acacia aneura*).

The following vegetation types as defined by Hopkins *et al.* (2001) overlap the Cloud Break and White Knight lease areas, namely:

- . hummock grasslands, grass steppe; hard spinifex, *Triodia wiseana* (16.34ha)
- . short bunch grassland – savanna/grass plain (Pilbara) (781.06ha)
- . sparse low woodland; mulga, discontinuous in scattered groups (45492.91ha)
- . mosaic low woodland; mulga in valleys, hummock grasslands, open low steppe; snappy gum over *Triodia wiseana* (8060.94ha)
- . succulent steppe; samphire (1021.94ha)

The dominant vegetation types as defined by Hopkins *et al.* (2001) within the Cloud Break and White Knight lease areas are the mulga woodlands.

The Hamersley Ranges, which were previously referred to as the Hamersley Plateau by Beard (1975) is comprised of a mountainous area of Proterozoic sedimentary ranges and plateaux with Mulga low woodland over bunch grasses on fine textured soils and Snappy Gum over *Triodia brizoides* on skeletal sandy soils of the ranges.

The complexity of the flora values across the Fortescue valley system also reflect the flora shifts from the Eyrean (central desert) to the southern Torresian (tropical) bioclimatic regions. This interface was recognized by Biota Environmental Sciences (2005) following its earlier definition by van Leeuwen and Bromilow (2002).

The significance of the Pilbara Region was highlighted in recent deliberations by the Federal Environment Minister during the delineation of national biodiversity hotspots in Australia.

The Fortescue Marshes, which occur on the southern fringes of the Cloud Break project area, are listed as a ‘Nationally Important Wetland’ (Department of Environment and Heritage 2005), based on the following criteria:

- . it is a good example of a wetland type occurring within a biogeographic region in Australia;
- . it is a wetland that plays an important ecological or hydrological role in the natural functioning of a major wetland system/complex;
- . it is a wetland which is important as the habitat for animal taxa at a vulnerable stage in their life cycles, or provides a refuge when adverse conditions such as drought prevail; and
- . the wetland is of outstanding historical or cultural significance.

The Fortescue Marsh is also listed as an “indicative place” on the Register of the National Estate (natural heritage) due to its importance for conservation of waterbirds (Department of Environment and Heritage 2005).

## 2.5 Declared Rare, Priority and Threatened Species

Species of flora and fauna are defined as Declared Rare or Priority conservation status where their populations are restricted geographically or threatened by local processes. The Department of Conservation and Land Management recognizes these threats of extinction and consequently applies regulations towards population and species protection.

Rare Flora species are gazetted under Subsection 2 of Section 23F of the Wildlife Conservation Act (1950) and therefore it is an offence to “take” or damage rare flora without Ministerial approval. Section 23F of the Wildlife Conservation Act (1950-1980) defines “to take” as “... to gather, pick, cut, pull up, destroy, dig up, remove or injure the flora or to cause or permit the same to be done by any means. Priority Flora are under consideration for declaration as ‘rare flora’, but are in urgent need of further survey (Priority One to Three) or require monitoring every 5-10 years (Priority Four). Table 2 presents the definitions of Declared Rare and the four Priority ratings under the Wildlife Conservation Act (1950) as extracted from the West Australian Herbarium (2005a, 2005b).

**Table 2: Definition of Rare and Priority Flora Species (Department of Conservation and Land Management, 2005)**

Conservation Code	Category
<b>R</b>	<b>Declared Rare Flora – Extant Taxa</b> “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.”
<b>P1</b>	<b>Priority One – Poorly Known Taxa</b> “Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat. Such taxa are under consideration for declaration as ‘rare flora’, but are in urgent need of further survey.”
<b>P2</b>	<b>Priority Two – Poorly Known Taxa</b> “Taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (not currently endangered). Such taxa are under consideration for declaration as ‘rare flora’, but urgently need further survey.”
<b>P3</b>	<b>Priority Three – Poorly Known Taxa</b> “Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as ‘rare flora’ but need further survey.”
<b>P4</b>	<b>Priority Four – Rare Taxa</b> “Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5-10 years.”

Threats of extinction of species is also recognized at a Federal Government level and are categorized according to the Environmental Protection and Biodiversity Conservation Act, 1999. Categories of threatened species are summarized in Table 3.

**Table 3: Categories of Threatened Flora Species (Environmental Protection and Biodiversity Conservation Act, 1999)**

Category Code	Category
Ex	<p><b>Extinct</b></p> <p>Taxa which at a particular time if, at that time, there is no reasonable doubt that the last member of the species has died.</p>
ExW	<p><b>Extinct in the Wild</b></p> <p>Taxa which is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or it has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.</p>
CE	<p><b>Critically Endangered</b></p> <p>Taxa which at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.</p>
E	<p><b>Endangered</b></p> <p>Taxa which is not critically endangered and it is facing a very high risk of extinction in the wild in the immediate or near future, as determined in accordance with the prescribed criteria.</p>
V	<p><b>Vulnerable</b></p> <p>Taxa which is not critically endangered or endangered and is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.</p>
CD	<p><b>Conservation Dependent</b></p> <p>Taxa which at a particular time if, at that time, the species is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.</p>

## 2.6 Local and Regional Significance

Species, subspecies, varieties, hybrids and ecotypes may be significant for a range of reasons, other than as Declared Rare Flora or Priority Flora. The Environmental Protection Authority (2004) in the Guidance Statement 51 stated that significant flora may include taxon that have:

- “ . A keystone role in a particular habitat for threatened species, or supporting large populations representing a significant proportion of the local regional population of a species;
- . relic status;
- . anomalous features that indicate a potential new discovery;
- . being representative of the range of a species (particularly, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range);
- . the presence of restricted subspecies, varieties, or naturally occurring hybrids;
- . local endemism/a restricted distribution;
- . being poorly reserved.”

Plant communities or vegetation may be significant for a range of reasons, other than a statutory listing as a Threatened Ecological Community or because the extent is below a threshold level. The Environmental Protection Authority (2004) in the Guidance Statement 51 stated that significant vegetation may include communities that have:

- “ . scarcity;
- . unusual species;
- . novel combinations of species;
- . a role as a refuge;
- . a role as a key habitat for threatened species or large populations representing a significant proportion of the local to regional total population of a species;
- . being representative of the range of a unit (particularly, a good local and/or regional example of a unit in “prime” habitat, at the extremes of range, recently discovered range extensions, or isolated outliers of the main range);
- . a restricted distribution.”

The application of the degree of significance may apply at a range of scales.

## 2.7 Threatened Ecological Communities

Communities are described as ‘Threatened Ecological Communities’ (TEC’s) if they have been defined by the Western Australian Threatened Ecological Communities Scientific Advisory Committee and found to be Presumed Totally Destroyed (PD), Critically Endangered (CR), Endangered (EN) or Vulnerable (VU). For definitions of TEC categories and criteria refer to English and Blyth (1997, 1999). Selected plant communities have also been listed as “Threatened Ecological Communities” under the EPBC Act (1999). The TEC’s at the national level are defined on the Environment Australia website ([www.ea.gov.au](http://www.ea.gov.au)).

## 3. OBJECTIVES

As part of the flora and vegetation study of the proposed Cloud Break and White Knight mining areas, the specific objectives were to:

- collect and identify the vascular plant species present in the area;
- review the biogeographic pattern and conservation status of the vascular plant species recorded by reference to current literature, recent surveys by Biota Environmental Sciences (2005) on nearby leases for Fortescue Metals Group Limited, current listings ((Western Australian Herbarium 2005a, 2005b) and the Environmental Protection Biodiversity Conservation Act (1999)) and with plant collections held at the State Herbarium;
- define and prepare a vegetation map of the plant communities present in the Cloud Break and White Knight project areas;

- review the local and regional significance of the plant communities recorded in the Cloud Break and White Knight project areas;
- establish vegetation recording site, within a range of the previously defined plant communities within the survey area, recording all vascular plant species and their percentage foliage cover, within each vegetation recording site;
- submit a report that summarizes the findings.

#### 4. METHODS

An initial search for the Declared Rare and Priority flora species known to occur in the region was made using the West Australian Herbarium database compiled by the West Australian Herbarium (2005a, 2005b).

The flora of the Cloud Break and White Knight project area was described and collected systematically at each survey site, selected due to differences in floristic features and composition, by botanists from Mattiske Consulting Pty Ltd during October 2004. Selective opportunistic collecting was further undertaken at additional sites in plant communities of like structure and floristic composition. At each site the following floristic and environmental notes were made: topography, percentage litter cover, soil ratio, percentage of bare ground, outcropping rocks and their type, pebble type and size, and time since fire. For each species recorded, the average height and percent foliage cover of species both alive and dead was noted.

All plant specimens collected during the field surveys were dried and fumigated in accordance with the requirements of the West Australian Herbarium. The plant species were identified and then compared with pressed specimens housed at the West Australian Herbarium. Where appropriate, plant taxonomists with specialist skills were consulted. Nomenclature of the species recorded follows the West Australian Herbarium standards (2005a, 2005b).

The locations for the establishment of 56 permanent vegetation recording sites within the Cloud Break and White Knight project areas were selected to maximize the coverage of the 18 plant communities as defined and mapped during the October 2004 survey.

#### 5. RESULTS

##### 5.1 Flora

A total of 234 taxa (including subspecies and varieties) from 41 families and 106 genera were recorded within the survey area, Appendix A. The most common families recorded were Poaceae (34 taxa), Mimosaceae (34 taxa), Chenopodiaceae (21 taxa), Malvaceae (19 taxa), Asteraceae (12 taxa), Myrtaceae (12 taxa) and Papilionaceae (8 taxa) constituting a floral composition typical of the Pilbara Region. As the first survey work for this project area was undertaken in the drier summer months, with a total of 175 taxa (including subspecies and varieties) from 94 genera and 41 families recorded, an increase was expected for additional collections made in the more favourable autumn with the onset of rain.

The first survey recorded a total of 174 taxa (including subspecies and varieties) from 94 genera and 41 families were recorded within the survey area, while the second survey (May 2005) recorded an additional 59 taxa..

A total of four introduced species was recorded; \**Bidens pilosa*, \**Cenchrus ciliaris*, \**Cenchrus setigerus*, and \**Malvastrum americanum*.

The number of species recorded is relatively lower than those recorded by Biota Environmental Sciences in the Stage B areas (620 taxon from 190 genera and 55 families), Appendix A. The latter differences largely relate to the differences in the extent of the survey areas and also the timing of the surveys.

## 5.2 Rare and Priority Flora

Based on information available through the West Australian Herbarium (2005a, 2005b) a range of Rare and Priority species might occur near the project area, namely:

- . The Rare flora species - *Lepidium catapycnon* has been recorded near Wittenoom, Mt Governor and within the eastern Hamersley Ranges. This species acts as a disturbance opportunistic species (based on previous observations by Mattiske on the Wittenoom population of this species). Consequently there is a chance that this species may arise following disturbance in some of the lease areas.
- . The Priority 1 flora species – *Eremophila spongiocarpa* (ms) has been recorded from the Fortescue Marsh west of the railway corridor (Western Australian Herbarium 2005a, Biota Environmental Sciences 2005). Therefore this perennial shrub species may occur on the southern fringes of the Cloud Break project area and there is a need to minimize indirect impacts on the Fortescue Marshes. This species was not recorded in the areas surveyed on the fringes of the Fortescue Marshes.
- . The Priority 1 flora species – *Helichrysum oligochaetum* has been recorded from alluvial clayey plains (Biota Environmental Sciences 2005, Western Australian Herbarium 2005a). This species was not recorded within the project area; although the habitat is present in the project area. It is likely that his short-lived annual species may establish after seasonal or cyclonic rainfall events.
- . The Priority 1 flora species – *Myriocephalus scalpellus* has been recorded from clayey plains (Biota Environmental Sciences 2005, Western Australian Herbarium 2005a). This species was not recorded within the project area; although the habitat is present in the project area. It is likely that his short-lived annual species may establish after seasonal or cyclonic rainfall events.
- . The Priority 2 flora species – *Styloidium weeliwolli* has been recorded southwards in Weeli Wolli Creek. This species is unlikely to occur within the project area as the seasonally inundated sandy soils are not repeated within the project area. The major and minor flow lines within the project area do not support permanent waterholes (as near the population at Weeli Wolli Creek).

Based on information available from previous studies in nearby mining leases by Biota Environmental Sciences (2005) a range of Rare and Priority species might occur near the project area, namely:

- . The Priority 1 flora species – *Eremophila pilosa*;
- . The Priority 3 flora species – *Abutilon trudgenii* (ms)
- . The Priority 3 flora species – *Goodenia nuda*;
- . The Priority 3 flora species – *Hibiscus brachysiphonius*;
- . The Priority 3 flora species – *Sida* sp. Wittenoom (W.R. Barker 1962)
- . The Priority 3 flora species – *Themeda* sp. Hamersley Station (M.E. Trudgen 11431)

These Priority flora species were recorded from the Fortescue and Hamersley areas by Biota Environmental Sciences (2005) on the Stage B rail corridor and mine areas (Biota Environmental Sciences and Trudgen 2002, Biota Environmental Sciences 2004a and 2004b, Biota Environmental Sciences 2005).

Despite searching, no plant taxon recorded in the surveys is gazetted as Declared Rare Flora pursuant to subsection (2) of section 23F of the Wildlife Conservation Act (1950).

Despite searching, no plant taxon listed as Threatened pursuant to Schedule 1 of the Environmental Protection Biodiversity Conservation Act (1999) were recorded in the surveyed area.

A total of four Priority species were recorded in the surveyed area. There were one Priority 1 species, two Priority 3 species and one Priority 4 species recorded.

The Priority 1 species *Eremophila spongiocarpa* (ms) was recorded in plant community 2, on the northern fringes of the Fortescue Marshes (740300m Easting: 7525200m Northing), which is located just south of the lease area. This species is represented by seven vouchered specimens in the Western Australian Herbarium. It is a shrub to one metre in height, inhabiting weakly saline flats, and flowering from May to September.

Priority 3 species *Rostellularia adscendens* var. *latifolia* was recorded in plant communities 4 and 5 on the Cloud Break and White Knight project areas. These communities occur on the flats and broader plains within the project area. This Priority species was recorded at the following locations:

- . 671660 m (Easting) / 7543398 m (Northing)
- . 719526 m (Easting) / 7532126 m (Northing)

This Priority 3 species is relatively restricted and to date has been recorded at 7 locations in two key areas within the Pilbara Region. On the basis of Western Australian Herbarium records it appears that this species is relatively widespread locally in a range of habitats from alluvial fringes of creeklines to rocky hillslopes (red ironstone to volcanic soils). This herb or small shrub flowers after the summer rains (April – May) and consequently it would be favoured by heavy rains associated with cyclonic rainfall events. Further studies are recommended following more favourable rainfalls.

The second Priority 3 species, *Themeda* sp. Hamersley Station (M.E.Trudgen 11431) PN, was recorded in plant community 9 at the following location:

- . 733600 m (Easting) / 7529000 m (Northing)

This species is restricted to the Pilbara Bioregion, and is found in red clay in clay pans or on grass plains. It may form tussocks or take on a herbaceous habit between 90 to 180 centimetres in height. This species is represented by ten vouchered specimens in the herbarium.

The Priority 4 species (*Eremophila youngii* subsp. *lepidola* ms) was recorded in plant community 10, at the following location:

- . Approximately 733021 m (Easting) / 7529583 m (Northing)

This species is represented by eleven vouchered specimens in the Western Australian Herbarium from the Pilbara, Gascoyne and Carnarvon Bioregions. Herbarium records appear to indicate a range of habitats including well-drained stony sandy loam, semi-saline floodplains, mudflats and clayflats, and may be associated with *Acacia pruinocarpa*, *Senna artemisioides* subsp. *oligophylla*, *Hakea preissii*, and halophytes. This dense spreading shrub flowers in summer (January – March) and again in winter to early spring (June – September).

### 5.3 Range Extensions for Flora

A range of species occurred on their fringes of their distribution and therefore these species are of local significance. These species included:

- . *Acacia aneura* var. *conifer* – this species is more widespread to the south in the Mulga woodlands. This taxon is often referred to as the Christmas Tree form of Mulga.
- . *Eremophila platycalyx* subsp. *platycalyx* (ms) – this species appears to be a range extension to current distributions.
- . *Fimbristylis leucocolea* – this species appears to be a range extension to current distributions.
- . *Frankenia irregularis* - this species occurs as a range extension to its main occurrence. This species was recorded on the fringes of the Fortescue Marshes. This species has been recorded previously in the area by Beard (Western Australian Herbarium 2005a).
- . *Maireana luehmannii* - this species occurs as a range extension to its main occurrence. This species was recorded in the samphire communities on the fringes of the Fortescue Marshes.
- . *Melaleuca leiocarpa* – this species occurs as a range extension to its main occurrence. This species was recorded in the major flowlines through the project areas.

- . *Portulaca cyclophylla* – this species appears to be a range extension to current distributions. This species was recorded in the *Acacia* shrublands on the fringes of the main creekline and drainage areas.
- . *Psydrax rigidula* (ms) – this species appears to be a range extension to current distributions. This species is similar to *Psydrax suaveolens* (ms) and may be more widespread than originally thought in the Pilbara Region.

Of these latter species, the most significant appear to be those associated with the restricted habitats near the fringes of the Fortescue Marshes. As these marshes are on the fringes of the project area, it is unlikely that the project will directly impact on these species. The potential for indirect impacts from the proposed developments requires monitoring (e.g. local changes in hydrological conditions).

## 5.4 Vegetation

Eighteen plant communities were defined and mapped during the survey in 2004. These community types consist of four communities near the creekline and drainage lines, six communities on the extensive flats and broad plains, four communities on the ranges, hills and hillslopes and four communities on the fringes of the Fortescue Marshes (or samphire flats).

The species recorded in the respective communities are summarized in Appendix B and in the established plots in Appendix C. Appendix C does not include the opportunistic collections on subsequent trips or collections outside the plots.

The communities are defined below and mapped on the project areas (Figures 1 to 7). A description of each plant community is given below.

### Creekline and Drainage Lines

- 1 - Open Woodland of *Eucalyptus victrix*, *Eucalyptus camaldulensis* var. *obtusa* with pockets of *Acacia coriacea* subsp. *pendens* over *Grevillea wickhamii* subsp. *aprica*, *Petalostylis labicheoides*, *Acacia tumida* over *Triodia longiceps*, *Chrysopogon fallax*, *Themeda triandra* and *Aristida* species.
- 2 - Low Woodland to Low Open Forest of *Acacia aneura* var. *aneura*, *Acacia citrinoviridis*, *Acacia pruinocarpa* over *Acacia tetragonophylla* and *Psydrax latifolia* over *Chrysopogon fallax*, *Stemodia viscosa*, *Blumea tenella*, *Themeda triandra* and species of *Triodia* and *Aristida*.
- 8 - Closed Scrub to Tall Shrubland of *Acacia pruinocarpa*, *Acacia tumida*, *Acacia ancistrocarpa*, *Acacia maitlandii*, *Acacia kempeana*, *Acacia tetragonophylla* with occasional *Eucalyptus gamophylla* and *Corymbia deserticola* over *Triodia epactia*, *Themeda triandra* and *Aristida* species.
- 9 - Closed Scrub to Shrubland of *Acacia ancistrocarpa*, *Acacia maitlandii*, *Acacia kempeana*, *Acacia monticola* with occasional *Eucalyptus gamophylla* and *Corymbia deserticola* over *Senna* species, *Triodia basedowii* and *Aristida* species.

### Flats and Broad Plains

- 3 - Low Woodland to Low Open Forest of *Acacia aneura* var. *aneura*, *Acacia pruinocarpa*, *Acacia tetragonophylla*, *Acacia tenuissima*, *Grevillea wickhamii* subsp. *aprica*, *Psydrax latifolia* over *Dodonaea petiolaris* and species of *Triodia* and *Aristida*.
- 4 - Low Open Woodland of *Acacia aneura* var. *aneura*, *Acacia pruinocarpa*, *Acacia xiphophylla*, *Acacia victoriae* over *Acacia tetragonophylla*, *Psydrax latifolia* and *Psydrax suaveolens* over *Ptilotus obovatus* var. *obovatus* and mixed Chenopod species of *Maireana* and *Sclerolaena*.
- 5 - Low Woodland of *Acacia aneura* var. *aneura*, *Acacia pruinocarpa* over *Acacia tetragonophylla*, *Psydrax latifolia* and *Psydrax suaveolens* over *Ptilotus obovatus* var. *obovatus* and mixed Chenopod and Poaceae species.

- 6 - Low Woodland of *Acacia aneura* var. *aneura*, *Acacia pruinocarpa* over *Acacia tetragonophylla*, *Psyrax latifolia* and *Psyrax suaveolens* over *Ptilotus obovatus* var. *obovatus* and *Triodia epactia* and Poaceae species.
- 10 - Low Open Woodland of *Acacia xiphophylla*, *Acacia victoriae*, *Acacia aneura* var. *aneura* over *Acacia tetragonophylla*, *Ptilotus obovatus* var. *obovatus*, *Senna* species and mixed Chenopod species of *Maireana* and *Sclerolaena*.
- 15 - Low Open Woodland of *Acacia victoriae*, *Acacia xiphophylla* over *Ptilotus obovatus* var. *obovatus*, *Senna* species and mixed Chenopod species of *Maireana* and *Sclerolaena*.

#### Ranges, Hills and Hillslopes

- 7 - Hummock Grassland of *Triodia basedowii* with emergent patches of *Eucalyptus gamophylla*, *Eucalyptus leucophloia*, *Corymbia deserticola* over *Acacia ancistrocarpa*, *Acacia sclerosperma*, *Acacia kempeana*, *Acacia arida*, *Grevillea berryana*, *Grevillea wickhamii* subsp. *aprica*, *Calytrix carinata* over *Goodenia stobbsiana* and mixed Poaceae species.
- 16 - Hummock Grassland of *Triodia basedowii* with pockets of *Triodia epactia* and *Triodia lanigera* with emergent patches of *Eucalyptus leucophloia*, *Corymbia deserticola* over *Acacia ancistrocarpa*, *Acacia hilliana*, *Acacia acradenia*, *Acacia pyrifolia*, *Hakea lorea* subsp. *lorea* over *Goodenia stobbsiana* and mixed *Senna* species.
- 17 - Hummock Grassland of *Triodia basedowii* with pockets of *Triodia epactia* and *Triodia lanigera* with emergent patches of *Eucalyptus leucophloia*, *Corymbia deserticola* over *Acacia ancistrocarpa*, *Acacia pyrifolia*, *Hakea lorea* subsp. *lorea* over *Goodenia stobbsiana* and mixed *Senna* and *Ptilotus* species.
- 18: Hummock Grassland of *Triodia angusta* with emergent patches of *Eucalyptus leucophloia* over *Acacia ancistrocarpa*, *Acacia pyrifolia*, *Hakea lorea* subsp. *lorea* over *Goodenia stobbsiana* and mixed *Senna* and *Ptilotus* species.

#### Fringes of Samphire Flats

- 11 - Hummock Grassland of *Triodia angusta* with patches of *Acacia victoriae*, *Acacia aneura* var. *aneura*, *Acacia xiphophylla* over *Atriplex codonocarpa*, *Eremophila cuneifolia* and mixed Chenopods.
- 12 - Low Halophytic Shrubland of *Halosarcia auriculata* and *Halosarcia indica* subsp. *leiostachya* with associated Chenopod species of *Maireana* species and *Atriplex flabelliformis* with *Muehlenbeckia florulenta* with patches of *Acacia victoriae* and *Acacia sclerosperma* subsp. *sclerosperma*.
- 13 - Low Halophytic Shrubland of *Halosarcia auriculata*, *Halosarcia indica* subsp. *leiostachya*, *Halosarcia halocnemoides* subsp. *tenuis* with patches of *Frankenia* species.
- 14 - Hummock Grassland of *Triodia angusta* with patches of *Acacia victoriae* over *Atriplex codonocarpa* and mixed Chenopods and Poaceae species.

Of these plant communities, the restricted communities near the fringes of the Samphire Flats (or Fortescue Marshes) are locally more significant. These communities are spatially restricted and form part of the regionally and nationally recognized marshes.

## 5.5 Status of Plant Communities

The spatial extent of the plant communities as defined in Figures 1 to 7 is summarized in Table 4.

**Table 4: Spatial Extent of the Plant Communities in the Cloud Break and White Knight project areas**

Plant Community Code	Number of Polygons	Area (ha)
1	23	824.15
2	114	5836.13
3	112	14725.96
4	177	6432.77
5	7	289.78
6	7	466.97
7	36	1402.54
8	63	1147.02
9	71	1173.94
10	109	15539.91
11	19	273.32
12	12	154.98
13	10	271.85
14	6	9.99
15	1	231.28
16	49	1971.08
17	26	4632.35
18	3	3.15

None of the plant communities within the survey area are considered Threatened Ecological Communities pursuant to Schedule 2 of the Environmental Protection Biodiversity Conservation Act (1999) or according to English and Blyth (1997).

The Fortescue Marshes, which occur on the southern fringes of the Cloud Break project area are listed as a ‘Nationally Important Wetland’ (Department of Environment and Heritage 2005), based on the following criteria:

- . it is a good example of a wetland type occurring within a biogeographic region in Australia;
- . it is a wetland that plays an important ecological or hydrological role in the natural functioning of a major wetland system/complex;
- . it is a wetland that is important as the habitat for animal taxa at a vulnerable stage in their life cycles, or provides a refuge when adverse conditions such as drought prevail; and
- . the wetland is of outstanding historical or cultural significance.

The Fortescue Marsh is also listed as an “indicative place” on the Register of the National Estate (natural heritage) due to its importance for conservation of waterbirds (Department of Environment and Heritage 2005). On the basis of the flora data available (from the current survey and the Western Australian Herbarium 2005a records) the natural heritage values extend well beyond the inherent habitat values for the waterbirds.

The communities within the fringes of the Fortescue Marsh include communities 11, 12, 13 and 14 (Figures 1 to 7), which are all relatively restricted in area within the project area (Table 4); although these communities are more extensive outside the project area.

The Mulga woodlands (plant communities 4 and 5) are locally significant as they support the Priority 3 species (*Rostellularia adscendens* var. *latifolia*). Plant community 2 supports the Priority 1 species *Eremophila spongiorcarpa* (ms) to the south of the lease area. In reviewing the data as presented it could be concluded that the Mulga communities are locally significant as they support a range of Priority species and as they occur on the northern limit of their occurrence. However it needs to be recognised that these Mulga systems within the Fortescue valley system extend well beyond the vegetation mapping project area.

The extent of the respective communities within the Cloud Break and White Knight vegetation mapping areas are summarised in Table 4. As indicated by the review of data for the proposed Cloud Break mining area (Table 5), the proposed extent of clearing for the proposed mining activities is relatively small in relation to the total area of the Mulga communities within the Fortescue valley system.

Similarly, the Closed Scrub (plant community 9) and Low Open Woodland (plant community 10) are locally significant as they support the Priority 3 species *Themeda* sp. Hamersley Station (M.E.Trudgen 11431) PN and the Priority 4 species respectively.

## 5.6 Condition of the Plant Communities

The plant communities have been extensively modified on the flats and plains within the project area either by grazing pressures or by regular fires. The condition of the Mulga communities is very variable and depends on the frequency of fires and the extent of grazing pressures from the cattle. The grazing pressure increases near the watering points and in many places the understorey has been extensively modified. In these degraded areas the condition of the vegetation is degraded to severely degraded.

The communities on the ranges and near the Fortescue Marshes are considered to be less disturbed. The cattle do not tend to graze on the Hummock Grasslands on the ranges in the northern sections of the lease area. The impact of cattle on the Fortescue Marshes varied in different seasons and in the recent field trip more physical disturbance of the soil surface was more apparent from cattle activity. Therefore the condition of the vegetation within the Fortescue Marshes ranged from degraded to good, depending on the extent of disturbance from the cattle.

## 6. DISCUSSION

The Cloud Break and White Knight project areas occur within the Pilbara Bioregion as defined in the Interim Biogeographical Regionalisation for Australia (IBRA) (Thackway and Cresswell 1995 and Environment Australia 2000, 2005). The Cloud Break and White Knight project areas occur on the southern fringes of the Chichester Range within the Fortescue valley system. The Cloud Break deposit occurs to the north of the Fortescue Marshes.

The complexity of the flora values across the Fortescue valley system is reflected in the shift of communities from the fringes of the marshes to the hillslopes on the southern edges of the Chichester Ranges (Figure 1 to 7). These findings support the earlier observations of van Leeuwen and Bromilow (2002) as recognized by Biota Environmental Sciences (2005). The low undulating hills and flats are dissected by a series of major flowlines. The dense woodlands and shrublands near these flowlines support the highest diversity of species within the respective communities.

The plant communities near the fringes of the Fortescue Marshes are locally restricted and form part of the regionally and nationally significant marshes. The occurrence of these different communities on the fringes of the marshes is largely controlled by the local site conditions and the seasonal inundation of some of the areas. These fringing communities are locally, regionally and nationally significant.

On the basis of proposed clearing boundaries as supplied by Fortescue Metals Group, the following areas of the respective plant communities will be disturbed by the proposed mine at Cloud Break (including pits, dumps and transport corridors), Table 5. The areas below do not include the proposed railway corridors.

**Table 5: Area of Disturbance (ha) in the Mine Layout Area at Cloud Break (based on data supplied by Fortescue Metals Group, June 2005)**

Mattiske – Plant Community Mapping Code	Area of Disturbance (ha)	Rangeland Mulga Community	% Total of Mapped Area (Table 4)
2	418.7	Newman Land System	7.17%
3	2168	Jamindie Land System	14.72%
4	427.1	Cowra Land System	6.64%
9	241.5		20.57%
10	467.7		3.01%

The Mulga communities are of local significance as they support a range of Priority species and also as they occur on the northern limit of their occurrence. The Mulga communities extend well beyond the project area within the Fortescue valley system. The extent of the respective communities within the Cloud Break and White Knight vegetation mapping areas are summarised in Table 4. As indicated by the review of data for the proposed Cloud Break mining area (Table 5), the proposed extent of clearing for the proposed mining activities is relatively small in relation to the total area of the Mulga communities within the Fortescue valley system.

A total of 234 taxa (including subspecies and varieties) from 106 genera and 41 families were recorded within the survey area. The number of species recorded is relatively lower than those recorded by Biota Environmental Sciences in the Stage B areas (620 taxa from 190 genera and 55 families) (Biota Environmental Sciences 2005). Few annual and short-lived species were collected in the October/November 2004 survey. This lack of short-lived species was largely due to the dry seasonal conditions that occurred prior to the surveys. There is a need to undertake targeted collecting after seasonal or cyclonic rainfall events.

A total of four introduced species was recorded; Declared Weeds *\*Bidens pilosa*, *\*Cenchrus ciliaris*, *\*Cenchrus setigerus*, and *\*Malvastrum americanum* (Hussey *et al.* 1997). Several of these introduced species are particularly aggressive and therefore require management, so that their occurrence does not lead to a decline in the range of native species in the respective communities.

Despite searching, no plant taxon recorded in the surveys are gazetted as Declared Rare Flora pursuant to subsection (2) of section 23F of the Wildlife Conservation Act (1950).

Despite searching, no plant taxon listed as Threatened pursuant to Schedule 1 of the Environmental Protection Biodiversity Conservation Act (1999) were recorded in the surveyed area.

Four Priority species (one Priority 1, two Priority 3 and 1 Priority species) were recorded during the survey on the Cloud Break and White Knight project areas, namely:

- . The Priority 1 species (*Eremophila spongiorarpa* (ms)) was recorded in plant community 2.
- . One Priority 3 species (*Rostellularia adscendens* var. *latifolia*) was recorded in plant communities 4 and 5. These communities occur on the flats and broader plains within the project area.
- . Another Priority 3 species (*Themeda* sp. Hamersley Station (M.E.Trudgen 11431) PN) was recorded in plant community 9.
- . One Priority 4 species (*Eremophila youngii* subsp. *lepidola* (ms)) was recorded in plant community 10.

In view of the presence of these one Priority 1 species, two Priority 3 species, one Priority 4 species and a range of species that occur as extensions of current known distributions, there is a need to restrict the extent of clearing activities in the project areas. There is also a need to reduce any potential indirect impacts on the regionally and nationally significant Fortescue Marshes.

## 7. RECOMMENDATIONS

The following recommendations are made to maximize the conservation the botanical values in the project areas, namely:

- Clearing is limited to that which is necessary for operations.
- Searches for Rare and Priority Flora should be continued during the development phase.
- Permanent vegetation plots should be established and monitored before during and after mining activities.
- The likely success for revegetation should be further investigated, addressing the issues of water relations, weed invasion, changes in topography and soil structure.
- Topsoil should be respread over disturbed areas as soon as possible after clearing and stockpiling should only be undertaken for short periods if direct return of topsoil is not feasible
- Local hydrological soil conditions are managed to minimize direct and indirect impacts on the native vegetation areas (particularly in areas that may influence the regionally and nationally recognized Fortescue Marshes, located on the southern fringes of the Cloud Break project area).
- Further collections of flora should be undertaken after higher seasonal rainfall events.

## 8. LIST OF PARTICIPANTS

The following personnel of Mattiske Consulting Pty Ltd have been involved with this project:

Principal Ecologist: Dr E. M. Mattiske

Senior Biologists: Mrs L Cobb  
Dr S Chalwell  
Mr D Kabay

Data Processing: Ms K. Moiler

## 9. ACKNOWLEDGMENTS

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**APPENDIX A: VASCULAR PLANT SPECIES RECORDED ON FORTESCUE METALS GROUP  
LEASE AREAS**

Notes: \* introduced (weed) taxa.

P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
ADIANTACEAE	<i>Cheilanthes brownii</i>		X
	<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	X	X
TYPHACEAE	<i>Typha domingensis</i>		X
POACEAE	<i>Amphipogon sericeus</i>		X
	<i>Aristida anthoxanthoides</i>		X
	<i>Aristida contorta</i>	X	X
	<i>Aristida holathera</i> var. <i>holathera</i>	X	X
	<i>Aristida inaequiglumis</i>		X
	<i>Aristida latifolia</i>	X	X
	<i>Aristida obscura</i>		X
	<i>Aristida</i> sp. (?aff. <i>nitidula</i> )		X
	<i>Brachyachne convergens</i>	X	X
	<i>Brachyachne prostrata</i>		X
	<i>Bothriochloa ewartiana</i>		X
	* <i>Cenchrus ciliaris</i>	X	X
	* <i>Cenchrus setigerus</i>	X	X
	<i>Chloris pectinata</i>		X
	* <i>Chloris virgata</i>		X
	<i>Chrysopogon fallax</i>	X	X
	<i>Cymbopogon ambiguus</i>	X	X
	<i>Cymbopogon bombycinus</i>		X
	<i>Cymbopogon dependens</i>		X
	<i>Cymbopogon obtectus</i>		X
	<i>Cymbopogon procerus</i>		X
	<i>Dactyloctenium radulans</i>		X
	<i>Dichanthium sericeum</i>	X	
	<i>Dichanthium sericeum</i> subsp. <i>humilius</i>		X
	<i>Digitaria brownii</i>		X
	<i>Digitaria ctenantha</i>		X
	* <i>Echinochloa colona</i>		X
	<i>Elytrophorus spicatus</i>		X
	<i>Enneapogon caerulescens</i>	X	
	<i>Enneapogon caerulescens</i> var. <i>caerulescens</i>	X	X
	<i>Enneapogon lindleyanus</i>		X
	<i>Enneapogon polyphyllus</i>	X	X
	<i>Enneapogon robustissimus</i>		X
	<i>Enteropogon acicularis</i>		X
	<i>Eragrostis cumingii</i>	X	X
	<i>Eragrostis dielsii</i>	X	
	<i>Eragrostis eriopoda</i>		X
	<i>Eragrostis</i> aff. <i>eriopoda</i> (FMN18-73)		X
	<i>Eragrostis</i> aff. <i>eriopoda</i> (WAS site 963)		X
	<i>Eragrostis exigua</i>		X
<i>Eragrostis leptocarpa</i>		X	
<i>Eragrostis pergracilis</i>	X	X	
<i>Eragrostis setifolia</i>		X	

**APPENDIX A: VASCULAR PLANT SPECIES RECORDED ON FORTESCUE METALS GROUP  
LEASE AREAS**

Notes: \* introduced (weed) taxa.

P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
POACEAE	<i>Eragrostis tenellula</i>		X
(continued)	<i>Eragrostis xerophila</i>		X
	<i>Eriachne aristidea</i>		X
	<i>Eriachne benthamii</i>		X
	<i>Eriachne ciliata</i>	X	
	<i>Eriachne flaccida</i>		X
	<i>Eriachne helmsii</i>		X
	<i>Eriachne lanata</i>	X	X
	<i>Eriachne mucronata</i>	X	
	<i>Eriachne mucronata</i> (typical form)		X
	<i>Eriachne mucronata</i> (arid form) (MET 12 736)		X
	<i>Eriachne</i> aff. <i>mucronata</i> (fine species MET 12,737)		X
	<i>Eriachne obtusa</i>	X	X
	<i>Eriachne pulchella</i> subsp. <i>dominii</i>		X
	<i>Eriachne tenuiculmis</i>	X	X
	<i>Eriachne</i> aff. <i>tenuiculmis</i>	X	
	<i>Eriachne</i> sp.	X	X
	<i>Eulalia aurea</i>		X
	<i>Heteropogon contortus</i>		X
	<i>Iseilema dolichotrichum</i>		X
	<i>Iseilema eremaeum</i>		X
	<i>Iseilema macratherum</i>		X
	<i>Iseilema membranaceum</i>	X	X
	<i>Iseilema vaginiflorum</i>		X
	<i>Panicum decompositum</i>		X
	<i>Panicum effusum</i> var. <i>effusum</i>		X
	<i>Panicum laevinode</i>		X
	<i>Panicum</i> sp.	X	
	<i>Paraneurache muelleri</i>	X	X
	<i>Paspalidium basicladum</i>		X
	<i>Paspalidium clementii</i>		X
	<i>Paspalidium rarum</i>		X
	<i>Paspalidium</i> sp.		X
	<i>Perotis rara</i>		X
	<i>Schizachyrium fragile</i>		X
	<i>Setaria dielsii</i>		X
	<i>Setaria surgens</i>		X
	* <i>Setaria verticillata</i>		X
	<i>Sporobolus australasicus</i>	X	X
	<i>Themeda triandra</i>	X	X
	<i>Themeda</i> sp. Hamersley Station (M.E.Trudgen 11431) (PN) P3	X	X
	<i>Tragus australianus</i>		X
	<i>Triodia angusta</i>	X	
	<i>Triodia basedowii</i>	X	
	<i>Triodia</i> aff. <i>basedowii</i>		X
	<i>Triodia brizoides</i>	X	X
	<i>Triodia epactia</i>	X	X
	<i>Triodia lanigera</i>		X

**APPENDIX A: VASCULAR PLANT SPECIES RECORDED ON FORTESCUE METALS GROUP  
LEASE AREAS**

Notes: \* introduced (weed) taxa.

P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
POACEAE	<i>Triodia longiceps</i>	X	X
(continued)	<i>Triodia melvillei</i>		X
	<i>Triodia pungens</i>	X	X
	<i>Triodia schinzii</i>		X
	<i>Triodia wiseana</i>		X
	<i>Tripogon loliiformis</i>		X
	<i>Triraphis mollis</i>		X
	<i>Urochloa gilesii</i> subsp. <i>gilesii</i> (glabrous florets)		X
	<i>Urochloa gilesii</i> subsp. <i>occidentalis</i>		X
	<i>Urochloa holosericea</i> subsp. <i>velutina</i>		X
	<i>Yakirra australiensis</i> var. <i>australiensis</i>		X
CYPERACEAE	<i>Bulbostylis barbata</i>		X
	<i>Bulbostylis turbinata</i>		X
	<i>Cyperus conicus</i>		X
	<i>Cyperus hesperius</i>	X	
	<i>Cyperus iria</i>		X
	<i>Cyperus vaginatus</i>		X
	<i>Fimbristylis dichotoma</i>		X
	<i>Fimbristylis leucocolea</i>	X	
	<i>Fimbristylis microcarya</i>		X
	<i>Fimbristylis simulans</i>		X
	<i>Schoenoplectus laevis</i>		X
MORACEAE	<i>Ficus brachypoda</i>		X
PROTEACEAE	<i>Grevillea berryana</i>	X	X
	<i>Grevillea juncifolia</i>		X
	<i>Grevillea pyramidalis</i>		X
	<i>Grevillea striata</i>		X
	<i>Grevillea wickhamii</i> subsp. <i>aprica</i>	X	X
	<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	X	
	<i>Grevillea wickhamii</i> subsp. <i>hispidula</i>	X	X
	<i>Grevillea</i> sp.		X
	<i>Hakea chordophylla</i>		X
	<i>Hakea lorea</i> subsp. <i>lorea</i>	X	X
SANTALACEAE	<i>Anthobolus leptomerioides</i>	X	X
	<i>Santalum lanceolatum</i>		X
LORANTHACEAE	<i>Amyema fitzgeraldii</i>	X	X
POLYGONACEAE	* <i>Acetosa vesicaria</i>		X
	<i>Muehlenbeckia florulenta</i>	X	

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LEASE AREAS**

Notes: \* introduced (weed) taxa.

P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
CHENOPODIACEAE	<i>Atriplex bunburyana</i>		
	<i>Atriplex codonocarpa</i>	X	X
	<i>Atriplex flabelliformis</i>	X	
	<i>Atriplex lindleyi</i>	X	
	<i>Chenopodium melanocarpum</i>		X
	<i>Dissocarpus paradoxus</i>	X	
	<i>Dysphania glomulifera</i> subsp. <i>eremaea</i>		X
	<i>Dysphania kalpari</i>		X
	<i>Dysphania rhadinostachya</i>	X	
	<i>Dysphania rhadinostachya</i> subsp. <i>rhadinostachya</i>		X
	<i>Enchylaena tomentosa</i>	X	
	<i>Enchylaena tomentosa</i> var. <i>tomentosa</i>	X	X
	<i>Halosarcia auriculata</i>	X	
	<i>Halosarcia halocnemoides</i> subsp. <i>tenuis</i>	X	
	<i>Halosarcia indica</i> subsp. <i>leiostachya</i>	X	
	<i>Maireana carnosa</i>		X
	<i>Maireana georgei</i>	X	X
	<i>Maireana luehmannii</i>	X	
	<i>Maireana melanocoma</i>		X
	<i>Maireana planifolia</i>	X	X
	<i>Maireana planifolia</i> x <i>villosa</i>		X
	<i>Maireana pyramidata</i>	X	X
	<i>Maireana thesioides</i>		X
	<i>Maireana tomentosa</i>		X
	<i>Maireana triptera</i>	X	
	<i>Maireana villosa</i>		X
	<i>Rhagodia eremaea</i>	X	X
	<i>Rhagodia</i> sp. Hamersley (M. Trudgen 17794)		X
	<i>Salsola tragus</i>	X	X
	<i>Sclerolaena bicornis</i> var. <i>bicornis</i>		X
	<i>Sclerolaena cornishiana</i>	X	X
	<i>Sclerolaena costata</i>		X
	<i>Sclerolaena cuneata</i>	X	X
	<i>Sclerolaena eriacantha</i>		X
<i>Sclerolaena lanicuspis</i>	X	X	
<i>Sclerolaena</i> sp. nov. aff. <i>densiflora</i>		X	
AMARANTHACEAE	<i>Achyranthes aspera</i>		X
	* <i>Aerva javanica</i>		X
	<i>Alternanthera angustifolia</i>		X
	<i>Alternanthera nana</i>		X
	<i>Alternanthera nodiflora</i>	X	X
	<i>Amaranthus interruptus</i>		X
	<i>Amaranthus</i> aff. <i>interruptus</i> (MET 16,114)		X
	<i>Amaranthus pallidiflorus</i>		X
	<i>Gomphrena affinis</i> subsp. <i>pilbarensis</i>		X
	<i>Gomphrena cunninghamii</i>	X	X
<i>Gomphrena kanisii</i>		X	

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P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
AMARANTHACEAE	<i>Gomphrena lanata</i>		X
(continued)	<i>Ptilotus aervoides</i>		X
	<i>Ptilotus aphyllus</i>		X
	<i>Ptilotus appendiculatus</i> var. <i>appendiculatus</i>		X
	<i>Ptilotus astrolasius</i> var. <i>astrolasius</i>	X	X
	<i>Ptilotus auriculifolius</i>		X
	<i>Ptilotus axillaris</i>		X
	<i>Ptilotus calostachyus</i>	X	
	<i>Ptilotus calostachyus</i> var. <i>calostachyus</i>		X
	<i>Ptilotus carinatus</i>		X
	<i>Ptilotus clementii</i>		X
	<i>Ptilotus exaltatus</i>	X	
	<i>Ptilotus exaltatus</i> var. <i>exaltatus</i>		X
	<i>Ptilotus fusiformis</i> var. <i>fusiformis</i>		X
	<i>Ptilotus gaudichaudii</i>	X	
	<i>Ptilotus gaudichaudii</i> var. <i>gaudichaudii</i>		X
	<i>Ptilotus gomphrenoides</i> var. <i>gomphrenoides</i>		X
	<i>Ptilotus helipteroides</i> var. <i>helipteroides</i>		X
	<i>Ptilotus macrocephalus</i>		X
	<i>Ptilotus obovatus</i> var. <i>obovatus</i>	X	X
	<i>Ptilotus polystachyus</i> var. <i>polystachyus</i>		X
	<i>Ptilotus roei</i>		X
	<i>Ptilotus rotundifolius</i>		X
	<i>Ptilotus schwartzii</i> var. <i>schwartzii</i>		X
	<i>Ptilotus</i> sp. LM100	X	
NYCTAGINACEAE	<i>Boerhavia burbidgeana</i>		X
	<i>Boerhavia coccinea</i>		X
	<i>Boerhavia repleta</i>		X
	<i>Boerhavia schomburgkiana</i>	X	
GYROSTEMONACEAE	<i>Codonocarpus cotinifolius</i>	X	X
	<i>Gyrostemon tepperi</i>		X
AIZOACEAE	<i>Trianthema glossostigma</i>		X
	<i>Trianthema pilosa</i>		X
	<i>Trianthema triquetra</i>		X
	<i>Trianthema turgidifolia</i>	X	
	<i>Zaleya galericulata</i>		X
MOLLUGINACEAE	<i>Mollugo molluginis</i>		X
PORTULACACEAE	<i>Calandrinia ptychosperma</i>		X
	<i>Calandrinia pumila</i>		X
	<i>Calandrinia schistorhiza</i>		X
	<i>Calandrinia stagnensis</i>		X

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LEASE AREAS**

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P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
PORTULACACEAE	<i>Portulaca cyclophylla</i>	X	
(continued)	<i>Portulaca oleracea</i>		X
	<i>Portulaca pilosa</i>		X
CARYOPHYLLACEAE	<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	X	X
	<i>Polycarpaea holtzei</i>	X	X
	<i>Polycarpaea involucrata</i>		X
	<i>Polycarpaea longiflora</i>	X	X
LAURACEAE	<i>Cassytha capillaris</i>		X
	<i>Cassytha filiformis</i>		X
PAPAVERACEAE	* <i>Argemone ochroleuca</i> subsp. <i>ochroleuca</i>		X
CAPPARACEAE	<i>Capparis lasiantha</i>		X
	<i>Capparis umbonata</i>		X
	<i>Cleome oxalidea</i>		X
	<i>Cleome viscosa</i>	X	X
BRASSICACEAE	<i>Lepidium echinatum</i>		X
	<i>Lepidium muelleri-ferdinandii</i>		X
	<i>Lepidium oxytrichum</i>		X
	<i>Lepidium pedicellosum</i>		X
	<i>Lepidium phlebopetalum</i>		X
	<i>Lepidium pholidogynum</i>		X
	<i>Stenopetalum anfractum</i>		X
	<i>Stenopetalum decipiens</i>		X
	<i>Stenopetalum nutans</i>		X
PITTOSPORACEAE	<i>Pittosporum angustifolium</i>	X	
BYBLIDACEAE	<i>Byblis filifolia</i>		X
SURIANACEAE	<i>Stylobasium spathulatum</i>	X	
MIMOSACEAE	<i>Acacia acradenia</i>	X	X
	<i>Acacia adoxa</i> var. <i>adoxo</i>	X	X
	<i>Acacia adsurgens</i>	X	X
	<i>Acacia ancistrocarpa</i>	X	X
	<i>Acacia aneura</i> var. <i>aneura</i>	X	
	<i>Acacia aneura</i> var. <i>?aneura/intermedia</i>	X	X
	<i>Acacia aneura</i> var. <i>conifera</i>	X	X
	<i>Acacia aneura</i> var. <i>intermedia</i>	X	
	<i>Acacia aneura</i> var. <i>longicarpa</i>		X
	<i>Acacia aneura</i> (flat curved; MET 15548)		X
	<i>Acacia aneura</i> (grey bushy form; MET 15732)		X
	<i>Acacia aneura</i> (grey flat recurved tips; MET 15828)		X
	<i>Acacia</i> aff. <i>aneura</i> (grey flat, recurved tips, MET 15828)		X

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LEASE AREAS**

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P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
MIMOSACEAE	<i>Acacia</i> aff. <i>aneura</i> (long, flat, recurved: FMR 35.3)		X
(continued)	<i>Acacia</i> aff. <i>aneura</i> (narrow fine veined; site 1259)		X
	<i>Acacia arida</i>	X	X
	<i>Acacia atkinsiana</i>		X
	<i>Acacia ayersiana</i>	X	X
	<i>Acacia bivenosa</i>		X
	<i>Acacia bivenosa</i> (wispy/weeping form)		X
	<i>Acacia bivenosa</i> x <i>ampleiceps</i>		X
	<i>Acacia catenulata</i>		X
	<i>Acacia citrinoviridis</i>		X
	<i>Acacia citrinoviridis</i> x (FMN09-02)		X
	<i>Acacia coriacea</i> subsp. <i>pendens</i>	X	X
	<i>Acacia coriacea</i> subsp. <i>sericophylla</i>	X	X
	<i>Acacia cowleana</i>		X
	<i>Acacia dictyophleba</i>		X
	<i>Acacia distans</i>	X	
	<i>Acacia elachantha</i>		X
	<i>Acacia elachantha</i> (golden hairy variant)		X
	<i>Acacia elachantha</i> (silvery hairy variant)		X
	<i>Acacia eriopoda</i>	X	X
	<i>Acacia farnesiana</i>		X
	<i>Acacia hilliana</i>	X	X
	<i>Acacia inaequilatera</i>	X	X
	<i>Acacia kempeana</i>	X	
	<i>Acacia maitlandii</i>	X	X
	<i>Acacia marramamba</i>	X	X
	<i>Acacia melleodora</i>		X
	<i>Acacia monticola</i>	X	X
	<i>Acacia monticola</i> x <i>tumida</i> x <i>pilbarensis</i>		X
	<i>Acacia pachyacra</i>		X
	<i>Acacia paraneura</i>		X
	<i>Acacia pruinocarpa</i>	X	X
	<i>Acacia pyrifolia</i>	X	X
	<i>Acacia rhodophloia</i>	X	X
	<i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i>	X	X
	<i>Acacia spondylophylla</i>	X	X
	<i>Acacia stowardii</i> (crowded smaller phyllodes)		X
	<i>Acacia</i> ? <i>stenophylla</i>	X	
	<i>Acacia</i> aff. <i>stowardii</i> (linear form)		X
	<i>Acacia synchronicia</i>	X	X
	<i>Acacia synchronicia</i> (narrow phyllode form)		X
	<i>Acacia tenuissima</i>	X	X
	<i>Acacia tetragonophylla</i>	X	X
	<i>Acacia trachycarpa</i>		X
	<i>Acacia tumida</i>	X	
	<i>Acacia tumida</i> var. <i>pilbarensis</i>		X
	<i>Acacia tumida</i> var. <i>tumida</i>	X	
	<i>Acacia validinervia</i>		X

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MIMOSACEAE	<i>Acacia victoriae</i>	X	X
(continued)	<i>Acacia wanyu</i>		X
	<i>Acacia xiphophylla</i>	X	X
	<i>Neptunia dimorphantha</i>		X
CAESALPINIACEAE	<i>Petalostylis cassioides</i>		X
	<i>Petalostylis labicheoides</i>	X	
	<i>Senna ?glaucifolia</i> x aff. <i>oligophylla</i> (thinly sericeous) (FMR29-11)		X
	<i>Senna artemisioides</i> subsp. aff. <i>oligophylla</i> (thinly sericeous)		X
	<i>Senna artemisioides</i> subsp. aff. <i>oligophylla</i> (thinly sericeous)x <i>helmsii</i>		X
	<i>Senna artemisioides</i> subsp. <i>helmsii</i>	X	X
	<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	X	X
	<i>Senna artemisioides</i> subsp. <i>oligophylla</i> (thinly sericeous MET 15,035)		X
	<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>glaucifolia</i> (HD13-14)		X
	<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>glutinosa</i> (FMG116-02)		X
	<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>helmsii</i>		X
	<i>Senna artemisioides</i> subsp. <i>oligophylla</i> x <i>helmsii</i> (FMR75-01)		X
	<i>Senna artemisioides</i> subsp. x <i>sturtii</i>		X
	<i>Senna curvistyla</i>		X
	<i>Senna glaucifolia</i>	X	X
	<i>Senna glaucifolia</i> x ? (site 626)		X
	<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	X	X
	<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	X	X
	<i>Senna glutinosa</i> subsp. x <i>luerssenii</i>	X	X
	<i>Senna glutinosa</i> x <i>luerssenii</i>		X
	<i>Senna glutinosa</i> x <i>stricta</i>		X
	<i>Senna hamersleyensis</i>		X
	<i>Senna luerssenii</i> x <i>stricta</i>		X
	<i>Senna notabilis</i>	X	X
	<i>Senna sericea</i>	X	X
	<i>Senna</i> sp. Karijini (MET 10,392)		X
	<i>Senna</i> sp. Meekatharra (E. Bailey 1-26)		X
	<i>Senna</i> sp. West Angelas (MET 16,115)		X
	<i>Senna stricta</i>		X
	<i>Senna symonii</i>		X
PAPILIONACEAE	<i>Aeschynomene indica</i>		X
	<i>Alysicarpus muelleri</i>		X
	<i>Crotalaria dissitiflora</i> subsp. <i>benthamiana</i>		X
	<i>Crotalaria medicaginea</i>		X
	<i>Cullen cinereum</i>	X	X
	<i>Cullen graveolens</i>		X
	<i>Cullen leucanthum</i>		X
	<i>Cullen leucochaïtes</i>		X
	<i>Cullen martinii</i>	X	X
	<i>Cullen pogonocarpum</i>		X
	<i>Glycine canescens</i>		X
	<i>Gompholobium polyzygum</i>	X	

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PAPILIONACEAE (continued)	<i>Gastrolobium grandiflorum</i>	X	
	<i>Indigofera brevidens</i>	X	
	<i>Indigofera colutea</i>		X
	<i>Indigofera georgei</i>		X
	<i>Indigofera linifolia</i>		X
	<i>Indigofera linnaei</i>		X
	<i>Indigofera monophylla</i>	X	
	<i>Indigofera monophylla</i> (brown calyx form)		X
	<i>Indigofera monophylla</i> (FMR35-01)		X
	<i>Indigofera monophylla</i> (grey leaflet form)		X
	<i>Indigofera monophylla</i> (grey/green leaflet form)		X
	<i>Indigofera monophylla</i> (PAN57-9)		X
	<i>Indigofera monophylla</i> (small leaflet form)		X
	<i>Indigofera monophylla</i> (form not recorded)		X
	<i>Indigofera trita</i>		X
	<i>Isopogon atropurpurea</i>		X
	<i>Isopogon forrestii</i>		X
	<i>Kennedia prorepens</i>		X
	<i>Leptosema chambersii</i>		X
	<i>Lotus cruentus</i>		X
	<i>Rhynchosia minima</i> var. <i>australis</i>		X
	<i>Rhynchosia</i> sp. Chichester (MET 15,225)		X
	<i>Sesbania cannabina</i>		X
	<i>Swainsona decurrens</i>		X
	<i>Swainsona formosa</i>		X
	<i>Swainsona kingii</i>		X
	<i>Swainsona leeana</i>		X
	<i>Swainsona stenodonta</i>		X
	<i>Tephrosia</i> aff. <i>clementii</i> (10) (HD88-3)		X
	<i>Tephrosia</i> aff. <i>clementii</i> (12) (HD1-32)		X
	<i>Tephrosia</i> aff. <i>clementii</i> (2)		X
	<i>Tephrosia</i> aff. <i>clementii</i> (9) (HD284-6)		X
	<i>Tephrosia densa</i> (ms)		X
	<i>Tephrosia rosea</i> var. <i>glabrior</i> (ms)	X	X
	<i>Tephrosia</i> aff. <i>rosea</i> (HD292-37)		X
	<i>Tephrosia supina</i>		X
<i>Tephrosia</i> sp. Bungaroo Creek (M.E.Trudgen 11601) (PN)		X	
<i>Tephrosia</i> sp. (seedling: may be one of spp. above)		X	
<i>Tephrosia</i> sp.	X		
ZYGOPHYLLACEAE	<i>Tribulus astrocarpus</i>		X
	<i>Tribulus hirsutus</i>		X
	<i>Tribulus macrocarpus</i>		X
	<i>Tribulus suberosus</i>	X	X
	<i>Tribulus terrestris</i>		X
	<i>Zygophyllum iodocarpum</i>		X

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POLYGALACEAE	<i>Polygala</i> aff. <i>isingii</i>		X
EUPHORBIACEAE	<i>Euphorbia australis</i> (mid-green form)		X
	<i>Euphorbia</i> aff. <i>australis</i> var. 1 (MET 12 337)		X
	<i>Euphorbia biconvexa</i>		X
	<i>Euphorbia</i> aff. <i>boophthona</i> (large seed form)		X
	<i>Euphorbia coghlanii</i>	X	X
	<i>Euphorbia</i> aff. <i>coghlanii</i> (HD186-18)		X
	<i>Euphorbia tannensis</i> subsp. <i>eremophila</i> (Hamersley form)		X
	<i>Euphorbia</i> sp. (BPBS10-50)		X
	<i>Euphorbia</i> sp. (FML49-02)		X
	<i>Euphorbia</i> sp. (FMLMC-10)		X
	<i>Euphorbia</i> sp. (FMR15-29)		X
	<i>Euphorbia</i> sp. (FMR46-21)		X
	<i>Euphorbia</i> sp. (FMR70-12)		X
	<i>Euphorbia</i> sp. (PAN5-15)		X
	<i>Euphorbia</i> sp. (site 1089)		X
	<i>Flueggea virosa</i> subsp. <i>melanthesoides</i>	X	X
	<i>Leptopus decaisnei</i> var. <i>decaisnei</i>		X
	<i>Phyllanthus erwinii</i>		X
	<i>Phyllanthus maderaspatensis</i>	X	X
	<i>Sauropus</i> sp. Central Ranges (D. J. Edinger <i>et. al.</i> 2420)		X
CELASTRACEAE	<i>Maytenus</i> sp. Mt Windell (S. van Leeuwen 846)		X
STACKHOUSIACEAE	<i>Macgregoria racemigera</i>		X
	<i>Stackhousia intermedia</i>		X
SAPINDACEAE	<i>Atalaya hemiglauca</i>	X	X
	<i>Diplopeltis stuartii</i> var. <i>stuartii</i>		X
	<i>Dodonaea coriacea</i>		X
	<i>Dodonaea lanceolata</i> var. <i>lanceolata</i>		X
	<i>Dodonaea petiolaris</i>	X	X
	<i>Dodonaea viscosa</i> subsp. <i>?spatulata</i>	X	
TILIACEAE	<i>Corchorus crozophorifolius</i>		X
	<i>Corchorus lasiocarpus</i> subsp. <i>lasiocarpus</i> (ms)		X
	<i>Corchorus lasiocarpus</i> subsp. aff. <i>lasiocarpus</i> (YEX24-11) (ms)		X
	<i>Corchorus lasiocarpus</i> subsp. <i>parvus</i> (ms)	X	X
	<i>Corchorus parviflorus</i>		X
	<i>Corchorus sidoides</i> subsp. <i>sidoides</i>		X
	<i>Corchorus</i> aff. <i>sidoides</i> (HD179-5)		X
	<i>Corchorus tectus</i> (ms)		X
	<i>Corchorus tridens</i>		X
	<i>Corchorus walcottii</i>	X	
	<i>Triumfetta chaetocarpa</i>		X
	<i>Triumfetta maconochieana</i>		X

**APPENDIX A: VASCULAR PLANT SPECIES RECORDED ON FORTESCUE METALS GROUP  
LEASE AREAS**

Notes: \* introduced (weed) taxa.

P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
MALVACEAE	<i>Abutilon amplum</i>		X
	<i>Abutilon cryptopetalum</i>		X
	<i>Abutilon cunninghamii</i>		X
	<i>Abutilon dioicum</i>		X
	<i>Abutilon fraseri</i>		X
	<i>Abutilon lepidum</i>		X
	<i>Abutilon</i> aff. <i>lepidum</i> (1) (MET 15 352)		X
	<i>Abutilon</i> aff. <i>lepidum</i> (2) (MET 15 970)		X
	<i>Abutilon</i> aff. <i>lepidum</i> (4)		X
	<i>Abutilon leucopetalum</i>		X
	<i>Abutilon macrum</i>		X
	<i>Abutilon otocarpum</i>		X
	<i>Abutilon otocarpum</i> (acute leaf form)	X	X
	<i>Abutilon oxycarpum</i> subsp. <i>prostratum</i>		X
	<i>Abutilon trudgenii</i>		X
	<i>Abutilon</i> sp.	X	
	<i>Gossypium australe</i>	X	
	<i>Gossypium australe</i> (Burrup Peninsula form)	X	X
	<i>Gossypium robinsonii</i>		X
	<i>Hibiscus brachychlaenus</i>		X
	<i>Hibiscus brachysiphonius</i> P3		X
	<i>Hibiscus burtonii</i>	X	X
	<i>Hibiscus coatesii</i>	X	X
	<i>Hibiscus</i> aff. <i>coatesii</i>		X
	<i>Hibiscus</i> aff. <i>coatesii</i> (site 664)		X
	<i>Hibiscus gardneri</i> (ms)		X
	<i>Hibiscus</i> aff. <i>goldsworthii</i> (site 1260)		X
	<i>Hibiscus leptocladus</i>		X
	<i>Hibiscus panduriformis</i>	X	
	<i>Hibiscus platyklamys</i>		X
	<i>Hibiscus</i> aff. <i>platyklamys</i> (FMG88-08)		X
	<i>Hibiscus</i> aff. <i>platyklamys</i> (site 1139)		X
	<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	X	X
	<i>Hibiscus sturtii</i> var. aff. <i>campylochlamys</i> (MET 15,957)		X
	<i>Hibiscus sturtii</i> var. aff. <i>campylochlamys</i> (site 1398)		X
	<i>Hibiscus sturtii</i> var. aff. <i>grandiflorus</i>		X
	<i>Hibiscus sturtii</i> var. ? <i>platyklamys</i>	X	
	<i>Hibiscus sturtii</i> var. <i>platyklamys</i>	X	X
	<i>Hibiscus sturtii</i> var. <i>truncatus</i>		X
	<i>Hibiscus</i> aff. <i>sturtii</i> (site 1209)		X
	<i>Hibiscus</i> aff. <i>sturtii</i> (site 903)		X
	<i>Hibiscus trionum</i> var. <i>vesicarius</i>		X
	<i>Hibiscus</i> sp. (site 316)		X
<i>Lawrenca</i> ? <i>densiflora</i>	X		
* <i>Malvastrum americanum</i>	X	X	
<i>Sida arenicola</i>		X	
<i>Sida atrovirens</i> (ms)	X	X	
<i>Sida brownii</i>		X	

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LEASE AREAS**

Notes: \* introduced (weed) taxa.

P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>	
MALVACEAE (continued)	<i>Sida cardiophylla</i>	X	X	
	<i>Sida</i> aff. <i>cardiophylla</i>		X	
	<i>Sida</i> aff. <i>cardiophylla</i> (site 1086)		X	
	<i>Sida</i> aff. <i>cardiophylla</i> (site 1215)		X	
	<i>Sida clementii</i>		X	
	<i>Sida</i> aff. <i>clementii</i> (FML22-46)		X	
	<i>Sida echinocarpa</i>		X	
	<i>Sida</i> aff. <i>echinocarpa</i> (MET 15,350)		X	
	<i>Sida excedentifolia</i> (ms)	X	X	
	<i>Sida</i> aff. <i>excedentifolia</i> (FML58-14A) (ms)	X	X	
	<i>Sida fibulifera</i>		X	
	<i>Sida</i> aff. <i>fibulifera</i> (FMG125-20)		X	
	<i>Sida</i> aff. <i>fibulifera</i> (HD186.1)		X	
	<i>Sida</i> aff. <i>fibulifera</i> (HD200-6)		X	
	<i>Sida</i> aff. <i>fibulifera</i> (MET 16,494)		X	
	<i>Sida</i> aff. <i>fibulifera</i> (site 1394)		X	
	<i>Sida</i> aff. <i>fibulifera</i> (site 1506)		X	
	<i>Sida</i> aff. <i>fibulifera</i> 'var. L'		X	
	<i>Sida platycalyx</i>		X	
	<i>Sida spinosa</i>		X	X
	<i>Sida</i> sp. spiciform panicles (E.Leyland s.n. 14/8/90)			X
	<i>Sida</i> sp. spiciform panicles (E.Leyland s.n. 14/8/90)			X
	<i>Sida</i> sp. aff. spiciform panicles (FML46-13)			X
	<i>Sida</i> sp. ?Shovelanna Hill (S. van Leeuwen 3842)		X	
	<i>Sida</i> sp. unisexual (N.H. Speck 574)			X
	<i>Sida</i> sp. Wittenoom (W.R. Barker 1962)			X
	<i>Sida</i> sp. Roy Hill Station (M.Maier 17/3704)			X
	<i>Sida</i> sp. 'rugose'			X
	<i>Sida</i> sp. (MET 16,086)			X
	STERCULIACEAE	<i>Keraudrenia nephrosperma</i>	X	X
<i>Keraudrenia velutina</i> subsp. <i>elliptica</i> (ms)		X	X	
<i>Keraudrenia</i> ? <i>velutina</i> subsp. <i>elliptica</i> (ms)		X		
<i>Melhania oblongifolia</i>			X	
<i>Melhania</i> sp. (CH15-39)			X	
<i>Melhania</i> sp. Turee Creek (MJ1-35)			X	
<i>Rulingia loxophylla</i>		X	X	
<i>Rulingia luteiflora</i>		X	X	
<i>Waltheria indica</i>			X	
ELATINACEAE	<i>Bergia pedicellaris</i>		X	
FRANKENIACEAE	<i>Frankenia irregularis</i>	X		
VIOLACEAE	<i>Hybanthus aurantiacus</i>	X	X	
THYMELEACEAE	<i>Pimelea ammocharis</i>		X	

**APPENDIX A: VASCULAR PLANT SPECIES RECORDED ON FORTESCUE METALS GROUP  
LEASE AREAS**

Notes: \* introduced (weed) taxa.

P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
LYTHRACEAE	<i>Ammannia multiflora</i>		X
MYRTACEAE	<i>Calytrix carinata</i>	X	X
	<i>Corymbia candida</i> subsp. <i>candida</i>	X	X
	<i>Corymbia candida</i> subsp. <i>dipsodes</i>		X
	<i>Corymbia deserticola</i>	X	
	<i>Corymbia deserticola</i> subsp. <i>deserticola</i>	X	X
	<i>Corymbia ferriticola</i> subsp. <i>ferriticola</i>		X
	<i>Corymbia hamersleyana</i>		X
	<i>Corymbia opaca</i>	X	
	<i>Eucalyptus camaldulensis</i>		X
	<i>Eucalyptus camaldulensis</i> var. <i>obtusata</i>	X	
	<i>Eucalyptus gamophylla</i>	X	X
	<i>Eucalyptus leucophloia</i>	X	
	<i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i>	X	X
	<i>Eucalyptus trivalvis</i>		X
	<i>Eucalyptus victrix</i>	X	X
	<i>Eucalyptus xerothermica</i>		X
	<i>Melaleuca glomerata</i>	X	X
	<i>Melaleuca leiocarpa</i>	X	
HALORAGACEAE	<i>Haloragis gossei</i>		X
APIACEAE	<i>Trachymene oleracea</i> subsp. <i>oleracea</i>		X
PRIMULACEAE	<i>Samolus</i> sp. ? Millstream (Brooker 2076) PN	X	
PLUMBAGINACEAE	<i>Muellerolimon salicorniaceum</i>	X	
OLEACEAE	<i>Jasminum didymum</i> subsp. <i>lineare</i>		X
ASCLEPIADACEAE	<i>Marsdenia australis</i>		X
	<i>Rhyncharrhena linearis</i>		X
	<i>Sarcostemma viminalis</i> subsp. <i>australe</i>	X	X
CONVOLVULACEAE	<i>Bonamia media</i> var. <i>villosa</i>		X
	<i>Bonamia rosea</i>	X	X
	<i>Convolvulus angustissimus</i> subsp. <i>angustissimus</i>		X
	<i>Evolvulus alsinoides</i>	X	
	<i>Evolvulus alsinoides</i> var. <i>decumbens</i>	X	X
	<i>Evolvulus alsinoides</i> var. <i>villosicalyx</i>		X
	<i>Ipomoea calobra</i>		X
	<i>Ipomoea muelleri</i>	X	X
	<i>Ipomoea polymorpha</i>		X
	<i>Operculina aequiseipala</i>		X
	<i>Polymeria</i> aff. <i>ambigua</i> (PAN 26B-20)		X
	<i>Polymeria</i> aff. <i>calycina</i>		X
	<i>Porana commixta</i>	X	X

**APPENDIX A: VASCULAR PLANT SPECIES RECORDED ON FORTESCUE METALS GROUP  
LEASE AREAS**

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P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
BORAGINACEAE	<i>Ehretia saligna</i> var. <i>saligna</i>		X
	<i>Heliotropium chrysocarpum</i>		X
	<i>Heliotropium crispatum</i>		X
	<i>Heliotropium cunninghamii</i>		X
	<i>Heliotropium heteranthum</i>		X
	<i>Heliotropium pachyphyllum</i>		X
	<i>Heliotropium</i> sp. LM168	X	
	<i>Trichodesma zeylanicum</i>	X	
	<i>Trichodesma zeylanicum</i> var. <i>zeylanicum</i>		X
LAMIACEAE	<i>Basilicum polystachyon</i>		X
	<i>Clerodendrum floribundum</i> var. <i>angustifolium</i>		X
	<i>Dicrastylis georgei</i>		X
	<i>Dicrastylis</i> sp.		X
	<i>Newcastelia hexarrhena</i>		X
	<i>Newcastelia</i> sp. Hamersley Range (S. van Leeuwen 4264)		X
SOLANACEAE	<i>Nicotiana benthamiana</i>		X
	<i>Nicotiana occidentalis</i> subsp. <i>obliqua</i>		X
	<i>Nicotiana occidentalis</i> subsp. <i>occidentalis</i>	X	X
	<i>Nicotiana simulans</i>		X
	<i>Solanum centrale</i>		X
	<i>Solanum cleistogamum</i>	X	
	<i>Solanum diversiflorum</i>		X
	<i>Solanum esuriale</i>	X	
	<i>Solanum horridum</i>		X
	<i>Solanum lasiophyllum</i>	X	X
	<i>Solanum phlomoides</i>		X
	<i>Solanum sturtianum</i>		X
SCROPHULARIACEAE	<i>Mimulus gracilis</i>		X
	<i>Peplidium</i> sp. C. Evol. Fl. Fauna Arid Aust. (N. T. Burbidge & A. Kanis 8158)		X
	<i>Peplidium</i> sp. Munjina (A. A. Mitchell PRP 595)		X
	<i>Stemodia grossa</i>		X
	<i>Stemodia linophylla</i>		X
	<i>Stemodia viscosa</i>	X	X
	<i>Striga curviflora</i>		X
ACANTHACEAE	<i>Dicladantha forrestii</i>	X	X
	<i>Dipteracanthus australasicus</i>	X	
	<i>Dipteracanthus australasicus</i> subsp. <i>australasicus</i>		X
	<i>Rostellularia adscendens</i> var. <i>clementii</i>		X
	<i>Rostellularia adscendens</i> var. <i>latifolia</i> P3	X	

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P Priority taxa

<b>FAMILY</b>	<b>SPECIES</b>	<b>Mattiske 2004/2005</b>	<b>Biota 2005</b>
MYOPORACEAE	<i>Eremophila cuneifolia</i>	X	X
	<i>Eremophila exilifolia</i>		X
	<i>Eremophila forrestii</i>	X	
	<i>Eremophila forrestii</i> subsp. <i>forrestii</i> (ms)	X	X
	<i>Eremophila forrestii</i> x <i>latrobei</i>		X
	<i>Eremophila lanceolata</i> (ms)	X	X
	<i>Eremophila latrobei</i> subsp. <i>filiformis</i> (ms)	X	X
	<i>Eremophila latrobei</i> subsp. aff. <i>filiformis</i> (ms)		X
	<i>Eremophila latrobei</i> subsp. <i>glabra</i>		X
	<i>Eremophila longifolia</i>	X	X
	<i>Eremophila maculata</i>	X	
	<i>Eremophila pachomai</i> (ms)		X
	<i>Eremophila pilosa</i> (ms) P1		X
	<i>Eremophila platycalyx</i> subsp. <i>platycalyx</i> (ms)	X	
	<i>Eremophila spongiocarpa</i> (ms) P1	X	
<i>Eremophila youngii</i> subsp. <i>lepidota</i> P4	X		
RUBIACEAE	<i>Oldenlandia crouchiana</i>		X
	<i>Psydrax latifolia</i> (ms)	X	X
	<i>Psydrax rigidula</i> (ms)	X	
	<i>Psydrax suaveolens</i> (ms)	X	X
	<i>Spermacoce auriculata</i>	X	
	<i>Spermacoce brachystema</i>		X
	<i>Synaptantha tillaeacea</i> var. <i>tillaeacea</i>		X
CUCURBITACEAE	* <i>Citrullus colocynthis</i>		X
	<i>Cucumis melo</i> subsp. <i>agrestis</i>		X
	<i>Mukia maderaspatana</i>	X	X
CAMPANULACEAE	<i>Wahlenbergia tumidifruca</i>		X
GOODENIACEAE	<i>Brunonia australis</i>		X
	<i>Dampiera candicans</i>	X	X
	<i>Dampiera cinerea</i>		X
	<i>Goodenia armitiana</i>		X
	<i>Goodenia cusackiana</i>	X	X
	<i>Goodenia lamprosperma</i>		X
	<i>Goodenia microptera</i>		X
	<i>Goodenia muelleriana</i>		X
	<i>Goodenia nuda</i>		X
	<i>Goodenia prostrata</i>		X
	<i>Goodenia stobbsiana</i>	X	X
	<i>Goodenia tenuiloba</i>	X	
	<i>Goodenia triodiophila</i>		X
	<i>Goodenia vilmoriniae</i>		X
	<i>Goodenia</i> sp.		X
<i>Scaevola amblyanthera</i> var. <i>centralis</i>		X	
<i>Scaevola parvifolia</i> subsp. <i>pilbarae</i>		X	

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P Priority taxa

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GOODENIACEAE	<i>Scaevola spinescens</i>	X	
(continued)	<i>Scaevola spinescens</i> (broad form)		X
	<i>Scaevola spinescens</i> (narrow form)		X
STYLIDIACEAE	<i>Stylidium desertorum</i>		X
ASTERACEAE	* <i>Bidens bipinnata</i>		X
	* <i>Bidens pilosa</i>	X	
	<i>Blumea tenella</i>	X	X
	<i>Brachyscome ciliocarpa</i>		X
	<i>Calocephalus</i> sp. Pilbara-Desert (M.E. Trugden 11454)		X
	<i>Calotis hispidula</i>		X
	<i>Calotis plumulifera</i>		X
	<i>Calotis porphyroglossa</i>	X	
	<i>Centipeda minima</i>		X
	<i>Centipeda minima</i> subsp. <i>macrocephala</i>	X	
	<i>Centipeda thespidioides</i>		X
	<i>Chrysocephalum</i> aff. <i>apiculatum</i>		X
	<i>Flaveria australasica</i>	X	X
	<i>Gnephosis arachnoidea</i>		X
	<i>Helichrysum gilesii</i>		X
	<i>Minuria integerrima</i>		X
	<i>Pluchea dentex</i>	X	X
	<i>Pluchea dunlopii</i>	X	X
	<i>Pluchea ferdinandi-muelleri</i>		X
	<i>Pluchea rubelliflora</i>	X	X
	<i>Pluchea tetranthera</i>		X
	<i>Pterocaulon serrulatum</i>		X
	<i>Pterocaulon sphacelatum</i>	X	
	<i>Pterocaulon sphaeranthoides</i>		X
	<i>Pterocaulon sphaeranthoides</i> x <i>sphacelatum</i>		X
	<i>Rhodanthe charsleyae</i>		X
	<i>Rhodanthe floribunda</i>		X
	<i>Rhodanthe margarethae</i>		X
	<i>Rutidosis helichrysoides</i>		X
	* <i>Sigesbeckia orientalis</i>		X
	* <i>Sonchus oleraceus</i>		X
	<i>Streptoglossa bubakii</i>		X
	<i>Streptoglossa cylindriceps</i>		X
	<i>Streptoglossa decurrens</i>	X	X
	<i>Streptoglossa liatroides</i>		X
	<i>Streptoglossa macrocephala</i>		X
	<i>Streptoglossa</i> sp.	X	
	<i>Vittadinia arida</i>	X	X
	<i>Vittadinia virgata</i>		X

**APPENDIX B: DISTRIBUTION OF VASCULAR PLANT SPECIES IN THE PLANT COMMUNITIES  
WITHIN THE CLOUD BREAK AND WHITE KNIGHT LEASE AREAS, 2004 AND 2005**

Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
<i>Abutilon otocarpum</i>			1																
<i>Abutilon</i> sp.		1																	
<i>Acacia acradenia</i>		1														1	1	1	
<i>Acacia adoxa</i> var. <i>adoxo</i>							1	1											
<i>Acacia adsurgens</i>							1												
<i>Acacia ancistrocarpa</i>	1						1	1	1	1						1	1	1	
<i>Acacia aneura</i> var. <i>aneura</i>	1	1	1	1	1	1		1		1	1	1	1			1	1		
<i>Acacia aneura</i> var. <i>conifera</i>			1							1									
<i>Acacia aneura</i> var. <i>intermedia</i>	1																		
<i>Acacia arida</i>							1	1											
<i>Acacia ayersiana</i>			1																
<i>Acacia citrinoviridis</i>		1																	
<i>Acacia coriacea</i> subsp. <i>pendens</i>	1	1																	
<i>Acacia coriacea</i> subsp. <i>sericophylla</i>		1																	
<i>Acacia distans</i>	1	1		1	1			1											
<i>Acacia eriopoda</i>	1								1										
<i>Acacia hilliana</i>							1										1		
<i>Acacia inaequilatera</i>									1	1							1	1	
<i>Acacia kempeana</i>							1	1	1										
<i>Acacia maitlandii</i>	1		1				1	1	1								1		
<i>Acacia marramamba</i>							1												
<i>Acacia monticola</i>		1							1								1		
<i>Acacia pruinocarpa</i>	1	1	1	1	1	1	1	1		1							1	1	1
<i>Acacia pyrifolia</i>	1	1	1				1	1	1								1	1	1
<i>Acacia rhodophloia</i>	1		1							1									
<i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i>		1		1			1					1							
<i>Acacia spondylophylla</i>																	1	1	
<i>Acacia ?stenophylla</i>	1																		
<i>Acacia synchronicia</i>		1		1						1									
<i>Acacia tenuissima</i>	1		1						1	1							1	1	
<i>Acacia tetragonophylla</i>	1	1	1	1	1	1	1	1		1		1							
<i>Acacia tumida</i>	1	1	1				1	1											
<i>Acacia tumida</i> var. <i>tumida</i>									1										
<i>Acacia victoriae</i>		1	1	1						1	1	1	1	1	1				
<i>Acacia xiphophylla</i>		1	1	1				1		1	1		1			1			
<i>Alternanthera nodiflora</i>		1	1	1						1									
<i>Amyema fitzgeraldii</i>		1								1									
<i>Anthobolus leptomerioides</i>		1	1							1									
<i>Aristida contorta</i>	1	1	1	1	1	1	1	1	1	1					1				
<i>Aristida holathera</i> var. <i>holathera</i>	1	1	1	1				1	1	1									
<i>Aristida latifolia</i>	1	1	1	1	1	1	1	1	1	1		1					1	1	1
<i>Atalaya hemiglauca</i>	1	1							1										
<i>Atriplex bunburyana</i>		1																	
<i>Atriplex codonocarpa</i>		1								1	1	1	1	1					
<i>Atriplex flabelliformis</i>		1										1							
<i>Atriplex lindleyi</i>		1																	
* <i>Bidens pilosa</i>	1	1	1	1						1	1								
<i>Blumea tenella</i>		1										1							
<i>Boerhavia schomburgkiana</i>		1	1	1															
<i>Bonamia rosea</i>	1		1						1									1	1
<i>Brachyachne convergens</i>										1									
<i>Calotis porphyroglossa</i>		1	1							1		1	1				1		
<i>Calytrix carinata</i>							1		1	1							1	1	
* <i>Cenchrus ciliaris</i>	1	1	1																
* <i>Cenchrus setigerus</i>		1																	
<i>Centipeda minima</i> subsp. <i>macrocephala</i>		1																	
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>		1																	
<i>Chrysopogon fallax</i>	1	1	1	1				1											
<i>Cleome viscosa</i>	1	1	1	1						1	1								







**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
AND WHITE KNIGHT LEASES**

Note: %A - Percentage Foliage Cover Alive; %D - Percentage Foliage Cover Dead  
Ht - Height of tallest plant

**Plot Number 1**  
**Community No. 4**

**E (mE): 682979**  
**N (mN): 7542606**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	600	10	
<i>Acacia pruinocarpa</i>	600	1	
<i>Acacia tetragonophylla</i>	90	1	
<i>Acacia victoriae</i>	120	1	
<i>Alternanthera nodiflora</i>	20		1
<i>Aristida contorta</i>	30		8
<i>Aristida holathera</i> var. <i>holathera</i>	30		1
* <i>Bidens pilosa</i>	20		1
<i>Chrysopogon fallax</i>	90	1	
<i>Cleome viscosa</i>	30		1
<i>Cymbopogon ambiguus</i>	100		1
<i>Eremophila forrestii</i>	120	3	
<i>Eremophila longifolia</i>	120	1	
<i>Gomphrena cunninghamii</i>	20		1
<i>Mukia maderaspatana</i>	1	1	
<i>Psyrdrax latifolia</i> (ms)	200		
<i>Psyrdrax rigidula</i> (ms)	40	1	
<i>Ptilotus exaltatus</i>	40	1	
<i>Salsola tragus</i>	90	1	
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	200	3	
<i>Solanum lasiophyllum</i>	100	1	
<i>Triodia pungens</i>	40	1	

**Plot Number 2**  
**Community No. 3**

**E (mE): 680007**  
**N (mN): 7543583**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	500	6	
<i>Acacia pruinocarpa</i>	400	2	
<i>Acacia tetragonophylla</i>	400	2	
<i>Aristida contorta</i>	20		1
<i>Aristida latifolia</i>	40		1
<i>Boerhavia schomburgkiana</i>	cr		1
<i>Chrysopogon fallax</i>	100		1
<i>Paraneurache muelleri</i>	60		1
<i>Ptilotus exaltatus</i>	30	1	
<i>Stemodia viscosa</i>	40		2

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
AND WHITE KNIGHT LEASES**

**Plot Number 3**  
**Community No. 4**

**E (mE): 677922**  
**N (mN): 7540953**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	500	2	
<i>Acacia tetragonophylla</i>	110	2	
<i>Acacia victoriae</i>	150	3	
<i>Acacia xiphophylla</i>	450	5	
<i>Alternanthera nodiflora</i>	30		2
<i>Aristida contorta</i>	30		2
<i>Boerhavia schomburgkiana</i>	5		1
<i>Cleome viscosa</i>	20		3
<i>Enneapogon caerulescens</i>	20		1
<i>Gomphrena cunninghamii</i>	20		1
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	20		1
<i>Ptilotus exaltatus</i>	40	6	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	90	2	
<i>Salsola tragus</i>	90		1
<i>Sclerolaena cornishiana</i>	10	3	
<i>Solanum lasiophyllum</i>	60	2	
<i>Sporobolus australasicus</i>	20		3

**Plot Number 4**  
**Community No. 2**

**E (mE): 676476**  
**N (mN): 7541469**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Abutilon</i> sp.	160	1	
<i>Acacia aneura</i> var. <i>aneura</i>	700	10	
<i>Acacia xiphophylla</i>	750	4	
<i>Amyema fitzgeraldii</i>	mist	1	
<i>Aristida latifolia</i>	40		4
<i>Blumea tenella</i>	20		1
* <i>Cenchrus setigerus</i>	110		2
<i>Centipeda minima</i> subsp. <i>macrocephala</i>	30		4
<i>Chrysopogon fallax</i>	80		8
* <i>Malvastrum americanum</i>	30		4
<i>Porana commixta</i>	cr	1	
<i>Pterocaulon sphacelatum</i>	30		1

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
AND WHITE KNIGHT LEASES**

**Plot Number 5**  
**Community No. 4**

**E (mE): 671660**  
**N (mN): 7543398**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia distans</i>	600	10	
<i>Acacia tetragonophylla</i>	400	1	
<i>Aristida latifolia</i>	110		3
<i>Eragrostis cumingii</i>	25		2
<i>Eriachne</i> sp.	90		50
<i>Eucalyptus camaldulensis</i> var. <i>obtusata</i>	800	2	
<i>Pluchea dunlopia</i>	100		4
<i>Psyrax latifolia</i> (ms)	200	1	
<i>Rostellularia adscendens</i> var. <i>latifolia</i> P3	20	1	
<i>Sida spinosa</i>	10		4
<i>Spermacoce auriculata</i>	30		1
<i>Sporobolus australasicus</i>	30		4

**Plot Number 6**  
**Community No. 3**

**E (mE): 667068**  
**N (mN): 7548521**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	600	10	
<i>Acacia pruinocarpa</i>	500	1	
<i>Alternanthera nodiflora</i>	10		2
<i>Anthobolus leptomerioides</i>	100	1	
<i>Aristida contorta</i>	20	1	6
<i>Aristida latifolia</i>	110		1
<i>Calotis porphyroglossa</i>	90	1	
<i>Cleome viscosa</i>	80		4
<i>Corchorus walcottii</i>	20	1	
<i>Dodonaea petiolaris</i>	110	1	
<i>Gomphrena cunninghamii</i>	20		1
<i>Hibiscus burtonii</i>	120		1
* <i>Malvastrum americanum</i>	30		2
<i>Psyrax latifolia</i> (ms)	400	1	
<i>Psyrax suaveolens</i> (ms)	400	1	
<i>Ptilotus exaltatus</i>	40		2
<i>Salsola tragus</i>	60		2
<i>Solanum lasiophyllum</i>	60		1
<i>Sporobolus australasicus</i>	30		1
<i>Vittadinia arida</i>	40		4

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
AND WHITE KNIGHT LEASES**

**Plot Number 7**  
**Community No. 2**

**E (mE): 670444**  
**N (mN): 7549801**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	800	25	
<i>Acacia monticola</i>	100	2	
<i>Acacia pyrifolia</i>	120	1	
<i>Acacia tetragonophylla</i>	200	2	
<i>Anthobolus leptomerioides</i>	200	1	
<i>Aristida contorta</i>	40		2
* <i>Bidens pilosa</i>	30		3
<i>Blumea tenella</i>	50	2	
<i>Cleome viscosa</i>	90		1
<i>Corchorus walcottii</i>	30	2	
<i>Corymbia opaca</i>	700	1	
<i>Dipteracanthus australasicus</i>	40		2
<i>Dysphania rhadinostachya</i>	40	1	
<i>Gomphrena cunninghamii</i>	10	1	1
<i>Indigofera monophylla</i>			
<i>Iseilema membranaceum</i>	20	1	
<i>Maireana planifolia</i>	120	1	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>			
<i>Porana commixta</i>	cr	1	
<i>Psyrax latifolia</i> (ms)	400	1	
<i>Ptilotus calostachyus</i>	90	2	
<i>Ptilotus exaltatus</i>	100	1	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>			
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	90	2	
<i>Sporobolus australasicus</i>	40	2	
<i>Themeda triandra</i>	90	2	
<i>Trichodesma zeylanicum</i>	200	1	
<i>Triodia pungens</i>	40	8	

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
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**Plot Number 8**  
**Community No. 8**

**E (mE): 672490**  
**N (mN): 7548692**

Species	Ht (cm)	%A	%D
<i>Acacia adoxa</i> var. <i>adoxo</i>	15	4	
<i>Acacia ancistrocarpa</i>	400	2	
<i>Acacia arida</i>	150	5	
<i>Acacia kempeana</i>	300	2	
<i>Acacia maitlandii</i>	200	5	
<i>Acacia pruinocarpa</i>	400	2	
<i>Acacia pyrifolia</i>	200	4	
<i>Acacia tumida</i>	350	2	
<i>Aristida latifolia</i>	40	2	
<i>Chrysopogon fallax</i>	90	2	
<i>Corchorus walcottii</i>	100		2
<i>Eucalyptus gamophylla</i>	300	2	
<i>Gomphrena cunninghamii</i>	20	0.2	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	300	1	
<i>Hibiscus coatesii</i>	50	3	
<i>Keraudrenia nephrosperma</i>	120	1	
<i>Mukia maderaspatana</i>	cr	1	
<i>Paraneurache muelleri</i>	30	1	2
<i>Psyrax latifolia</i> (ms)	400	1	
<i>Pterocaulon sphacelatum</i>	120	1	
<i>Ptilotus exaltatus</i>	30	4	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	90	1	
<i>Salsola tragus</i>	40	2	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	90	2	
<i>Tephrosia rosea</i> var. <i>glabrior</i> (ms)	120	2	
<i>Trichodesma zeylanicum</i>	50	0.2	

**Plot Number 9**  
**Community No. 7**

**E (mE): 674857**  
**N (mN): 7547840**

Species	Ht (cm)	%A	%D
<i>Acacia ancistrocarpa</i>	150	1	
<i>Acacia arida</i>	120	5	
<i>Acacia kempeana</i>	40	1	
<i>Acacia pruinocarpa</i>	300	2	
<i>Codonocarpus cotinifolius</i>	500	1	
<i>Corchorus walcottii</i>	20	1	
<i>Corymbia deserticola</i>	500	0.1	
<i>Dichanthium sericeum</i>	10	0.1	
<i>Grevillea berryana</i>	300	1	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	400	1	
<i>Indigofera monophylla</i>	30	1	
<i>Pittosporum angustifolium</i>	300	0.1	
<i>Ptilotus calostachyus</i>	50	1	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	300	1	
<i>Tribulus suberosus</i>	100	1	
<i>Triodia basedowii</i>	30	40	

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
AND WHITE KNIGHT LEASES**

**Plot Number 10**  
**Community No. 7**

**E (mE): 675806**  
**N (mN): 7548649**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia adoxa</i> var. <i>adoxo</i>	40	1	
<i>Acacia kempeana</i>	200	2	
<i>Acacia marramamba</i>	150	4	
<i>Acacia pruinocarpa</i>	300	2	
<i>Calytrix carinata</i>	100	2	
<i>Corchorus walcottii</i>	30	1	
<i>Eriachne ciliata</i>	50	2	
<i>Goodenia stobbsiana</i>	30	4	
<i>Hakea lorea</i> subsp. <i>lorea</i>	400	2	
<i>Ptilotus exaltatus</i>	20	1	
<i>Triodia basedowii</i>	25	49	

**Plot Number 11**  
**Community No. 7**

**E (mE): 677248**  
**N (mN): 7548618**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia ancistrocarpa</i>	250	2	
<i>Acacia aneura</i> var. <i>aneura</i>	90	1	
<i>Acacia arida</i>	160	5	
<i>Acacia kempeana</i>	180	3	
<i>Acacia pruinocarpa</i>	300	4	
<i>Acacia tetragonophylla</i>	100	2	
<i>Eriachne ciliata</i>	60	1	
<i>Eucalyptus leucophloia</i>	400	2	
<i>Goodenia stobbsiana</i>	40		3
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	220	2	
<i>Triodia basedowii</i>	30	40	
<i>Triodia pungens</i>	30	3	

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
AND WHITE KNIGHT LEASES**

**Plot Number 12**  
**Community No. 1**

**E (mE): 677812**  
**N (mN): 7548284**

Species	Ht (cm)	%A	%D
<i>Acacia ancistrocarpa</i>	400	2	
<i>Acacia pyrifolia</i>	300	4	
<i>Acacia tumida</i>	400	10	
<i>Aristida contorta</i>	40	1	
<i>Aristida latifolia</i>	100		2
* <i>Bidens pilosa</i>	30		1
<i>Dysphania rhadinostachya</i>	20		3
<i>Eragrostis dielsii</i>	20		3
<i>Eucalyptus victrix</i>	500	1	
<i>Gastrolobium grandiflorum</i>			
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	400	6	
<i>Hibiscus coatesii</i>	90	2	
<i>Hibiscus panduriformis</i>	120	1	
<i>Keraudrenia nephrosperma</i>	90	2	
<i>Mukia maderaspatana</i>	1	1	
<i>Petalostylis labicheoides</i>	300	2	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	20		2
<i>Sporobolus australasicus</i>	20		2
<i>Stemodia viscosa</i>	20		2
<i>Tephrosia</i> sp.	20	1	
<i>Themeda triandra</i>	90	4	
<i>Trichodesma zeylanicum</i>	100	3	
<i>Triodia pungens</i>	45	5	

**Plot Number 13**  
**Community No. 8**

**E (mE): 678374**  
**N (mN): 7548133**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	400	1	
<i>Acacia xiphophylla</i>	450	5	
<i>Dichanthium sericeum</i>	5	0.8	
<i>Portulaca cyclophylla</i>	5	1	
<i>Sarcostemma viminalis</i> subsp. <i>australe</i>	100	1	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	120	1	
<i>Stylobasium spathulatum</i>	110	2	
<i>Triodia basedowii</i>	30	30	
<i>Triodia pungens</i>	30	3	

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
AND WHITE KNIGHT LEASES**

**Plot Number 14**  
**Community No. 3**

**E (mE): 749107**  
**N (mN): 7525293**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	500	8	2
<i>Acacia pruinocarpa</i>	600	2	
<i>Aristida contorta</i>	25		5
* <i>Bidens pilosa</i>	90	1	
<i>Cleome viscosa</i>	30		2
<i>Corchorus walcottii</i>	80	1	
<i>Cymbopogon ambiguus</i>	200	1	
<i>Dodonaea petiolaris</i>	110	3	
<i>Eremophila forrestii</i>	150	2	
<i>Gomphrena cunninghamii</i>	20		4
<i>Mukia maderaspatana</i>	5		3
<i>Psyrax latifolia</i> (ms)	200	1	
<i>Pterocaulon sphacelatum</i>	25	1	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	30	2	
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	110	3	
<i>Solanum lasiophyllum</i>	40	1	
<i>Tephrosia</i> sp.	30	1	
<i>Trichodesma zeylanicum</i>	40	1	

**Plot Number 15**  
**Community No. 1**

**E (mE): 749718**  
**N (mN): 7526698**

Species	Ht (cm)	%A	%D
<i>Acacia coriacea</i> subsp. <i>pendens</i>	600	2	
<i>Acacia pruinocarpa</i>	400	1	
<i>Acacia pyrifolia</i>	250	4	
<i>Acacia tumida</i>	320	2	
<i>Aristida latifolia</i>	40	2	
* <i>Cenchrus ciliaris</i>	40		8
<i>Cleome viscosa</i>	30	1	
<i>Corchorus walcottii</i>	100	1	
<i>Dichanthium sericeum</i>	20	2	
<i>Eucalyptus victrix</i>	600	1	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	300	1	
<i>Petalostylis labicheoides</i>	250	8	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	20		2
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	90	1	
<i>Rulingia loxophylla</i>	150	1	
<i>Sida spinosa</i>	100	3	
<i>Sporobolus australasicus</i>	20		2
<i>Tephrosia</i> sp.	25	1	
<i>Triodia longiceps</i>	90	2	

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
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**Plot Number 16**  
**Community No. 3**

**E (mE): 751654**  
**N (mN): 7527509**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	150	1	
<i>Dichanthium sericeum</i>	150	2	
<i>Dodonaea petiolaris</i>	110	2	
<i>Eriachne lanata</i>	5	1	
<i>Eriachne mucronata</i>	30	5	
<i>Goodenia stobbsiana</i>	50	2	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	480	1	
<i>Hibiscus panduriformis</i>	210	1	
<i>Keraudrenia nephrosperma</i>	110	2	
<i>Polycarpaea holtzei</i>	cr		2
<i>Ptilotus calostachyus</i>	150	2	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	90	1	
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	150	2	
<i>Sida cardiophylla</i>	110	2	
<i>Sida spinosa</i>	100	2	
<i>Tribulus suberosus</i>	90	2	
<i>Triodia pungens</i>	40	10	

**Plot Number 17**  
**Community No. 16**

**E (mE): 754062**  
**N (mN): 7528434**

Species	Ht (cm)	%A	%D
<i>Acacia acradenia</i>	100	1	
<i>Acacia aneura</i> var. <i>aneura</i>	200	5	
<i>Acacia pruinocarpa</i>	300	1	
<i>Acacia pyrifolia</i>	200	1	
<i>Cymbopogon ambiguus</i>	30	10	
<i>Dampiera candidans</i>	30	1	
<i>Dichanthium sericeum</i>	5		3
<i>Eriachne ciliata</i>	30	2	
<i>Eucalyptus leucophloia</i>	500	2	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	200	3	
<i>Hakea lorea</i> subsp. <i>lorea</i>	400	1	
<i>Ptilotus calostachyus</i>	90	1	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	150	1	
<i>Sida cardiophylla</i>	40	1	
<i>Triodia basedowii</i>	20	20	
<i>Triodia pungens</i>	25	5	

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
AND WHITE KNIGHT LEASES**

**Plot Number 18**  
**Community No. 17**

**E (mE): 754822**  
**N (mN): 7529086**

Species	Ht (cm)	%A	%D
<i>Acacia acradenia</i>	110	2	
<i>Acacia pruinocarpa</i>	300	3	
<i>Calytrix carinata</i>	100	2	
<i>Cymbopogon ambiguus</i>	50	5	
<i>Dampiera candicans</i>	50	6	
<i>Eriachne ciliata</i>	30	50	
<i>Eucalyptus leucophloia</i>	400	1	
<i>Goodenia stobbsiana</i>	30		1
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	300	1	
<i>Hakea lorea</i> subsp. <i>lorea</i>	450	2	
<i>Sida spinosa</i>	100	2	
<i>Triodia pungens</i>	30	2	

**Plot Number 19**  
**Community No. 17**

**E (mE): 754880**  
**N (mN): 7529383**

Species	Ht (cm)	%A	%D
<i>Acacia acradenia</i>	150	3	
<i>Acacia pyrifolia</i>	200	2	
<i>Corchorus walcottii</i>	90	2	
<i>Eucalyptus leucophloia</i>	300	3	
<i>Gomphrena cunninghamii</i>	10	1	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	300	2	
<i>Ptilotus exaltatus</i>	20	1	
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	150	1	
<i>Sida cardiophylla</i>	30	1	
<i>Triodia basedowii</i>	20	10	
<i>Triodia longiceps</i>	30	30	
<i>Triodia pungens</i>	25	1	

**Plot Number 20**  
**Community No. 16**

**E (mE): 749445**  
**N (mN): 7528530**

Species	Ht (cm)	%A	%D
<i>Acacia ancistrocarpa</i>	150	2	
<i>Acacia pruinocarpa</i>	200	1	
<i>Acacia spondylophylla</i>	50	5	
<i>Aristida latifolia</i>	25	2	
<i>Eriachne ciliata</i>	30	2	
<i>Eucalyptus gamophylla</i>	300	1	
<i>Eucalyptus leucophloia</i>	400	2	
<i>Fimbristylis leucocolea</i>	10		4
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	250	2	
<i>Hakea lorea</i> subsp. <i>lorea</i>	110	1	
<i>Ptilotus calostachyus</i>	80	3	
<i>Ptilotus exaltatus</i>	20	2	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	40	2	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	200	2	
<i>Tribulus suberosus</i>	100	2	

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
AND WHITE KNIGHT LEASES**

**Plot Number 21**  
**Community No. 17**

**E (mE): 749846**  
**N (mN): 7529068**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia spondylophylla</i>	90	8	
<i>Corchorus walcottii</i>	25	3	
<i>Eriachne ciliata</i>	40	8	
<i>Eucalyptus gamophylla</i>	500	1	
<i>Eucalyptus leucophloia</i>	500	2	
<i>Goodenia stobbsiana</i>	30	2	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	250	5	
<i>Hakea lorea</i> subsp. <i>lorea</i>	250	2	
<i>Ptilotus calostachyus</i>	60	2	
<i>Triodia basedowii</i>	20	30	
<i>Triodia pungens</i>	25	5	

**Plot Number 22**  
**Community No. 2**

**E (mE): 745479**  
**N (mN): 7524338**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	400	2	
<i>Acacia tetragonophylla</i>	100	1	
<i>Acacia victoriae</i>	300	6	
<i>Acacia xiphophylla</i>	400	6	
<i>Aristida latifolia</i>			
<i>Atriplex codonocarpa</i>	20	1	
<i>Atriplex lindleyi</i>	100	1	
<i>Calotis porphyroglossa</i>	10	3	
<i>Cleome viscosa</i>	20		1
<i>Dissocarpus paradoxus</i>	10	2	
<i>Enchylaena tomentosa</i>	100	1	
<i>Iseilema membranaceum</i>	10		2
<i>Maireana pyramidata</i>	150	3	
<i>Maireana triptera</i>	25	8	
<i>Ptilotus exaltatus</i>	10	0.1	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	100	1	
<i>Salsola tragus</i>	20		2
<i>Sclerolaena cuneata</i>	15	3	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	100	2	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	110	3	

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AND WHITE KNIGHT LEASES**

**Plot Number 23**  
**Community No. 12**

**E (mE): 741000**  
**N (mN): 7525000**

Species	Ht (cm)	%A	%D
<i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i>	150	4	
<i>Atriplex flabelliformis</i>	90	4	
<i>Blumea tenella</i>	20	1	
<i>Dissocarpus paradoxus</i>	20	1	
<i>Eragrostis cumingii</i>	30	1	
<i>Eragrostis dielsii</i>	30	2	
<i>Halosarcia auriculata</i>	100	15	
<i>Halosarcia indica</i> subsp. <i>leiostachya</i>	40	25	
<i>Maireana luehmannii</i>	20	1	
<i>Maireana pyramidata</i>	90	1	
<i>Melaleuca glomerata</i>	400	15	
<i>Muehlenbeckia florulenta</i>	120	2	
<i>Ptilotus exaltatus</i>	20	1	
<i>Scaevola spinescens</i>	90	0.1	
<i>Sclerolaena lanicuspis</i>	30	3	
<i>Trianthema turgidifolia</i>	20	1	

**Plot Number 24**  
**Community No. 13**

**E (mE): 736627**  
**N (mN): 7526327**

Species	Ht (cm)	%A	%D
<i>Eragrostis dielsii</i>	20	2	
<i>Frankenia irregularis</i>	20	2	
<i>Halosarcia auriculata</i>	20	25	
<i>Halosarcia halocnemoides</i> subsp. <i>tenuis</i>	25	5	
<i>Halosarcia indica</i> subsp. <i>leiostachya</i>	25	8	
<i>Muellerolimon salicorniaceum</i>	100	1	

**Plot Number 25**  
**Community No. 11**

**E (mE): 736165**  
**N (mN): 7526568**

Species	Ht (cm)	%A	%D
<i>Acacia victoriae</i>	200	1	
<i>Atriplex codonocarpa</i>			
* <i>Bidens pilosa</i>	20		2
<i>Eragrostis dielsii</i>	20	2	
<i>Hakea lorea</i> subsp. <i>lorea</i>	400	1	
<i>Nicotiana occidentalis</i> subsp. <i>occidentalis</i>	40		2
<i>Ptilotus exaltatus</i>	30	1	
<i>Salsola tragus</i>	5	1	
<i>Sclerolaena cuneata</i>	15	2	
<i>Trianthema turgidifolia</i>	??	5	
<i>Triodia angusta</i>	60	40	

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**Plot Number 26**  
**Community No. 3**

**E (mE): 728256**  
**N (mN): 7533003**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	600	20	
<i>Acacia aneura</i> var. <i>conifera</i>	500	2	
<i>Acacia pruinocarpa</i>	550	2	
<i>Acacia rhodophloia</i>	400	5	
<i>Aristida contorta</i>	30	10	
* <i>Bidens pilosa</i>	20	5	
<i>Dodonaea petiolaris</i>	180	4	
<i>Eremophila forrestii</i>	110	5	
<i>Mukia maderaspatana</i>	cr		1
<i>Psydrax latifolia</i> (ms)	400	2	
<i>Solanum lasiophyllum</i>	110	2	

**Plot Number 27**  
**Community No. 4**

**E (mE): 733424**  
**N (mN): 7530773**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	500	3	8
<i>Acacia victoriae</i>	400	3	
<i>Aristida contorta</i>	25		2
<i>Aristida latifolia</i>	90		1
<i>Mukia maderaspatana</i>	cr		1
<i>Salsola tragus</i>	40	2	
<i>Sclerolaena cuneata</i>	30	1	1
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	90	2	2
<i>Solanum lasiophyllum</i>	90		1

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
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**Plot Number 28**  
**Community No. 10**

**E (mE): 733650**  
**N (mN): 7533991**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	560	4	
<i>Acacia pruinocarpa</i>	400	2	
<i>Acacia rhodophloia</i>	300	1	
<i>Anthobolus leptomerioides</i>	200	1	
<i>Aristida contorta</i>	20	10	
<i>Cymbopogon ambiguus</i>	90		1
<i>Dichanthium sericeum</i>	2	3	
<i>Enneapogon caeruleus</i>	20	2	
<i>Eremophila forrestii</i>	80	2	
<i>Gomphrena cunninghamii</i>	25	3	
<i>Mukia maderaspatana</i>	cr	1	
<i>Pterocaulon sphacelatum</i>	40	1	
<i>Ptilotus calostachyus</i>	40	3	
<i>Ptilotus exaltatus</i>	25	1	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	100	2	
<i>Sclerolaena cornishiana</i>	15	2	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	90	3	
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	150	1	
<i>Solanum cleistogamum</i>	40	1	
<i>Solanum lasiophyllum</i>	90	2	
<i>Trichodesma zeylanicum</i>	95	2	
<i>Triodia pungens</i>	90	30	

**Plot Number 29**  
**Community No. 7**

**E (mE): 733666**  
**N (mN): 7534767**

Species	Ht (cm)	%A	%D
<i>Acacia arida</i>	110	4	
<i>Acacia pruinocarpa</i>	250	1	
<i>Acacia tetragonophylla</i>	110	3	
<i>Corchorus walcottii</i>	40	1	
<i>Eremophila forrestii</i> subsp. <i>forrestii</i> (ms)	40	2	
<i>Eucalyptus gamophylla</i>	400	1	
<i>Eucalyptus leucophloia</i>	450	2	
<i>Goodenia stobbsiana</i>	90	2	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	250	1	
<i>Hakea lorea</i> subsp. <i>lorea</i>	300	1	
<i>Indigofera monophylla</i>	30	2	
<i>Keraudrenia nephrosperma</i>	100	1	
<i>Panicum</i> sp.	35	1	
<i>Ptilotus calostachyus</i>	90	2	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	110	2	
<i>Triodia pungens</i>	30	20	

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**Plot Number 30**  
**Community No. 1**

**E (mE): 734425**  
**N (mN): 7533582**

Species	Ht (cm)	%A	%D
<i>Acacia pyrifolia</i>	250	1	
<i>Acacia rhodophloia</i>	250	1	
<i>Acacia tenuissima</i>	140	2	
<i>Acacia tumida</i>	400	2	
<i>Aristida latifolia</i>	90	4	
* <i>Bidens pilosa</i>	20		2
<i>Cleome viscosa</i>	20	2	
<i>Eucalyptus victrix</i>	600	1	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	500	2	
<i>Melaleuca leiocarpa</i>	300	2	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	20		2
<i>Ptilotus calostachyus</i>	90	2	
<i>Sida spinosa</i>	30	4	
<i>Tephrosia</i> sp.	30	3	
<i>Triodia pungens</i>	40	2	

**Plot Number 31**  
**Community No. 7**

**E (mE): 735157**  
**N (mN): 7533623**

Species	Ht (cm)	%A	%D
<i>Acacia hilliana</i>	40	2	
<i>Acacia maitlandii</i>	160	1	
<i>Acacia pyrifolia</i>	100		
<i>Acacia tumida</i>	250	2	
<i>Codonocarpus cotinifolius</i>	300	1	
<i>Corymbia opaca</i>	300	1	
<i>Eriachne obtusa</i>	20	10	
<i>Eucalyptus gamophylla</i>	400	1	
<i>Eucalyptus leucophloia</i>	400	1	
<i>Fimbristylis leucocolea</i>	20		3
<i>Goodenia stobbsiana</i>	60	1	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	300	1	
<i>Hakea lorea</i> subsp. <i>lorea</i>	300	1	
<i>Hibiscus coatesii</i>	110	1	
<i>Indigofera monophylla</i>	20	1	
<i>Ptilotus calostachyus</i>	120	3	
<i>Ptilotus exaltatus</i>	20	1	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	200	1	
<i>Triodia pungens</i>	90	10	

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**Plot Number 32**  
**Community No. 16**

**E (mE): 736649**  
**N (mN): 7534653**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia inaequilatera</i>	120	1	
<i>Aristida latifolia</i>	25	5	
<i>Calytrix carinata</i>	60	1	
<i>Eucalyptus leucophloia</i>	400	1	
<i>Goodenia stobbsiana</i>	40	1	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	110	2	
<i>Hakea lorea</i> subsp. <i>lorea</i>	300	1	
<i>Panicum</i> sp.	30	15	
<i>Ptilotus calostachyus</i>	100	1	
<i>Senna sericea</i>	110	2	
<i>Triodia pungens</i>	30	20	

**Plot Number 33**  
**Community No. 9**

**E (mE): 737115**  
**N (mN): 7533038**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia ancistrocarpa</i>	250	1	
<i>Acacia inaequilatera</i>	400	1	
<i>Acacia tenuissima</i>	150	1	
<i>Aristida latifolia</i>	30	4	
<i>Calytrix carinata</i>	60	2	
<i>Dampiera candidans</i>	100	5	
<i>Eucalyptus leucophloia</i>	450	2	
<i>Fimbristylis leucocolea</i>	20		3
<i>Goodenia stobbsiana</i>	40	2	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	300	2	
<i>Hakea lorea</i> subsp. <i>lorea</i>	300	1	
<i>Hibiscus sturtii</i> var. <i>campylochlamys</i>	120	1	
<i>Keraudrenia nephrosperma</i>	100	3	
<i>Panicum</i> sp.	30	5	
<i>Polycarpaea holtzei</i>	2		2
<i>Ptilotus calostachyus</i>	100	2	
<i>Solanum lasiophyllum</i>	100	1	
<i>Triodia pungens</i>	40	3	

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**Plot Number 34**  
**Community No. 3**

**E (mE): 738012**  
**N (mN): 7532039**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	250	2	
<i>Acacia maitlandii</i>	120	6	
<i>Acacia pruinocarpa</i>	400	2	
<i>Acacia pyrifolia</i>	300	3	
<i>Acacia tumida</i>	150	2	
<i>Aristida contorta</i>	30	2	
* <i>Cenchrus ciliaris</i>	90	3	
<i>Corymbia opaca</i>	500	2	
<i>Cymbopogon ambiguus</i>	50	2	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	300	4	
<i>Hibiscus burtonii</i>	120	1	
<i>Petalostylis labicheoides</i>	250	6	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	100	3	
<i>Tephrosia</i> sp.	100	1	
<i>Triodia pungens</i>	80	20	

**Plot Number 35**  
**Community No. 17**

**E (mE): 740983**  
**N (mN): 7533140**

Species	Ht (cm)	%A	%D
<i>Acacia inaequilatera</i>	200	1	
<i>Acacia spondylophylla</i>	90	8	
<i>Acacia tenuissima</i>	250		
<i>Aristida latifolia</i>	30	5	
<i>Cymbopogon ambiguus</i>	90	2	
<i>Dichanthium sericeum</i>	10		2
<i>Eucalyptus leucophloia</i>	600	1	
<i>Fimbristylis leucocolea</i>	20		4
<i>Gompholobium polyzygum</i>	30	1	
<i>Goodenia stobbsiana</i>	40	3	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	200	1	
<i>Hakea lorea</i> subsp. <i>lorea</i>	500	1	
<i>Hibiscus burtonii</i>	150	1	
<i>Indigofera monophylla</i>	30	1	
<i>Panicum</i> sp.	30	4	
<i>Ptilotus calostachyus</i>	100	1	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	200	1	
<i>Sida spinosa</i>	40	2	
<i>Triodia brizoides</i>	30	40	
<i>Triodia pungens</i>	30	1	

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**Plot Number 36**  
**Community No. 16**

**E (mE): 740983**  
**N (mN): 7533140**

Species	Ht (cm)	%A	%D
<i>Acacia maitlandii</i>	300	1	
<i>Acacia spondylophylla</i>	110	5	
<i>Aristida latifolia</i>	40	20	
<i>Calotis porphyroglossa</i>	10	2	
<i>Calytrix carinata</i>	90	2	
<i>Corymbia opaca</i>	500	2	
<i>Cymbopogon ambiguus</i>	90		1
<i>Fimbristylis leucocolea</i>	20		3
<i>Grevillea berryana</i>	300	1	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	400	1	
<i>Hakea lorea</i> subsp. <i>lorea</i>	450	2	
<i>Panicum</i> sp.	30	2	
<i>Polycarpaea holtzei</i>	2		3
<i>Ptilotus calostachyus</i>	80	1	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	100	1	
<i>Tribulus suberosus</i>	90		1
<i>Triodia basedowii</i>	20	30	
<i>Triodia pungens</i>	30	2	

**Plot Number 37**  
**Community No. 17**

**E (mE): 741154**  
**N (mN): 7531583**

Species	Ht (cm)	%A	%D
<i>Acacia acradenia</i>	200	25	
<i>Acacia aneura</i> var. <i>aneura</i>	100	1	
<i>Acacia inaequilatera</i>	450	2	
<i>Acacia pruinocarpa</i>	300	1	
<i>Acacia spondylophylla</i>	200	20	
<i>Bonamia rosea</i>			
<i>Codonocarpus cotinifolius</i>	500	1	
<i>Corymbia opaca</i>	400	1	
<i>Dichanthium sericeum</i>	10		3
<i>Hibiscus burtonii</i>	100	1	
<i>Keraudrenia nephrosperma</i>	90	1	
<i>Paraneurache muelleri</i>	40	4	
<i>Ptilotus calostachyus</i>	110	1	
<i>Ptilotus exaltatus</i>	50	1	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	100	2	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	180	1	
<i>Sida cardiophylla</i>	30	1	
<i>Sporobolus australasicus</i>	90	1	
<i>Tribulus suberosus</i>	100	1	
<i>Triodia basedowii</i>	30	15	
<i>Triodia pungens</i>	90	1	

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
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**Plot Number 38**  
**Community No. 3**

**E (mE): 742349**  
**N (mN): 7528154**

Species	Ht (cm)	%A	%D
<i>Acacia pruinocarpa</i>	250	4	
<i>Acacia pyrifolia</i>	250	10	
<i>Anthobolus leptomerioides</i>	180	1	
* <i>Cenchrus ciliaris</i>	80	2	
<i>Corymbia candida</i> subsp. <i>candida</i>	800	2	
<i>Corymbia opaca</i>	500	1	
<i>Eremophila forrestii</i>	100	1	
<i>Indigofera monophylla</i>	30	4	
<i>Ptilotus exaltatus</i>	30	1	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	90	4	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	100	4	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	220	3	
<i>Sporobolus australasicus</i>	20		3
<i>Tephrosia rosea</i> var. <i>glabrior</i> (ms)	30	2	
<i>Trichodesma zeylanicum</i>	100	1	
<i>Triodia angusta</i>	80	2	

**Plot Number 39**  
**Community No. 10**

**E (mE): 732933**  
**N (mN): 7529652**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	600	9	
<i>Acacia aneura</i> var. <i>conifera</i>	200	1	
<i>Acacia tetragonophylla</i>	300	1	
<i>Acacia victoriae</i>	100	1	
<i>Acacia xiphophylla</i>	600	5	
<i>Aristida contorta</i>	30	2	
<i>Aristida latifolia</i>	120	1	1
<i>Calotis porphyroglossa</i>	10		2
<i>Dichanthium sericeum</i>	10		4
<i>Enchylaena tomentosa</i>	100	1	
<i>Eremophila forrestii</i>	100	1	
<i>Hakea lorea</i> subsp. <i>lorea</i>	400	1	
<i>Paraneurache muelleri</i>			
<i>Psyrax latifolia</i> (ms)	100	1	1
<i>Sclerolaena cornishiana</i>	30	1	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	120	2	
<i>Solanum lasiophyllum</i>	30		2
<i>Sporobolus australasicus</i>	30		1
<i>Streptoglossa</i> sp.	30	1	

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**Plot Number 40**  
**Community No. 13**

**E (mE): 731376**  
**N (mN): 7529225**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	400	1	
<i>Acacia victoriae</i>	150	1	
<i>Acacia xiphophylla</i>	400	0.1	
<i>Atriplex codonocarpa</i>	20	1	
<i>Calotis porphyroglossa</i>	10		2
<i>Dichanthium sericeum</i>	5		5
<i>Dissocarpus paradoxus</i>	15	1	
<i>Eremophila cuneifolia</i>	100	1	
<i>Eremophila forrestii</i>	90	2	
<i>Maireana triptera</i>	40		3
<i>Pterocaulon sphacelatum</i>	25	1	
<i>Ptilotus exaltatus</i>	30		2
<i>Salsola tragus</i>	20		1
<i>Sclerolaena cuneata</i>	20		2
<i>Sclerolaena lanicuspis</i>	20	3	
<i>Sporobolus australasicus</i>	10		1
<i>Streptoglossa</i> sp.	40	1	
<i>Trianthema turgidifolia</i>	20	2	
<i>Triodia angusta</i>	90	40	

**Plot Number 41**  
**Community No. 12**

**E (mE): 722864**  
**N (mN): 7530750**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	600	10	
<i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i>	220	3	
<i>Acacia tetragonophylla</i>	300	5	
<i>Acacia victoriae</i>	200	1	
<i>Aristida latifolia</i>	110	10	5
<i>Calotis porphyroglossa</i>	10		2
<i>Cullen cinereum</i>	20		2
<i>Eragrostis dielsii</i>	30	8	
<i>Eremophila longifolia</i>	400	1	
<i>Eremophila platycalyx</i> subsp. <i>platycalyx</i> (ms)	90	1	
<i>Halosarcia auriculata</i>	30	1	
<i>Halosarcia indica</i> subsp. <i>leiostachya</i>	45	3	
<i>Melaleuca glomerata</i>	300	1	
<i>Muehlenbeckia florulenta</i>	120	2	
<i>Samolus</i> sp. ? Millstream (Brooker 2076) pn	60	1	
<i>Scaevola spinescens</i>	110	0.1	
<i>Solanum lasiophyllum</i>	30	1	
<i>Streptoglossa</i> sp.	40	5	

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AND WHITE KNIGHT LEASES**

**Plot Number 42**  
**Community No. 4**

**E (mE): 719526**  
**N (mN): 7532126**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	750	10	
<i>Acacia tetragonophylla</i>	400	6	
<i>Acacia victoriae</i>	400	2	
<i>Acacia xiphophylla</i>	600	5	
<i>Aristida latifolia</i>	100		3
<i>Eremophila forrestii</i>	90	2	
<i>Eremophila maculata</i>	30	3	2
<i>Maireana pyramidata</i>	100	8	
<i>Maireana triptera</i>	30	4	
<i>Psyrax latifolia</i> (ms)	400	2	
<i>Pterocaulon sphacelatum</i>	60	2	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	100	1	
<i>Ptilotus</i> sp. LM100	10		8
<i>Rostellularia adscendens</i> var. <i>latifolia</i> P3	10		1
<i>Salsola tragus</i>	30	1	
<i>Sclerolaena cornishiana</i>	20		2
<i>Sclerolaena cuneata</i>	20	2	2
<i>Sporobolus australasicus</i>	30		8
<i>Streptoglossa</i> sp.	30	1	2
<i>Triodia angusta</i>	90	20	

**Plot Number 43**  
**Community No. 2**

**E (mE): 724745**  
**N (mN): 7532996**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	700	3	
<i>Acacia coriacea</i> subsp. <i>pendens</i>	1000	5	
<i>Acacia pruinoscarpa</i>	600	2	
<i>Acacia pyriformis</i>	300	1	
<i>Acacia tetragonophylla</i>	200	2	
<i>Boerhavia schomburgkiana</i>	20	1	
* <i>Cenchrus ciliaris</i>	90		30
<i>Cleome viscosa</i>	20	2	
<i>Corymbia candida</i> subsp. <i>candida</i>	900	1	
<i>Eremophila longifolia</i>	400	2	
<i>Eucalyptus victrix</i>	600	2	
<i>Indigofera monophylla</i>	80	3	
<i>Paraneurache muelleri</i>	30		2
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	90	2	
<i>Scaevola spinescens</i>	250	1	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	90	2	
<i>Sida spinosa</i>	40	2	
<i>Stemodia viscosa</i>	40	1	
<i>Triodia angusta</i>	25	1	

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**Plot Number 44**  
**Community No. 4**

**E (mE): 715549**  
**N (mN): 7534450**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	500	20	
<i>Acacia tetragonophylla</i>	300	2	
<i>Acacia victoriae</i>	300	2	
<i>Acacia xiphophylla</i>	450	5	
<i>Aristida contorta</i>	25		6
<i>Cleome viscosa</i>	25		4
<i>Eremophila forrestii</i>	110	4	
<i>Hakea lorea</i> subsp. <i>lorea</i>	100	1	
<i>Sclerolaena cornishiana</i>	15		2
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	100	2	
<i>Sporobolus australasicus</i>	10		3
<i>Stemodia viscosa</i>	20		2

**Plot Number 45**  
**Community No. 2**

**E (mE): 715763**  
**N (mN): 7535940**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	500	15	
<i>Acacia distans</i>	600	15	
<i>Acacia pruinocarpa</i>	600	1	
<i>Aristida contorta</i>	40		4
<i>Aristida latifolia</i>	110	1	1
* <i>Cenchrus ciliaris</i>	100		4
<i>Dicladanthera forrestii</i>	100	1	
<i>Euphorbia coghlanii</i>	20	1	
* <i>Malvastrum americanum</i>	25	1	
<i>Porana commixta</i>	cr		1
<i>Psyrax latifolia</i> (ms)	250	1	
<i>Sida spinosa</i>	30	1	

**Plot Number 46**  
**Community No. 4**

**E (mE): 710560**  
**N (mN): 7537615**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	400	4	10
<i>Acacia pruinocarpa</i>	100	2	
<i>Acacia victoriae</i>	250	2	
<i>Aristida contorta</i>	30		8
<i>Aristida latifolia</i>	100	1	
<i>Boerhavia schomburgkiana</i>	cr		2
<i>Cleome viscosa</i>	40		1
<i>Corymbia candida</i> subsp. <i>candida</i>	800	0.1	
<i>Ptilotus exaltatus</i>	10	0.1	
<i>Sclerolaena cornishiana</i>	30	2	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	100	1	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	100	1	
<i>Sida spinosa</i>	40	1	

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**Plot Number 47**  
**Community No. 3**

**E (mE): 694737**  
**N (mN): 7541007**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	600	10	
<i>Acacia pruinocarpa</i>	450	2	
<i>Alternanthera nodiflora</i>	20		3
<i>Aristida contorta</i>	30		10
<i>Cleome viscosa</i>	30		4
<i>Dodonaea petiolaris</i>	160	2	
<i>Eremophila forrestii</i>	150	3	
<i>Eremophila maculata</i>	40	3	5
<i>Hakea lorea</i> subsp. <i>lorea</i>	40	1	
<i>Psydrax suaveolens</i> (ms)	200	1	
<i>Ptilotus exaltatus</i>	50		1
<i>Sclerolaena cornishiana</i>	30	4	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	150	1	3
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	40		1
<i>Stemodia viscosa</i>	20		2

**Plot Number 48**  
**Community No. 7**

**E (mE): 693699**  
**N (mN): 7541230**

Species	Ht (cm)	%A	%D
<i>Acacia adsurgens</i>	110	10	
<i>Acacia pruinocarpa</i>	220	2	
<i>Eucalyptus leucophloia</i>	500	1	
<i>Goodenia stobbsiana</i>	40	2	
<i>Hakea lorea</i> subsp. <i>lorea</i>	40	2	
<i>Hibiscus burtonii</i>	180	2	
<i>Indigofera monophylla</i>	40	1	
<i>Panicum</i> sp.	30	4	
<i>Ptilotus calostachyus</i>	150	2	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	200	2	
<i>Senna glutinosa</i> subsp. <i>pruinosa</i>	120	2	
<i>Sida cardiophylla</i>	40	2	
<i>Sida spinosa</i>	90	2	
<i>Solanum lasiophyllum</i>	40	2	
<i>Triodia basedowii</i>	20	2	5

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AND WHITE KNIGHT LEASES**

**Plot Number 49**  
**Community No. 8**

**E (mE): 691200**  
**N (mN): 7541217**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia distans</i>	950	15	
<i>Acacia pruinocarpa</i>	900	5	
<i>Acacia tetragonophylla</i>	400	3	
<i>Aristida latifolia</i>	30	1	
<i>Corymbia opaca</i>	900	1	
<i>Cymbopogon ambiguus</i>	100	1	
<i>Dodonaea petiolaris</i>	200	1	
<i>Eremophila forrestii</i>	100	5	
<i>Mukia maderaspatana</i>	cr	1	
<i>Porana commixta</i>	cr	2	
<i>Psyrax latifolia</i> (ms)	250	2	
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	110	1	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	120	8	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	300	2	
<i>Themeda triandra</i>	40	2	
<i>Trichodesma zeylanicum</i>	150	2	
<i>Triodia pungens</i>	40	2	

**Plot Number 50**  
**Community No. 1**

**E (mE): 691245**  
**N (mN): 7541317**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	600	2	
<i>Acacia coriacea</i> subsp. <i>pendens</i>	600	1	
<i>Acacia distans</i>	600	4	
<i>Acacia pruinocarpa</i>	500	2	
<i>Acacia pyrifolia</i>	300	8	3
<i>Acacia tetragonophylla</i>	250	1	
<i>Acacia tumida</i>	600	8	
<i>Atalaya hemiglauca</i>	500	1	
<i>Cleome viscosa</i>	20	3	
<i>Eucalyptus victrix</i>	500	2	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	400	2	
<i>Indigofera monophylla</i>	50	2	
<i>Petalostylis labicheoides</i>	230	0	
<i>Tephrosia</i> sp.	30	1	
<i>Triodia pungens</i>	80	2	

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**Plot Number 51**  
**Community No. 7**

**E (mE): 688700**  
**N (mN): 7541552**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	400	1	
<i>Acacia pruinocarpa</i>	500	4	
<i>Acacia tetragonophylla</i>	300	1	
<i>Calytrix carinata</i>	250	2	
<i>Codonocarpus cotinifolius</i>	450	1	
<i>Dysphania rhadinostachya</i>	40		2
<i>Eremophila forrestii</i>	120	1	
<i>Eremophila lanceolata</i> (ms)	120	1	
<i>Goodenia stobbsiana</i>	50	2	
<i>Grevillea wickhamii</i> ?subsp. <i>aprica</i>	400	1	
<i>Hakea lorea</i> subsp. <i>lorea</i>	180	2	
<i>Pterocaulon sphacelatum</i>	90	3	
<i>Senna glutinosa</i> subsp. <i>glutinosa</i>	200	2	
<i>Sida spinosa</i>	90	2	
<i>Triodia pungens</i>	50	40	

**Plot Number 52**  
**Community No. 4**

**E (mE): 699361**  
**N (mN): 7536543**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	500	25	1
<i>Alternanthera nodiflora</i>	15	2	
<i>Aristida contorta</i>	20		20
<i>Aristida latifolia</i>	100	0.1	
<i>Cleome viscosa</i>	40	0.5	
<i>Dodonaea petiolaris</i>	110	3	
<i>Eremophila forrestii</i>	110	4	
* <i>Malvastrum americanum</i>	40	0.1	
<i>Psydrax suaveolens</i> (ms)	110	1	
<i>Ptilotus gaudichaudii</i>	80	1	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	90	1	
<i>Solanum cleistogamum</i>	30	0.1	
<i>Solanum lasiophyllum</i>	80	0.2	
<i>Sporobolus australasicus</i>	30	0.1	

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**Plot Number 53**  
**Community No. 2**

**E (mE): 699389**  
**N (mN): 7537453**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	650	10	3
<i>Acacia pruinocarpa</i>	900	1	
<i>Acacia tetragonophylla</i>	220	2	
<i>Alternanthera nodiflora</i>	30		2
<i>Aristida contorta</i>	30		10
<i>Aristida latifolia</i>	30		1
* <i>Bidens pilosa</i>	30		2
<i>Cheilanthes sieberi</i> subsp. <i>sieberi</i>	10		0.1
<i>Cleome viscosa</i>	30		2
<i>Corchorus walcottii</i>	30	1	
<i>Dodonaea petiolaris</i>	200	15	
<i>Enneapogon caerulescens</i>	20-		
<i>Eremophila forrestii</i>	40	1	
<i>Eriachne</i> sp.	20		2
<i>Mukia maderaspatana</i>	cr	1	2
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	20		2
<i>Porana commixta</i>	cr	1	
<i>Psyrax latifolia</i> (ms)	400	1	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	30	1	

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**Plot Number 54**  
**Community No. 3**

**E (mE): 693091**  
**N (mN): 7541070**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	600	12	
<i>Acacia ayersiana</i>	500	4	
<i>Acacia pruinocarpa</i>	500	2	
<i>Alternanthera nodiflora</i>	20		3
<i>Anthobolus leptomerioides</i>	110	0.4	
<i>Aristida contorta</i>	25		10
<i>Aristida latifolia</i>	100		2
<i>Cleome viscosa</i>	30		2
<i>Cymbopogon ambiguus</i>	90	0.1	
<i>Dichanthium sericeum</i>	10		0.1
<i>Dodonaea petiolaris</i>	140	2	
<i>Enneapogon caeruleus</i>	20		3
<i>Eremophila forrestii</i>	120	8	
<i>Eremophila latrobei</i> subsp. <i>filiformis</i> (ms)	110	1	
<i>Eriachne</i> sp.	30		2
<i>Hakea lorea</i> subsp. <i>lorea</i>	100	2	
<i>Hibiscus burtonii</i>	100	0.1	
<i>Mukia maderaspatana</i>	cr	0.1	
<i>Polycarpaea corymbosa</i> var. <i>corymbosa</i>	40	0.1	
<i>Porana commixta</i>	cr	1	
<i>Psyrax latifolia</i> (ms)	250	2	
<i>Psyrax suaveolens</i> (ms)	120	2	
<i>Sarcostemma viminalis</i> subsp. <i>australe</i>	100	0.1	
<i>Sida atrovirens</i> (ms)	40	0.1	
<i>Solanum lasiophyllum</i>	40	0.1	
<i>Trichodesma zeylanicum</i>	150	2	

**Plot Number 55**  
**Community No. 10**

**E (mE): 689644**  
**N (mN): 7541055**

Species	Ht (cm)	%A	%D
<i>Acacia aneura</i> var. <i>aneura</i>	500	5	
<i>Acacia pruinocarpa</i>	600	1	
<i>Acacia xiphophylla</i>	400	3	
<i>Aristida contorta</i>	30		20
<i>Cleome viscosa</i>	30		2
<i>Eremophila forrestii</i>	110	7	
<i>Eriachne</i> sp.	50		2
<i>Heliotropium</i> sp. LM168			
<i>Hibiscus burtonii</i>	40	1	
<i>Ipomoea muelleri</i>	5	0.1	
* <i>Malvastrum americanum</i>	40		1
<i>Psyrax latifolia</i> (ms)	200	1	
<i>Ptilotus exaltatus</i>	10		4
<i>Ptilotus obovatus</i> var. <i>obovatus</i>	140	8	
<i>Senna artemisioides</i> subsp. <i>helmsii</i>	25		2
<i>Solanum lasiophyllum</i>	30		2
<i>Sporobolus australasicus</i>	10		1

**APPENDIX C: VASCULAR PLANT SPECIES IN PLOTS ON CLOUD BREAK  
AND WHITE KNIGHT LEASES**

**Plot Number 56**  
**Community No. 10**

**E (mE): 689189**  
**N (mN): 7538592**

<b>Species</b>	<b>Ht (cm)</b>	<b>%A</b>	<b>%D</b>
<i>Acacia aneura</i> var. <i>aneura</i>	700	15	
<i>Acacia pruinocarpa</i>	500	1	
<i>Acacia xiphophylla</i>	500	0.1	
<i>Alternanthera nodiflora</i>	20		3
<i>Amyema fitzgeraldii</i>	1	0.1	
<i>Aristida contorta</i>	30		10
* <i>Bidens pilosa</i>	30		3
<i>Brachyachne convergens</i>	30	2	
<i>Cleome viscosa</i>	30		2
<i>Cymbopogon ambiguus</i>	100		1
<i>Dichanthium sericeum</i>	20		2
<i>Gomphrena cunninghamii</i>	20		2
<i>Heliotropium</i> sp. LM168	10		3
<i>Hibiscus burtonii</i>	110	1	
<i>Ipomoea muelleri</i>	5	0.1	
<i>Senna artemisioides</i> subsp. <i>oligophylla</i>	90	1	
<i>Senna notabilis</i>	40	1	
<i>Sida spinosa</i>	20		2
<i>Solanum lasiophyllum</i>	30		2
<i>Sporobolus australasicus</i>	30		3
<i>Stemodia viscosa</i>	20		2