



Level 1
Flora and Vegetation Survey
Gascoyne Resources
Dalgaranga Tenements

**(M59/749, L59/141, L59/142, L59/151, L59/152
& L59/153)**

Prepared for

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1 INTRODUCTION

Gascoyne Resources Ltd (GCY) proposes to pursue mining opportunities within the Dalgaranga area within Mining Tenement M59/749, whilst utilising access Haul Roads and other related infrastructure within Miscellaneous Licenses L59/141, L59/142, L59/151, L59/152 & L59/153.

The survey area was located approximately 59.6 km northwest of Mount Magnet and 73 km southwest of Cue in the Murchison Region of Western Australia. The survey area covered approximately 2,051 hectares, of which 447.6ha was previously surveyed in 2013 by Native Vegetation Solutions (NVS, 2014).

Clark Lindbeck and Associates Pty Ltd (CLA) commissioned NVS to complete a Level 1 flora and vegetation survey of GCY tenements at Dalgaranga from 30th May to 2nd June 2016.

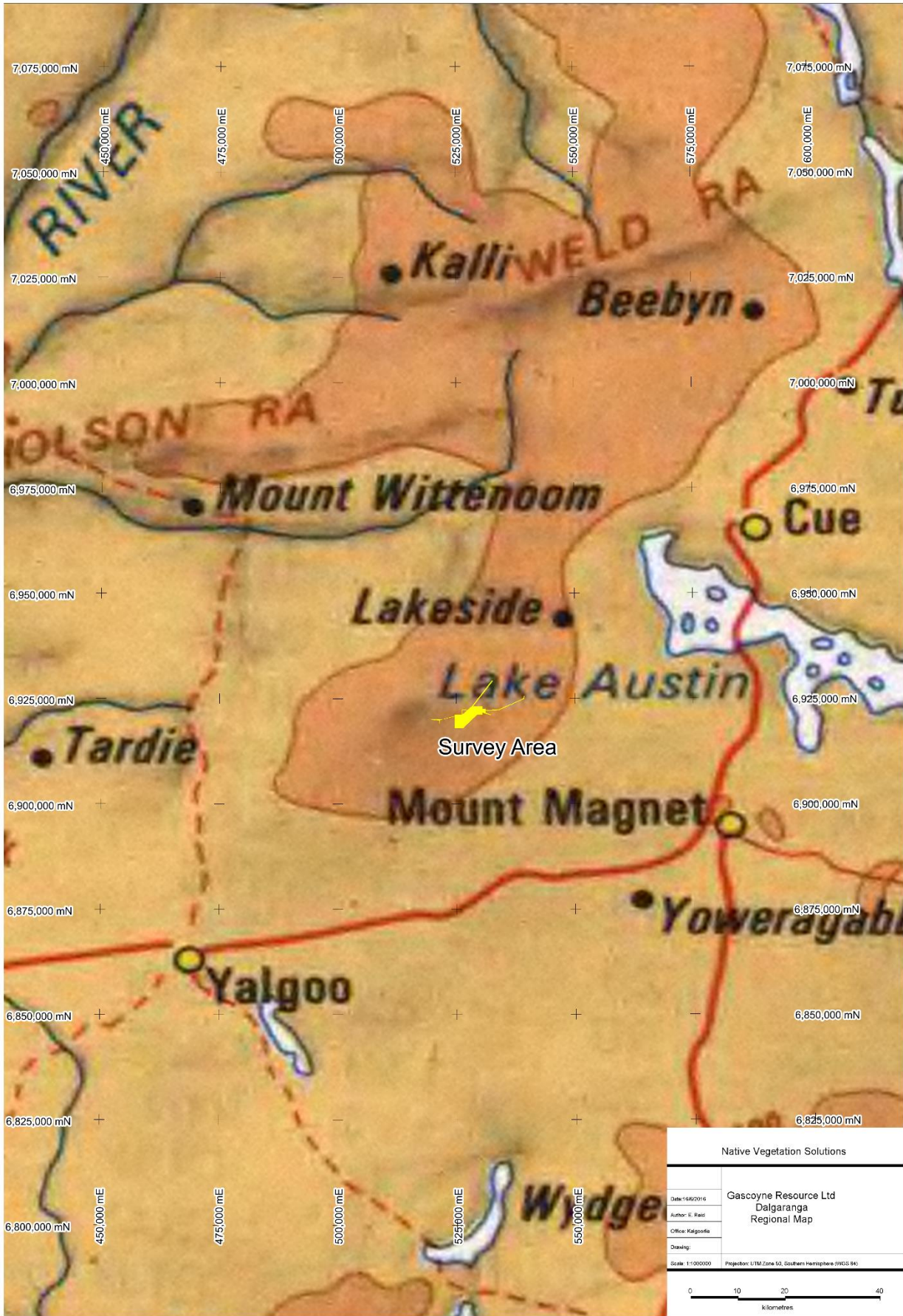


Figure 1: Regional map of survey location

1.1 Objectives

The objective of this report is to document the results of the flora and vegetation component of a Level 1 assessment conducted in accordance with the Environmental Protection Authority (EPA) “*Terrestrial Biological Surveys as an Element of Biodiversity Protection; Position Statement No 3*” (EPA 2002) and *Guidance Statement No. 51 “Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* (EPA 2004)”, for the purpose of exploration and mining activities.

A Level 1 study has two components:

1). Desktop study which includes a literature review and a search of the relevant databases;

and

2). Reconnaissance survey of the subject area to verify the desktop survey, to define vegetation units present in the area, search for species of conservation significance and to determine potential sensitivity to impact.

As part of the reporting for the Level 1 assessment, NVS has conducted a flora survey which includes broad-scale vegetation mapping and vegetation condition mapping of the survey area.

Therefore, the scope of work for the flora survey was to:

- conduct a desktop study that includes a literature review and search of the relevant databases;
- generally describe the vegetation associations in the study area;
- prepare an inventory of species occurring in the study area;
- identify any vegetation or flora of particular conservation significance; and
- provide recommendations, including the management of perceived impacts to flora and vegetation within the study area.

The site survey concentrated on the proposed areas of additional disturbance at Dalgaranga with a reconnaissance survey encompassing the remainder of the tenement areas.

1.2 Vegetation

The survey area lies in the Murchison (MUR) bioregion within the Western Murchison (MUR02) subregion which totals over 7.8 million hectares (CALM, 2002). Mulga low woodlands, often rich in ephemerals (usually with bunch grasses), occur on outcrop and fine textured Quaternary alluvial and eluvial surfaces (extensive hardpan washplains that dominate and characterise the subregion) with mantling granitic and greenstone strata in the northern part of the Yilgarn Craton. Surfaces associated with the occluded drainage occur throughout the subregion with hummock grasslands on Quaternary sandplains, saltbush shrublands on calcareous soils and *Halosarcia (Tecticornia)* low shrublands on saline alluvia. The subregion also contains the headwaters of the Murchison and Wooramel Rivers, which drain the subregion westwards to the coast (CALM, 2002).

1.3 Climate

The subregion has an Arid climate with bimodal rainfall that usually falls in winter. The nearest official meteorological station with the most complete and up to date information is Mount Magnet Aero which is located approximately 62.7 km southeast of the survey area.

1.3.1 Temperature

Mean annual minimum temperature at Mount Magnet Aero is 15.2°C and mean annual maximum temperature is 28.6°C. The coldest month is July (mean minimum temperature 7.0°C), the hottest is January (mean maximum temperature 37.9°C) and diurnal temperature variations are relatively consistent throughout the year (Figure 2).

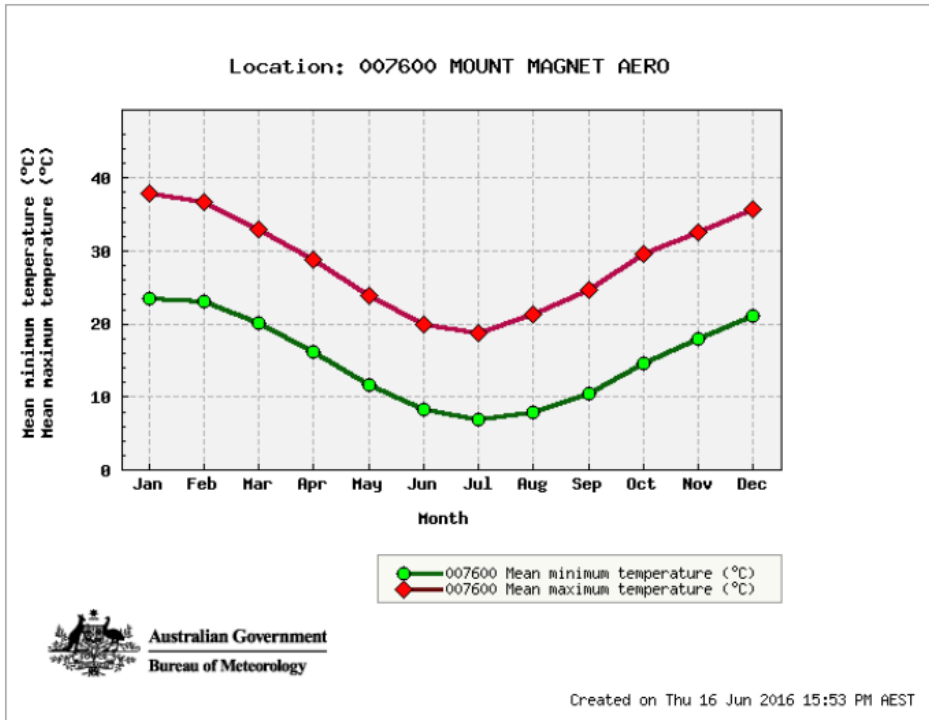


Figure 2: Mean Temperature ranges for Mount Magnet Aero weather station

1.3.2 Rainfall

The annual average rainfall at Mount Magnet Aero is 257.5 mm, which falls (>1 mm) on an average of 35.2 rain-days. Rainfall is largely confined to the summer and autumn months, generally falling between the months of December and July (Figure 3). Rainfall in January and March 2016 exceeded monthly averages, while other months until May received less than the monthly average (Figure 3).

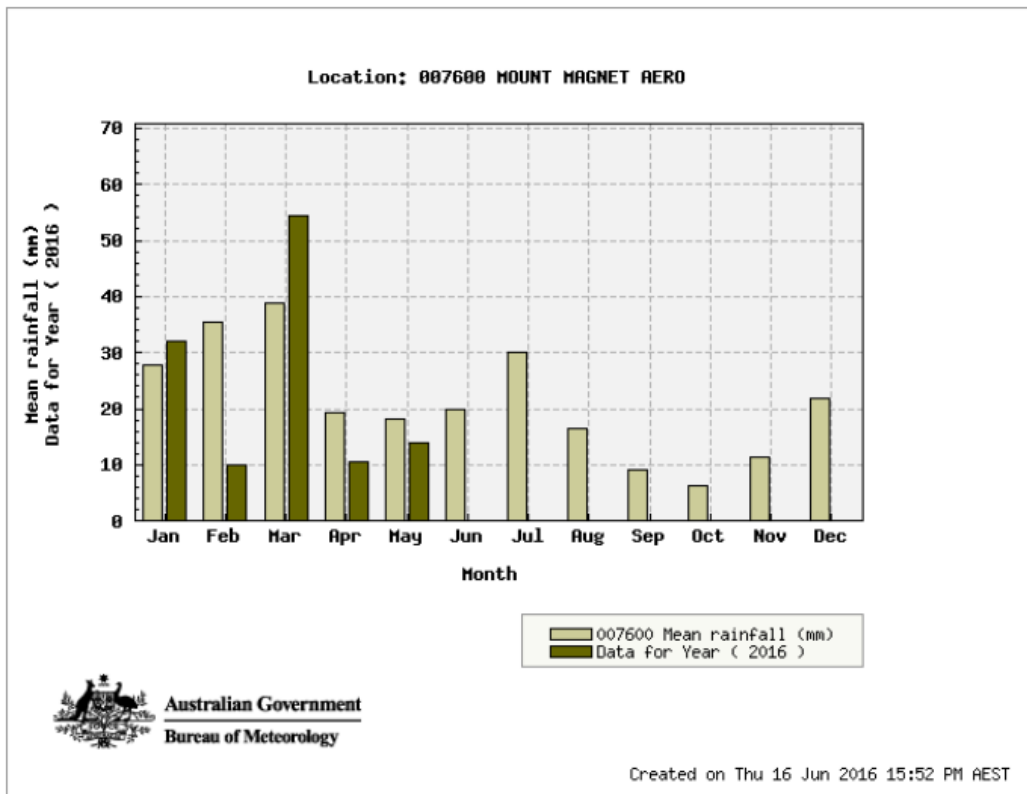


Figure 3: Monthly and mean rainfall for Mount Magnet Aero weather station 2016

2. ASSESSMENT METHODOLOGY

2.1 Preliminary Desktop Study

A preliminary assessment of the project area and its potential constraints was undertaken by reviewing a number of government agency managed databases (see Appendix 1) and consulting where necessary. The following sections provide a summary of the methodology used for each potential environmental aspect associated with the project.

2.1.1 Environment Protection and Biodiversity Conservation Act Protected Matters

The *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* Protected Matters Search tool was utilised to provide results for matters of National Environmental Significance within the survey area.

(<http://www.environment.gov.au/arccgis-framework/apps/pmst/pmst-coordinate.jsf>)

2.1.2 Threatened Flora and Communities

The Species and Communities Branch of the Department of Parks and Wildlife (DPAW) was contacted for a search of their databases containing known populations of threatened flora. (Reference: 19-0516FL).

The presence of Threatened and Priority Ecological Communities (TECs and PECs) was determined by examining Geographic Information System (GIS) data supplied by the DPAW upon request. (Reference: 11-0213EC).

2.1.3 Environmentally Sensitive Areas (ESAs) and Conservation Reserves

The Department of Environment Regulation's (DER's) Native Vegetation Map Viewer was used to determine the location of any ESAs (<https://cps.der.wa.gov.au/main.html>)

The location of any Conservation Reserves was determined by examining GIS data available from the DER website and consulting with the local DER office where necessary.

2.1.4 Vegetation Type, Extent and Status

Vegetation extent and status data was sourced from the Department of Agriculture and Food (DAFWA) report "Land-Use and Vegetation in Western Australia- National Land and Water Resources Audit Report" and its associated GIS file. This data comprises Beard's Pre-European vegetation groups.

Note: This data was provided to Native Vegetation Solutions via a license agreement with the DAFWA.

DPaW's Statewide Vegetation Statistics (DPaW, 2015) was also referenced for the current extent of Beard's Vegetation Groups.

2.1.5 Wetlands

The location of wetlands within the project area was determined by examining DER's Clearing Permit System Native Map Viewer (<https://cps.der.wa.gov.au/main.html>).

2.1.6 Dieback

Dieback is only considered a potential issue for the project if both the mean annual rainfall of the area is >400mm, and if the project area is located below the 26th parallel.

2.2 Site Investigation

A site visit was carried out by Consultant Botanist Eren Reid from NVS from the 30th May to 2nd June 2016 to examine the broad flora and vegetation groups contained within the survey area. A total of 30 hours was spent on site traversing the survey area. While a vehicle was used to reach the site, traverses were made on foot, and via Kawasaki Mule.

The survey was conducted in accordance with relevant EPA's Statements and Guidelines (Section 1.1).

2.2.1 Licenses

Flora was collected for identification under the Scientific Collection License SL011497 held by Mr E. R. Reid with expiry 09/07/2016.

2.3 Personnel and Reporting

The following personnel were involved in the preparation of this report;

- Eren Reid *BSc (Biological Science)*, Principal Botanist, Native Vegetation Solutions, undertook the survey, species identification, data collation, preparation of and review of the report.

2.4 Limitations

Table 1 lists potential limitations that may have affected the survey. These are based on the listing given in the *Guidance Statement No. 51* (EPA, 2004). As shown, this survey was not limited by any factors listed below.

Table 1: List of potential survey limitations

Potential Limitations	Constraint (Y/N)	Comment
Competency and experience of the consultants undertaking the survey	N	Mr Eren Reid is an experienced botanist who has conducted many flora and vegetation surveys in the Goldfields, Pilbara and South-west regions of WA
Proportion of flora identified during survey	N	The survey was planned to target rainfall opportunistic species and species of conservation significance. Efforts to sample available flowering specimens were vigorous, with sufficient sampling and identifications made to describe the broad vegetation groups present, and to provide information regarding possible threatened flora within the survey area
Sources of information	N	Threatened and Priority Flora GIS information was available from DPAW
Proportion of the task achieved	N	All tasks completed
Timing/Season	N	The survey was conducted in Late Autumn 2016. Recent rainfall was only slightly below average for the year of 2016, with only January and March reaching above average rainfall. Despite this, annuals were observed within the survey area.
Disturbance in survey area	N	Disturbance was present in the form of historic major and minor access tracks, as well as historic mining activities, however these did not hinder the survey results
Intensity of survey effort	N	Transects were walked through the survey area with all parts visited
Resources	N	Adequate resources were available
Access problems	N	No problems with access
Availability of contextual information on the region	N	Information on the Murchison Bioregion area is readily available

3. RESULTS

3.1 Preliminary Desktop Assessment

3.1.1 EPBC Act Protected Matters

The protected matters search results revealed that the survey area may contain habitat which is suitable for one possible invasive species, *Cenchrus ciliaris* (Buffel Grass) (DOTE, 2014).

The Search results also indicated that the search area falls within the Dalgaranga and Noongal Pastoral Leases, which are listed as a State and Territory Reserve. These Reserves are in the gazettal process of being listed on the National Reserve System (DOTE, 2016).

Upon further inspection utilising GIS shapefiles, only Miscellaneous License L59/141 and L59/152 fall within the Dalgaranga and Noongal Pastoral Leases.

3.1.2 Threatened Flora and Communities

The DPAW database searches revealed a potential for 28 Priority Flora species to occur within a 30km buffer of the survey area (DPAW, 2016). No known locations of Priority Flora occur within the survey area, with the closest location occurring 8.0 km north of the survey area.

Results of the threatened flora database search are included in Appendix 2.

The PEC/TEC search (DPAW, 2014) revealed that the survey area contains no PEC/TEC listed locations.

3.1.3 ESA's and Conservation Reserves

No ESA's are located within the survey area (DER, 2016).

3.1.4 Vegetation Type, Extent and Status

Information relating to known vegetation within the survey area has been summarised in Tables 2, 3, 4 and 5 below. This information has been compiled through both desktop assessments and the site visit. Four Beard vegetation groups occur within the survey area, 18, 39, 204 and 395 (Shepherd, *et al.* 2002)

Table 2: Summary of information regarding Pre-European and current vegetation extent of vegetation association 18 within the survey area

Factor	Value					
Beard Vegetation Association*	18					
Vegetation Association Description*	Low woodland; mulga (<i>Acacia aneura</i>)					
Extent (ha)	Scale					
	By Association	By Association	By IBRA Region (Murchison)	By IBRA Sub-region (Western Murchison)	By Shire (Shire of Yalgoo)	By Shire (Shire of Mount Magnet)
	22,029,557*	19,892,304**	12,403,172**	2,133,275**	548,555**	831,222**
% Pre-European Extent Remaining*	100.00%*	99.76%**	99.68%**	99.77%**	99.98%**	99.89%**
Surrounding Land Use***	Exploration, Mining, Pastoral Lease					
Weed prevalence***	Low					

* Source: Shepherd *et al.* (2002) Appendix 2

**Source: Government of Western Australia, (2015).

*** Source: Field Survey

Table 3: Summary of information regarding Pre-European and current vegetation extent of vegetation association 39 within the survey area

Factor	Value					
Beard Vegetation Association*	39					
Vegetation Association Description*	Shrublands; mulga scrub					
Extent (ha)	Scale					
	By Association	By Association	By IBRA Region (Murchison)	By IBRA Sub-region (Western Murchison)	By Shire (Shire of Yalgoo)	By Shire (Shire of Mount Magnet)
	4,856,768*	6,613,569**	1,148,400**	437,071**	60,304**	27,954**
% Pre-European Extent Remaining*	100.00%*	99.83%**	99.10%**	99.78%**	100.00%**	99.10%**
Surrounding Land Use***	Exploration, Mining, Pastoral Lease					
Weed prevalence***	Low					

* Source: Shepherd *et al.* (2002) Appendix 2

**Source: Government of Western Australia, (2015).

*** Source: Field Survey

Table 4: Summary of information regarding Pre-European and current vegetation extent of vegetation association 395 within the survey area

Factor	Value					
Beard Vegetation Association*	395					
Vegetation Association Description*	Hummock grasslands, mixed sandplain; bowgada, mallee, heath and spinifex					
Extent (ha)	Scale					
	By Association	By Association	By IBRA Region (Murchison)	By IBRA Sub-region (Western Murchison)	By Shire (Shire of Yalgoo)	By Shire (Shire of Mount Magnet)
	102,425*	102,487**	102,166**	74,437**	33,665**	58,662**
% Pre-European Extent Remaining*	100.00%*	100.00%**	100.00%**	100.00%**	100.00%**	100.00%**
Surrounding Land Use***	Exploration, Mining, Pastoral Lease					
Weed prevalence***	Low					

* Source: Shepherd *et al.* (2002) Appendix 2

**Source: Government of Western Australia, (2015).

*** Source: Field Survey

Table 5: Summary of information regarding Pre-European and current vegetation extent of vegetation association 204 within the survey area

Factor	Value					
Beard Vegetation Association*	204					
Vegetation Association Description*	Succulent steppe with open scrub; scattered <i>Acacia sclerosperma</i> & bowgada over saltbush & bluebush					
Extent (ha)	Scale					
	By Association	By Association	By IBRA Region (Murchison)	By IBRA Sub-region (Western Murchison)	By Shire (Shire of Yalgoo)	By Shire (Shire of Mount Magnet)
	119,006*	199,475**	185,601**	110,559**	6,225**	3,426**
% Pre-European Extent Remaining*	100.00%*	99.63%**	99.60%**	100.00%**	100.00%**	100.00%**
Surrounding Land Use***	Exploration, Mining, Pastoral Lease					
Weed prevalence***	Low					

* Source: Shepherd *et al.* (2002) Appendix 2

**Source: Government of Western Australia, (2015).

*** Source: Field Survey

3.1.5 Wetlands

No wetlands which are recorded on the DER Clearing Permit System Map Viewer occur within the survey area (DER, 2016).

3.1.6 Dieback

The survey area lies south of the 26th parallel, however receives average annual rainfall of 257.5mm, below the 400mm threshold mark. There is no record of *Phytophthora cinnamomi* establishing in natural ecosystems in regions receiving <400mm rainfall per annum (CALM, 2003). Therefore, Dieback is not considered an issue for this survey area, however all measures should be taken to prevent any possible soil contamination (seeds of non-native species etc.) which poses a risk in the survey area during favourable conditions.

3.2 Field Assessment

3.2.1 Threatened Flora

No DRF, pursuant to subsection 2 of Section 23F of the *Wildlife Conservation Act 1950*, were identified within the survey area. No plant taxa listed as Threatened pursuant to Schedule 1 of the *Environment Protection and Biodiversity Conservation Act 1999* were located in the survey area.

No Priority flora species were recorded in the survey area.

3.2.2 Vegetation Type, Extent and Status

A total of 27 Families, 49 Genera and 130 Species were recorded within the entire survey area. Eleven major vegetation groups were recorded in the survey area, which excludes existing disturbance within the tenements. The vegetation groups are considered to range from Very Good to Good condition (using the scale of Keighery 1994, see Appendix 3), with historically disturbed areas in degraded condition. Maps of the survey area can be seen in Appendix 4.

The vegetation groups are described in more detail in the sections below. A complete flora list is included in Appendix 5.

3.2.2.1 Rehabilitation Vegetation (a)

This vegetation group consisted of 17 Families, 17 Genera and 31 Species. This vegetation group extends over an area of approximately 9.71ha which makes up 0.47% of the survey area.

Dominant species include *Acacia aneura*, *Maireana triptera*, *Acacia ramulosa* var. *linophylla*, and *Ptilotus obovatus*.



Figure 4: Rehabilitation Vegetation within the survey area

3.2.2.2 Open Mulga woodland (b)

This vegetation group consisted of 16 Families, 29 Genera and 73 Species. This vegetation group extends over an area of approximately 134.35ha which makes up 6.55% of the survey area.

Dominant species include *Acacia aneura*, *Codonocarpus cotinifolius*, *Ptilotus obovatus* and *Acacia ligulata*



Figure 5: Open Mulga woodland within the survey area

3.2.2.3 Mulga over *Acacia ramulosa* and *Eremophila forrestii* shrubland (c)

This vegetation group consisted of 13 Families, 22 Genera and 57 Species. The vegetation group extends over an area of approximately 1,045.29 ha which makes up 50.96% of the survey area.

Dominant species include *Acacia aneura* var. *aneura*, *A. ramulosa* var. *ramulosa* and *Eremophila forrestii* subsp. *forrestii*.



Figure 6: Mulga over *Acacia ramulosa* and *Eremophila forrestii* shrubland within the survey area

3.2.2.4 Mulga over *Thryptomene costata* and *Eremophila glutinosa* shrubland (d)

This vegetation group consisted of 8 Families, 9 Genera and 16 Species. The vegetation group extends over an area of approximately 7.71 ha which makes up 0.38% of the survey area.

Dominant species include *Acacia aneura*, *Acacia mulganeura*, *Thryptomene costata*, *Ptilotus schwartzii* and *Eremophila glutinosa*.



Figure 7: Mulga over *Thryptomene costata* and *Eremophila glutinosa* shrubland within the survey area

3.2.2.5 Open Mulga Shrubland over stony plains (e)

This vegetation group consisted of 8 Families, 9 Genera and 22 Species. The vegetation group extends over an area of approximately 21.75 ha which makes up 1.06% of the survey area.

Dominant species include *Acacia aneura*, *A. burkittii*, *Eremophila granitica*, *Eremophila glutinosa*, *Eremophila latrobei* subsp. *filiformis* and *Philotheca brucei* subsp. *brucei*.



Figure 8: Open Mulga shrubland over stony plains within the survey area

3.2.2.6 *Acacia aneura* and *Acacia craspedocarpa* over *Eremophila jucunda* open shrubland with herbaceous understorey (f)

This vegetation group consisted of 14 Families, 17 Genera and 37 Species. The vegetation group extends over an area of approximately 224.14 ha which makes up 10.93% of the survey area.

Dominant species include *Acacia aneura*, *A. craspedocarpa* and *Eremophila jucunda*, subsp. *jucunda*, *Eremophila georgei*, *Aristida contorta*, *Eriachne pulchella* subsp. *pulchella*, *Maireana tomentosa* and *Ptilotus polystachyus*.



Figure 9: *Acacia aneura* and *Acacia craspedocarpa* over *Eremophila jucunda* open shrubland with herbaceous understorey within the survey area

3.2.2.7 *Acacia burkittii* shrubland (g)

This vegetation group consisted of 14 Families, 14 Genera and 22 Species. The vegetation group extends over an area of approximately 3.95 ha which makes up 0.19% of the survey area.

Dominant species include *Acacia burkittii*, *Acacia victoriae* subsp. *victoriae*, *Grevillea berryana*, *Maireana triptera* and *Lycium australe*.



Figure 10: *Acacia burkittii* shrubland within the survey area

3.2.2.8 Mulga over Chenopod shrubland (h)

This vegetation group consisted of 10 Families, 19 Genera and 37 Species. The vegetation group extends over an area of approximately 56.38 ha which makes up 2.75% of the survey area.

Dominant species include *Acacia craspedocarpa*, *Acacia aneura*, *Acacia pteraneura*, *Maireana pyramidata*, *Enchylaena tomentosa*, *Atriplex bunburyana*, *Frankenia setosa* and *Acacia victoriae* subsp. *victoriae*.



Figure 11: Mulga over Chenopod shrubland within the survey area

3.2.2.9 *Acacia grasbyi* shrubland over laterite breakaways (i)

This vegetation group consisted of 14 Families, 15 Genera and 26 Species. The vegetation group extends over an area of approximately 4.49 ha which makes up 0.22% of the survey area.

Dominant species include *Acacia grasbyi*, *Acacia tetragonophylla*, *Acacia aneura*, *Eremophila latrobei* subsp. *latrobei*, *Eremophila oppositifolia* subsp. *angustifolia*, *Scaevola spinescens*, *Eremophila exilifolia* and *Ptilotus obovatus*



Figure 12: *Acacia grasbyi* shrubland over laterite breakaways within the survey area

3.2.2.10 Mulga woodland over *Acacia grasbyi* and *Acacia rhodophloia* (j)

This vegetation group consisted of 9 Families, 11 Genera and 26 Species. The vegetation group extends over an area of approximately 190.19 ha which makes up 9.27% of the survey area.

Dominant species include *Acacia aneura*, *Acacia grasbyi*, *Acacia rhodophloia*, *Senna artemisioides* subsp. *helmsii*, *Scaevola spinescens*, *Eremophila clarkei* and *Ptilotus obovatus*.



Figure 13: Mulga woodland over *Acacia grasbyi* and *Acacia rhodophloia* within the survey area

3.2.2.11 *Acacia aneura* over *Eremophila exilifolia* and *Eremophila forrestii* shrubland on hill slopes (k)

This vegetation group consisted of 7 Families, 10 Genera and 17 Species. The vegetation group extends over an area of approximately 21.3 ha which makes up 1.04% of the survey area.

Dominant species include *Acacia aneura*, *Eremophila exilifolia*, *Eremophila forrestii* subsp. *forrestii*, *Senna* sp. Meekatharra, *Eremophila fraseri*, subsp. *fraseri*, *Calytrix erosipetala* and *Senna artemisioides* subsp. *helmsii*.



Figure 14: *Acacia aneura* over *Eremophila exilifolia* and *Eremophila forrestii* shrubland on hill slopes within the survey area

3.2.2.12 Existing Disturbance (l)

The group extends approximately 331.8 ha which makes up 16.18% of the survey area.

Disturbance consisted of existing roads, waste dumps, open pits and borrow pits within the tenement boundaries.



Figure 15: Existing disturbance within the survey area

3.2.3 Weeds

Two non-native species was recorded, *Rumex vesicarius* (Ruby Dock) within the open Mulga woodland vegetation group and *Carrichtera annua* (Ward's Weed) within the Rehabilitation vegetation group.

A native to North Africa, the Middle East and India, Ruby Dock is widespread throughout the arid zone, found in a variety of disturbed situations from the Pilbara to the Nullarbor (Hussey *et al*, 2007). Only five plants were recorded in the open Mulga woodland.

Ward's Weed is a native to the Mediterranean. This weed is now abundant in the Goldfields and Nullarbor shrublands, often dominating mine rehabilitation sites (Hussey *et al*, 2007).

None of these species are declared pests as defined by DAFWA (2016).

3.2.4 Vegetation Condition

Whilst evidence of cattle and rabbits were observed during the field assessment, overall, the condition of the vegetation was determined to be "Very Good" to "Good", with some Rehabilitation areas completely degraded where historic clearing has taken place. Disturbances were in the form of historic mining activities, historic tracks and grazing by livestock and rabbits.

4. DISCUSSION

The field assessment established that the condition of the vegetation in the survey area is overall "Good" to "Very Good" with some historical clearing in "degraded" condition. No areas of vegetation were assessed to be in "Pristine" condition.

No DRF, TECs or PECs or Priority Flora were recorded in the area.

Two non-native species was recorded, *Rumex vesicarius* (Ruby Dock) within the open Mulga woodland vegetation group and *Carrichtera annua* (Ward's Weed) within the Rehabilitation vegetation group

The flora and vegetation recorded in the survey are not restricted to the project area, and are wide ranging in adjoining subregions. Any proposed disturbance/clearing of vegetation will result in a loss of species from the survey area. However, given the size of the area and the extent of the Beard (1990) vegetation associations elsewhere, the impact on the vegetation and its component flora will not create fragmentation or patches of remnant vegetation.

The following recommendations arise from the Level 1 flora survey:

- Where possible, clearing activities be aligned preferentially to areas of existing disturbance;
- Where possible, clearing activities be aligned to existing roads, tracks and other barriers or follow the boundaries of broad-scale intact native vegetation; and
- Weed control measures to be implemented during and following further exploration activities or mining activities.

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Appendix 1

Relevant Government Database Search Results



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

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

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

Report created: 16/06/16 16:57:43

[Summary](#)

[Details](#)

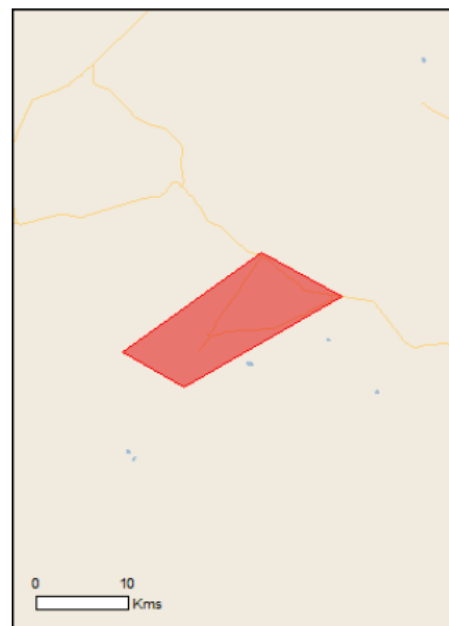
[Matters of NES](#)

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

[Extra Information](#)

[Caveat](#)

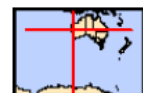
[Acknowledgements](#)



This map may contain data which are
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[Coordinates](#)

Buffer: 0.0Km



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	4
Listed Migratory Species:	1

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	3
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

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

State and Territory Reserves:	1
Regional Forest Agreements:	None
Invasive Species:	6
Nationally Important Wetlands:	None
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

Listed Threatened Species		[Resource Information]
Name	Status	Type of Presence
Birds		
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area
Other		
Idiosoma nigrum Shield-backed Trapdoor Spider, Black Rugose Trapdoor Spider [66798]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Egernia stokesii badia Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat known to occur within area

Listed Migratory Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Migratory Terrestrial Species		
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Ardea alba Great Egret, White Egret [59541]		Species or species habitat likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species

Name	Threatened	Type of Presence
		habitat may occur within area

Extra Information

State and Territory Reserves [\[Resource Information \]](#)

Name	State
Dalgaranga and Noongal Pastoral Leases	WA

Invasive Species [\[Resource Information \]](#)

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

Name	Status	Type of Presence
------	--------	------------------

Birds

Streptopelia senegalensis Laughing Turtle-dove, Laughing Dove [781]		Species or species habitat likely to occur within area
------------------------------------------------------------------------	--	--------------------------------------------------------

Mammals

Capra hircus Goat [2]		Species or species habitat likely to occur within area
--------------------------	--	--------------------------------------------------------

Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
--------------------------------------------------	--	--------------------------------------------------------

Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
--------------------------------------------------------	--	--------------------------------------------------------

Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur within area
------------------------------------	--	--------------------------------------------------------

Plants

Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat likely to occur within area
---------------------------------------------------------------	--	--------------------------------------------------------

Caveat

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

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

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

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

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

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

- migratory and
- marine

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

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

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

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

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

Coordinates

-27.7578 117.3305,-27.7956 117.4094,-27.8736 117.2558,-27.8439 117.1955,-27.7578 117.3305

Acknowledgements

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

- [Office of Environment and Heritage, New South Wales](#)
- [Department of Environment and Primary Industries, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment, Water and Natural Resources, South Australia](#)
- [Parks and Wildlife Commission NT, Northern Territory Government](#)
- [Department of Environmental and Heritage Protection, Queensland](#)
- [Department of Parks and Wildlife, Western Australia](#)
- [Environment and Planning Directorate, ACT](#)
- [Birdlife Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [Museum Victoria](#)
- [Australian Museum](#)
- [South Australian Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Atherton and Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence Forestry Corporation, NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- Other groups and individuals


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

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

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<https://cps.der.wa.gov.au/main.html#%5B%7B%22class%22%3A%22app.map.Main%22%7D%2C%7B%22class%22%3A%22app.Cont...>
Ptilotus polystachyus (Gaudich...)
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Survey Area

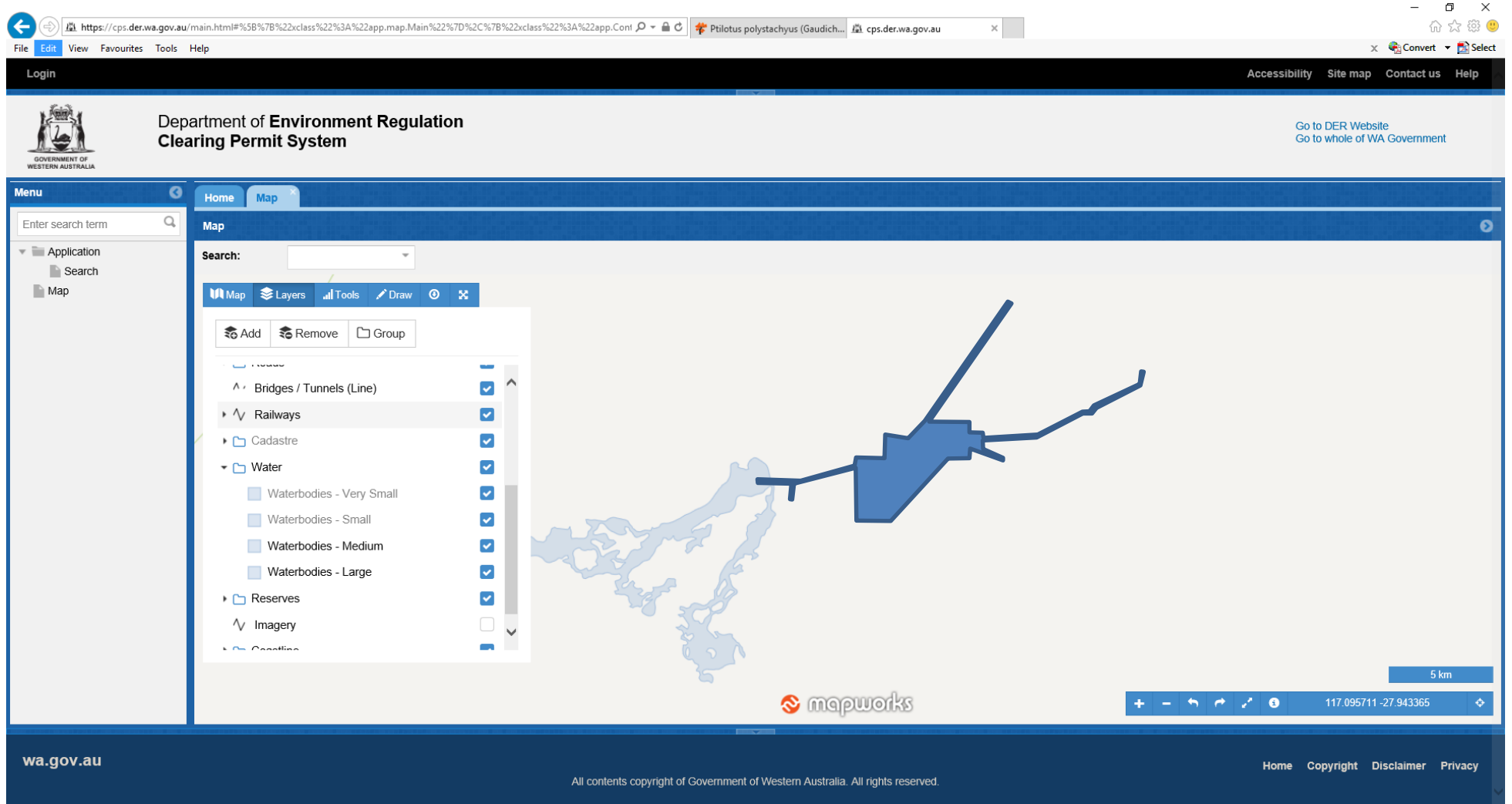
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DER's Clearing Permit System Map Viewer showing no ESA's (dark green shaded areas) within the survey area (DER, 2016)



DER Clearing Permit System Map Viewer showing a medium waterbody to the west of the survey area (DER, 2016).

Appendix 2

Threatened Flora Databases Search Results

Taxon	Conservation Status	Distribution	FloweringPeriod
<i>Acacia speckii</i>	P4	Nannine, Yalgoo, Norie Stn, Coodardy Stn, Meekatharra, Madoonga Stn	
<i>Acacia subsessilis</i>	P3	Yalgoo, Fields Find	Jul-Aug
<i>Alyxia tetanifolia</i>	P3	Kalgoorlie, Diemals, Goongarri, Boogardie, Mt Magnet	May
<i>Amanita lesueurii</i>	P2	Geraldton Sandplains and Yalgoo bioregions	
<i>Angianthus uniflorus</i>	P1	Lake Austin, Cue	
<i>Cyanicula fragrans</i>	P3		
<i>Dicrastylis linearifolia</i>	P3	Nerren Nerren, Meka, Iona, Binnu, Billabong, Mt Magnet, Burnerbinmah	Nov-Jan
<i>Dicrastylis</i> sp. Cue (A.A. Mitchell 764)	P1	Coodardy Stn	Sep-Oct
<i>Eremophila simulans</i> subsp. <i>megacalyx</i>	P3		
<i>Euryomyrtus recurva</i>	P3	Wubin, Youanmi, Lake Austin, Wanarie Stn, Lake Moore, White Wells Stn., Ninghan Stn., Mt Elvire Stn, Kalannie, Lake Barlee	
<i>Goodenia berringbinensis</i>	P4	Belele Stn, Coolcalalaya, Mt James, Cue, Gabyon Stn, Killara Stn, Mt Augustus, Credo Stn.	Jun-Oct
<i>Goodenia neogoodenia</i>	P4	Eurardy, Yalgoo, Mt Magnet, Burnerbinmah Stn	Aug
<i>Hibiscus krichauffianus</i>	P3	Belele Stn., Coodardy Stn., Kanandah Stn., Eastern States	Mar, Oct
<i>Jacksonia lanicarpa</i>	P1		
<i>Labichea obrullata</i>	P1	West of Yalgoo	Oct
<i>Micromyrtus trudgenii</i>	P3	Warriedar Hill, Gossan Hill, Yalgoo, Golden Grove, Karara, Mungada	Jul
<i>Millotia depauperata</i>	P1	Mt Magnet, Wannoo, Lake Austin	Aug,Sep
<i>Petrophile pauciflora</i>	P3		
<i>Petrophile vana</i>	P1		
<i>Polianthion collinum</i>	P3	Yalgoo (Gossan Hill)	
<i>Psammomoya grandiflora</i>	P2		
<i>Psammomoya implexa</i>	P3	Wilroy, Whitewells - Ninghan, Wubin, Gabyon Stn, Morawa	Aug-Oct
<i>Ptilotus beardii</i>	P3	Muggon Station, Meka Stn, Wooleen Stn, Mt Narryer Stn	Oct
<i>Ptilotus luteolus</i>	P3	Meekatharra, Mt Alice, Mount Magnet, Lake Way Stn., Doolgunna Stn. Boogardie Stn., Polelle Stn., Glenburg Stn., Milbillillie Stn.	
<i>Rhodanthe collina</i>	P3	Monger Lake, Yalgoo, Mt Gibson, Mingenew Hill	Aug,Sep
<i>Triglochin protuberans</i>	P3	Stirling Range NP, Malcolm, Yalgoo, Burnerbinmah Stn, Arrowsmith	Aug-Oct
<i>Verticordia jamiesonii</i>	P3	Mt Hale, Yalgoo, Cue, Sth Warburton, Waterfall Gorge, Rowe Hills	Sep
<i>Wurmbea murchisoniana</i>	P4		

Appendix 3

Vegetation Condition Scale (Keighery, 1994)

Pristine (1). Pristine or nearly so, no obvious signs of disturbance.

Excellent (2). Vegetation structure intact, disturbance affecting individual species and weeds are non-aggressive species.

Very Good (3). Vegetation structure altered, obvious signs of disturbance.
For example, disturbance to vegetation structure caused by repeating fires, the presence of some more aggressive weeds, dieback, logging and grazing.

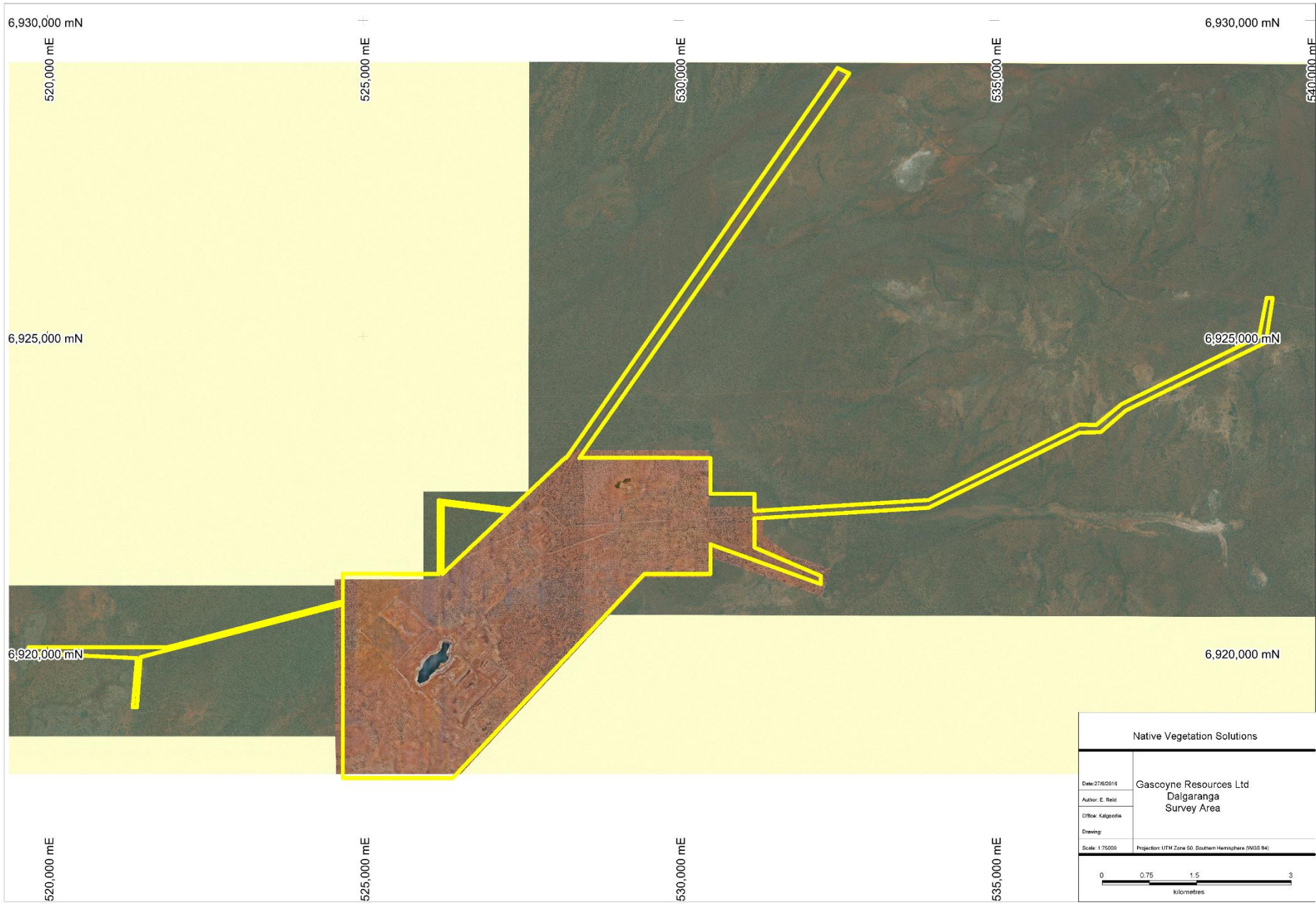
Good (4). Vegetation structure significantly altered by very obvious signs of multiple disturbance.
Retains basic vegetation structure or ability to regenerate it.
For example, disturbance to vegetation structure caused by frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and grazing.

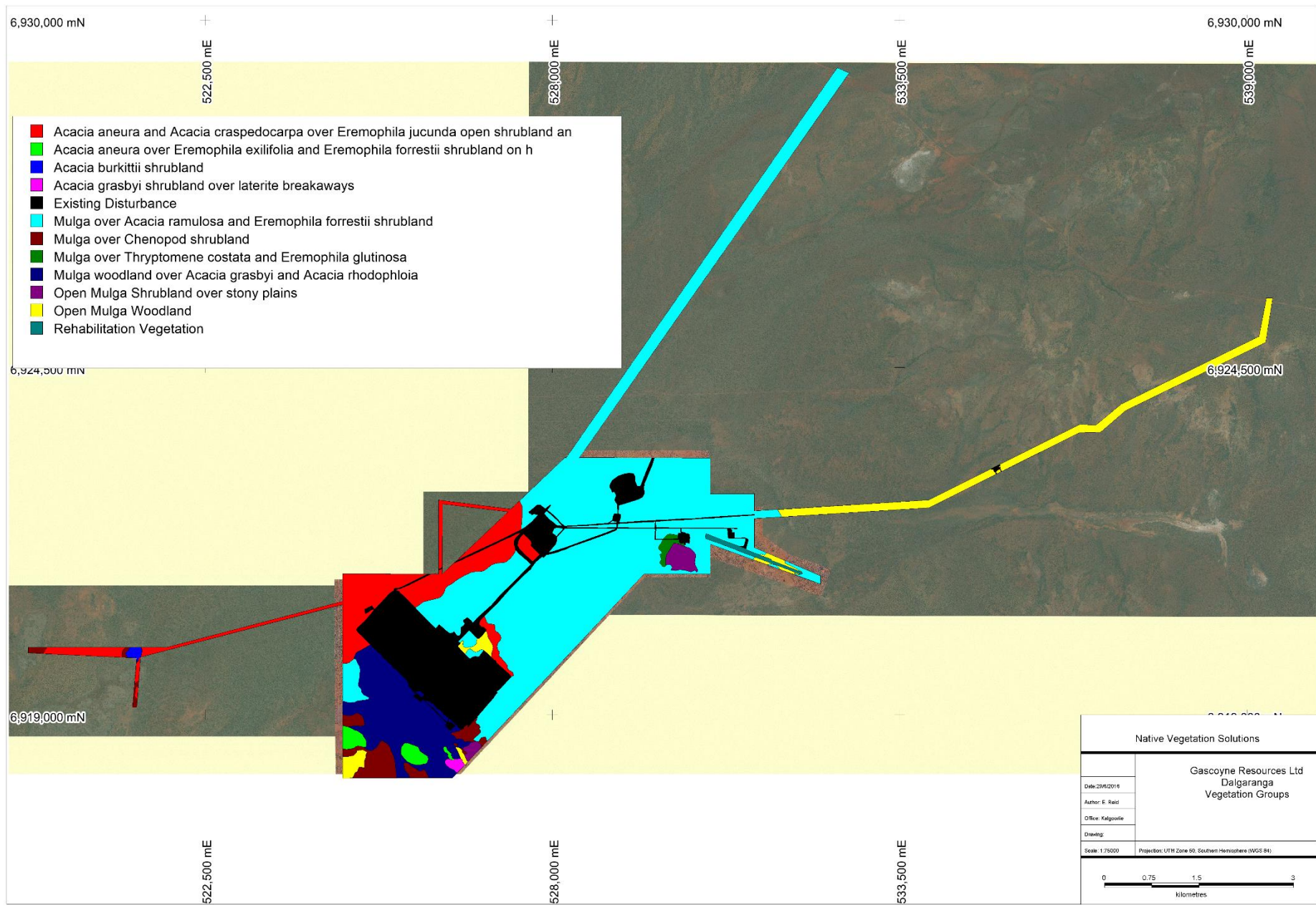
Degraded (5). Basic vegetation structure severely impacted by disturbance.
Scope for regeneration but not to a state approaching good condition without intensive management.
For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and grazing.

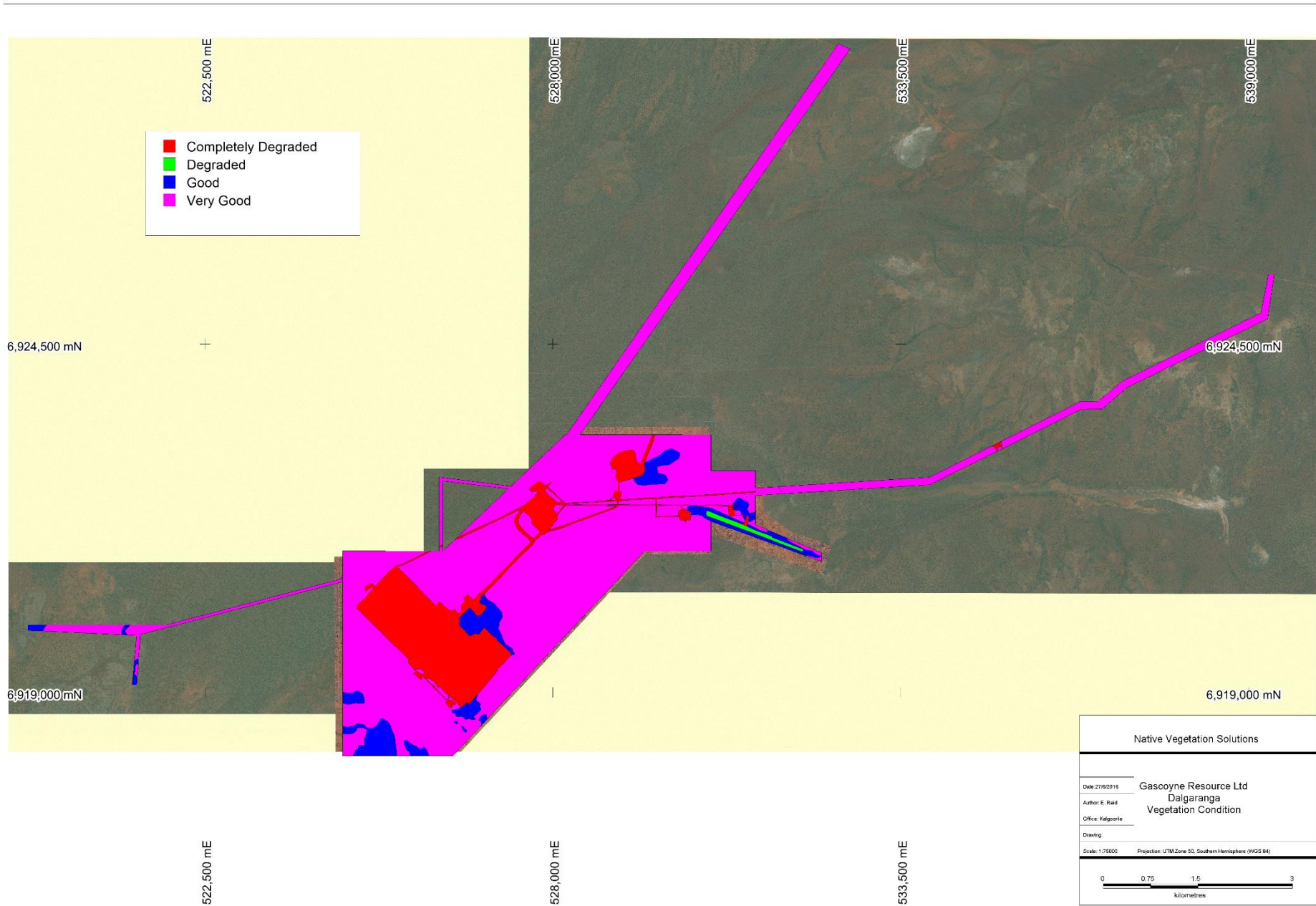
Completely Degraded (6). The structure of the vegetation is no longer intact and the area is completely or almost completely without native species.
These areas are often described as 'parkland cleared' with the flora compromising weed or crop species with isolated trees or shrubs.

Appendix 4

Vegetation Mapping







Appendix 5

Species List

Family	Genus	Species	Annual, Perennial or Non Native	a	b	c	d	e	f	g	h	i	j	k
Amaranthaceae	<i>Ptilotus</i>	<i>divaricatus</i>	P		*	*			*	*	*			
Amaranthaceae	<i>Ptilotus</i>	<i>nobilis</i> subsp. <i>nobilis</i>	A	*							*			
Amaranthaceae	<i>Ptilotus</i>	<i>obovatus</i>	P	*	*	*				*	*	*	*	*
Amaranthaceae	<i>Ptilotus</i>	<i>polystachyus</i>	A						*		*			
Amaranthaceae	<i>Ptilotus</i>	<i>schwartzii</i>	P	*	*	*	*	*				*		
Apocynaceae	<i>Marsdenia</i>	<i>australis</i>	P						*				*	
Asteraceae	<i>Brachyscome</i>	<i>ciliocarpa</i>	A		*									
Asteraceae	<i>Podolepis</i>	<i>capillaris</i>	A		*									
Asteraceae	<i>Senecio</i>	<i>glossanthus</i>	A		*									
Asteraceae	<i>Streptoglossa</i>	<i>liatroides</i>	P		*									
Brassicaceae	<i>Carrichtera</i>	<i>annua</i>	A, NN	*										
Casuarinaceae	<i>Casuarina</i>	<i>pauper</i>	P							*				
Chenopodiaceae	<i>Atriplex</i>	<i>bunburyana</i>	P								*			
Chenopodiaceae	<i>Atriplex</i>	<i>semilunaris</i>	P	*	*									
Chenopodiaceae	<i>Atriplex</i>	<i>stipitata</i>	P							*				
Chenopodiaceae	<i>Atriplex</i>	<i>vesicaria</i>	P							*	*			
Chenopodiaceae	<i>Enchylaena</i>	<i>tomentosa</i> var. <i>tomentosa</i>	P								*			
Chenopodiaceae	<i>Maireana</i>	<i>amoena</i>	P	*										
Chenopodiaceae	<i>Maireana</i>	<i>carnosa</i>	P		*									
Chenopodiaceae	<i>Maireana</i>	<i>convexa</i>	P		*	*			*		*			
Chenopodiaceae	<i>Maireana</i>	<i>georgei</i>	P	*	*	*			*	*	*		*	
Chenopodiaceae	<i>Maireana</i>	<i>glomerifolia</i>	P								*			
Chenopodiaceae	<i>Maireana</i>	<i>pentatropis</i>	P		*									
Chenopodiaceae	<i>Maireana</i>	<i>platycarpa</i>	P						*					
Chenopodiaceae	<i>Maireana</i>	<i>pyramidata</i>	P	*	*						*			
Chenopodiaceae	<i>Maireana</i>	<i>suaedifolia</i>	P		*									
Chenopodiaceae	<i>Maireana</i>	<i>thesioides</i>	P	*	*				*			*		
Chenopodiaceae	<i>Maireana</i>	<i>tomentosa</i>	P		*				*	*	*			
Chenopodiaceae	<i>Maireana</i>	<i>triptera</i>	P	*	*	*			*	*		*	*	*
Chenopodiaceae	<i>Rhagodia</i>	<i>drummondii</i>	P		*	*								
Chenopodiaceae	<i>Rhagodia</i>	<i>eremaea</i>	P										*	
Chenopodiaceae	<i>Salsola</i>	<i>australis</i>	P	*	*	*				*				
Chenopodiaceae	<i>Sclerolaena</i>	<i>burbidgeae</i>	P								*			
Chenopodiaceae	<i>Sclerolaena</i>	<i>diacantha</i>	P	*		*					*			
Chenopodiaceae	<i>Sclerolaena</i>	<i>eurotioides</i>	P		*	*								
Euphorbiaceae	<i>Calycopeplus</i>	<i>paucifolius</i>	P		*									
Fabaceae	<i>Acacia</i>	<i>aneura</i>	P	*	*	*	*	*	*		*	*	*	*
Fabaceae	<i>Acacia</i>	<i>ayersiana</i>	P	*	*	*	*	*	*		*			
Fabaceae	<i>Acacia</i>	<i>burkittii</i>	P	*	*	*		*		*		*		
Fabaceae	<i>Acacia</i>	<i>caesaneura</i>	P			*		*	*					
Fabaceae	<i>Acacia</i>	<i>craspedocarpa</i>	P		*	*		*	*		*	*	*	
Fabaceae	<i>Acacia</i>	<i>cuthbertsonii</i> subsp. <i>cuthbertsonii</i>	P											*
Fabaceae	<i>Acacia</i>	<i>grasbyi</i>	P		*							*	*	*
Fabaceae	<i>Acacia</i>	<i>hemiteles</i>	P	*										
Fabaceae	<i>Acacia</i>	<i>heteroneura</i> var. <i>prolixa</i>	P							*				

Family	Genus	Species	Annual, Perennial or Non Native	a	b	c	d	e	f	g	h	i	j	k
Fabaceae	<i>Acacia</i>	<i>ligulata</i>	P		*									
Fabaceae	<i>Acacia</i>	<i>mulganeura</i>	P	*	*	*	*	*	*			*		
Fabaceae	<i>Acacia</i>	<i>murrayana</i>	P		*									
Fabaceae	<i>Acacia</i>	<i>pteraneura</i>	P		*	*			*		*		*	
Fabaceae	<i>Acacia</i>	<i>ramulosa</i> var. <i>linophylla</i>	P	*	*	*							*	
Fabaceae	<i>Acacia</i>	<i>ramulosa</i> var. <i>ramulosa</i>	P	*	*	*	*		*					*
Fabaceae	<i>Acacia</i>	<i>rhodophloia</i>	P										*	
Fabaceae	<i>Acacia</i>	<i>sibirica</i>	P	*	*	*		*					*	
Fabaceae	<i>Acacia</i>	<i>tetragonophylla</i>	P			*			*	*	*	*	*	
Fabaceae	<i>Acacia</i>	<i>victoriae</i> subsp. <i>victoriae</i>	P	*	*					*	*			
Fabaceae	<i>Senna</i>	<i>artemisioides</i> subsp. <i>artemisioides</i>	P		*	*								
Fabaceae	<i>Senna</i>	<i>artemisioides</i> subsp. <i>filifolia</i>	P	*	*					*	*			
Fabaceae	<i>Senna</i>	<i>artemisioides</i> subsp. <i>helmsii</i>	P										*	*
Fabaceae	<i>Senna</i>	<i>glutinosa</i> subsp. <i>chatelainiana</i>	P											*
Fabaceae	<i>Senna</i>	sp. Meekatharra	P											*
Frankeniaceae	<i>Frankenia</i>	<i>setosa</i>	P								*			
Goodeniaceae	<i>Goodenia</i>	<i>berardiana</i>	A								*			
Goodeniaceae	<i>Goodenia</i>	<i>haviandii</i>	A								*			
Goodeniaceae	<i>Scaevola</i>	<i>spinescens</i>	P		*	*		*	*		*	*	*	
Gyrostemonaceae	<i>Codonocarpus</i>	<i>cotinifolius</i>	P	*	*				*	*				
Haloragaceae	<i>Haloragis</i>	<i>trigonocarpa</i>	A								*			
Hemerocallidaceae	<i>Dianella</i>	<i>revoluta</i> var. <i>divaricata</i>	P			*			*					*
Lamiaceae	<i>Spartothamnella</i>	<i>teucriflora</i>	P			*			*					
Malvaceae	<i>Abutilon</i>	<i>cryptopetalum</i>	P			*								
Malvaceae	<i>Abutilon</i>	<i>oxycarpum</i> subsp. <i>Prostrate</i>	P			*								
Malvaceae	<i>Sida</i>	<i>calyxhymania</i>	P		*	*	*	*	*			*	*	
Malvaceae	<i>Sida</i>	<i>corrugata</i>	P		*									
Malvaceae	<i>Sida</i>	sp. <i>Excedentifolia</i>	P		*									
Malvaceae	<i>Sida</i>	sp. <i>Golden calyces glabrous</i>	P		*	*	*					*	*	
Myrtaceae	<i>Calytrix</i>	<i>erosipetala</i>	P											*
Myrtaceae	<i>Melaleuca</i>	<i>hamata</i>	P						*					
Myrtaceae	<i>Micromyrtus</i>	<i>flaviflora</i>	P		*			*				*		
Myrtaceae	<i>Thryptomene</i>	<i>costata</i>	P		*		*	*				*		*
Myrtaceae	<i>Thryptomene</i>	<i>decussata</i>	P	*	*	*	*	*						
Poaceae	<i>Aristida</i>	<i>contorta</i>	A		*	*			*	*				*
Poaceae	<i>Austrostipa</i>	<i>elegantissima</i>	P		*	*				*				
Poaceae	<i>Austrostipa</i>	<i>nitida</i>	P	*						*				
Poaceae	<i>Cymbopogon</i>	<i>ambiguus</i>	P	*	*									
Poaceae	<i>Enneapogon</i>	<i>caerulescens</i>	P						*		*			
Poaceae	<i>Eragrostis</i>	<i>dielsii</i>	A		*	*			*		*			
Poaceae	<i>Eragrostis</i>	<i>eriopoda</i>	P			*	*							
Poaceae	<i>Eragrostis</i>	<i>lanipes</i>	P			*								
Poaceae	<i>Eragrostis</i>	<i>setifolia</i>	P		*									
Poaceae	<i>Eriachne</i>	<i>helmsii</i>	P		*	*					*			
Poaceae	<i>Eriachne</i>	<i>pulchella</i> subsp. <i>pulchella</i>	A	*				*	*	*	*	*		*

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Poaceae	<i>Monachather</i>	<i>paradoxus</i>	P	*		*	*							
Polygonaceae	<i>Acetosa</i>	<i>vesicaria</i>	A, NN		*									
Proteaceae	<i>Grevillea</i>	<i>berryana</i>	P	*	*	*			*	*	*			
Proteaceae	<i>Grevillea</i>	<i>deflexa</i>	P			*			*					
Proteaceae	<i>Grevillea</i>	<i>stenobotrya</i>	P		*	*								
Proteaceae	<i>Hakea</i>	<i>preissii</i>	P								*	*		
Pteridaceae	<i>Cheilanthes</i>	<i>sieberi</i> subsp. <i>sieberi</i>	P									*	*	
Rubiaceae	<i>Psydrax</i>	<i>rigidula</i>	P			*								
Rubiaceae	<i>Psydrax</i>	<i>suaveolens</i>	P			*								
Rutaceae	<i>Philotheca</i>	<i>brucei</i> subsp. <i>brucei</i>	P				*	*						
Santalaceae	<i>Exocarpos</i>	<i>aphyllus</i>	P	*								*	*	
Santalaceae	<i>Exocarpos</i>	<i>sparteus</i>	P		*									
Scrophulariaceae	<i>Eremophila</i>	<i>clarkei</i>	P										*	
Scrophulariaceae	<i>Eremophila</i>	<i>compacta</i>	P		*	*								
Scrophulariaceae	<i>Eremophila</i>	<i>exilifolia</i>	P		*		*	*				*	*	*
Scrophulariaceae	<i>Eremophila</i>	<i>forrestii</i> subsp. <i>forrestii</i>	P		*	*	*		*					*
Scrophulariaceae	<i>Eremophila</i>	<i>fraseri</i> subsp. <i>fraseri</i>	P		*	*		*			*		*	*
Scrophulariaceae	<i>Eremophila</i>	<i>galeata</i>	P		*	*		*			*		*	
Scrophulariaceae	<i>Eremophila</i>	<i>georgei</i>	P			*			*					
Scrophulariaceae	<i>Eremophila</i>	<i>glabra</i> subsp. <i>tomentosa</i>	P			*			*					
Scrophulariaceae	<i>Eremophila</i>	<i>glutinosa</i>	P		*		*	*						
Scrophulariaceae	<i>Eremophila</i>	<i>granitica</i>	P		*	*		*				*		
Scrophulariaceae	<i>Eremophila</i>	<i>jucunda</i> subsp. <i>jucunda</i>	P		*	*		*	*		*		*	
Scrophulariaceae	<i>Eremophila</i>	<i>lachnocalyx</i>	P		*									
Scrophulariaceae	<i>Eremophila</i>	<i>latrobei</i> subsp. <i>filiformis</i>	P					*						
Scrophulariaceae	<i>Eremophila</i>	<i>latrobei</i> subsp. <i>latrobei</i>	P		*	*						*	*	
Scrophulariaceae	<i>Eremophila</i>	<i>longifolia</i>	P		*	*			*	*				
Scrophulariaceae	<i>Eremophila</i>	<i>maculata</i> subsp. <i>brevifolia</i>	P						*					
Scrophulariaceae	<i>Eremophila</i>	<i>oldfieldii</i> subsp. <i>angustifolia</i>	P		*								*	
Scrophulariaceae	<i>Eremophila</i>	<i>oppositifolia</i> subsp. <i>angustifolia</i>	P									*		
Scrophulariaceae	<i>Eremophila</i>	<i>pantonii</i>	P		*									
Scrophulariaceae	<i>Eremophila</i>	<i>serrulata</i>	P			*								
Scrophulariaceae	<i>Eremophila</i>	<i>shonae</i>	P		*									
Solanaceae	<i>Lycium</i>	<i>australe</i>	P							*	*			
Solanaceae	<i>Solanum</i>	<i>ferocissimum</i>	P		*	*	*		*					
Solanaceae	<i>Solanum</i>	<i>lasiophyllum</i>	P	*	*	*			*			*		
Solanaceae	<i>Solanum</i>	<i>nummularium</i>	P								*			
Solanaceae	<i>Solanum</i>	<i>orbiculatum</i>	P		*	*								
Stylidiaceae	<i>Stylidium</i>	<i>longibracteatum</i>	P									*		
Thymelaeaceae	<i>Pimelea</i>	<i>microcephala</i> subsp. <i>microcephala</i>	P		*									