Appendix A: Results of Search of the Department of the Environment, Database with Regard to Environmental Matters of National Significance (DoE 2016a)

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Australian Government

Department of the Environment

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.

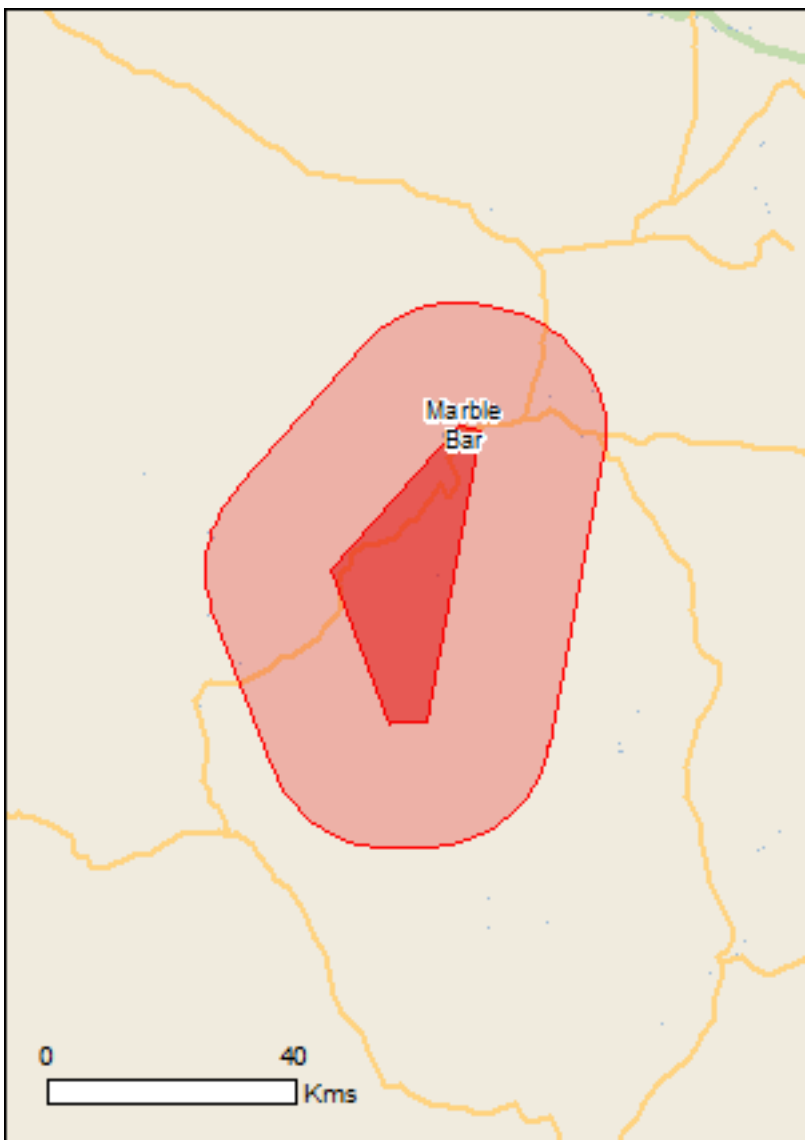
Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about Environment Assessments and the EPBC Act including significance guidelines, forms and application process details.

Report created: 14/07/16 13:59:24

Summary
Details
- Matters of NES
- Other Matters Protected by the EPBC Act
- Extra Information

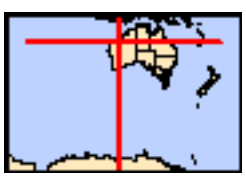
Caveat
Acknowledgements



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

Coordinates

Buffer: 20.0Km



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:	7
Listed Migratory Species:	7

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:	1
Commonwealth Heritage Places:	None
Listed Marine Species:	12
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:	None
Regional Forest Agreements:	None
Invasive Species:	11
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		
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat likely to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Mammals		
Dasyurus hallucatus Northern Quoll, Digul [331]	Endangered	Species or species habitat likely to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Breeding known to occur within area
Macrotis lagotis Greater Bilby [282]	Vulnerable	Species or species habitat likely to occur within area
Rhinonicteris aurantia (Pilbara form) Pilbara Leaf-nosed Bat [82790]	Vulnerable	Roosting known to occur within area
Reptiles		
Liasis olivaceus barroni Olive Python (Pilbara subspecies) [66699]	Vulnerable	Species or species habitat likely 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 Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur

Name	Threatened	Type of Presence within area
Migratory Wetlands Species		
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Land [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Name
Commonwealth Land -

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		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat likely to occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may 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 habitat may occur within

Name	Threatened	Type of Presence
		area
Motacilla flava Yellow Wagtail [644]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Species or species habitat likely to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area

Extra Information

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 Resouces Audit, 2001.

Name	Status	Type of Presence
Mammals		
Camelus dromedarius Dromedary, Camel [7]		Species or species habitat likely to occur within area
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Equus asinus Donkey, Ass [4]		Species or species habitat likely to occur within area
Equus caballus Horse [5]		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
Mus musculus House Mouse [120]		Species or species habitat likely to occur within area
Oryctolagus cuniculus Rabbit, European Rabbit [128]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Vulpes vulpes Red Fox, Fox [18]		Species or species habitat likely to occur

Name	Status	Type of Presence within area
Plants		
Cenchrus ciliaris Buffel-grass, Black Buffel-grass [20213]		Species or species habitat likely to occur within area
Parkinsonia aculeata Parkinsonia, Jerusalem Thorn, Jelly Bean Tree, Horse Bean [12301]		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

-21.571295 119.631232,-21.365536 119.546088,-21.171012 119.731483,-21.178696 119.765815,-21.570018 119.686164,-21.570018 119.632606,-21.571295 119.631232

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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Appendix B: Definitions, Categories and Criteria for Threatened Ecological Communities and Priority Ecological Communities (DEC 2013)

1. GENERAL DEFINITIONS

Ecological Community: A naturally occurring biological assemblage that occurs in a particular type of habitat.

Note: The scale at which ecological communities are defined will often depend on the level of detail in the information source, therefore no particular scale is specified.

A **threatened ecological community** (TEC) is one which is found to fit into one of the following categories; "presumed totally destroyed", "critically endangered", "endangered" or "vulnerable".

Possible threatened ecological communities that do not meet survey criteria are added to DEC's Priority Ecological Community Lists under Priorities 1, 2 and 3. Ecological Communities that are adequately known, are rare but not threatened, or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

An **assemblage** is a defined group of biological entities.

Habitat is defined as the areas in which an organism and/or assemblage of organisms lives. It includes the abiotic factors (e.g. substrate and topography), and the biotic factors.

Occurrence: a discrete example of an ecological community, separated from other examples of the same community by more than 20 metres of a different ecological community, an artificial surface or a totally destroyed community.

By ensuring that every discrete occurrence is recognised and recorded future changes in status can be readily monitored.

Adequately Surveyed is defined as follows:
"An ecological community that has been searched for thoroughly in most likely habitats, by relevant experts."

Community structure is defined as follows:
"The spatial organisation, construction and arrangement of the biological elements comprising a biological assemblage" (e.g. *Eucalyptus salmonophloia* woodland over scattered small shrubs over dense herbs; structure in a faunal assemblage could refer to trophic structure, e.g. dominance by feeders on detritus as distinct from feeders on live plants).

Definitions of Modification and Destruction of an ecological community:
Modification: "changes to some or all of ecological processes (including abiotic processes such as hydrology), species composition and community structure as a direct or indirect

result of human activities. The level of damage involved could be ameliorated naturally or by human intervention."

Destruction: "modification such that reestablishment of ecological processes, species composition and community structure within the range of variability exhibited by the original community is unlikely within the foreseeable future even with positive human intervention."

Note: Modification and destruction are difficult concepts to quantify, and their application will be determined by scientific judgement. Examples of modification and total destruction are cited below:

Modification of ecological processes: The hydrology of Toolibin Lake has been altered by clearing of the catchment such that death of some of the original flora has occurred due to dependence on fresh water. The system may be bought back to a semblance of the original state by redirecting saline runoff and pumping waters of the rising underground watertable away to restore the hydrological balance. Total destruction of downstream lakes has occurred due to hydrology being altered to the point that few of the original flora or fauna species are able to tolerate the level of salinity and/or water logging.

Modification of structure: The understorey of a plant community may be altered by weed invasion due to nutrient enrichment by addition of fertiliser. Should the additional nutrients be removed from the system the balance may be restored, and the original plant species better able to compete. Total destruction may occur if additional nutrients continue to be added to the system causing the understorey to be completely replaced by weed species, and death of overstorey species due to inability to tolerate high nutrient levels.

Modification of species composition: Pollution may cause alteration of the invertebrate species present in a freshwater lake. Removal of pollutants may allow the return of the original inhabitant species. Addition of residual highly toxic substances may cause permanent changes to water quality, and total destruction of the community.

Threatening processes are defined as follows:
"Any process or activity that threatens to destroy or significantly modify the ecological community and/or affect the continuing evolutionary processes within any ecological community."

Examples of some of the continuing threatening processes in Western Australia include: general pollution; competition, predation and change induced in ecological communities as a result of introduced animals; competition and displacement of native plants by introduced species; hydrological changes; inappropriate fire regimes; diseases resulting from introduced microorganisms; direct human exploitation and disturbance of ecological communities.

Restoration is defined as returning an ecological community to its pre-disturbance or natural state in terms of abiotic conditions, community structure and species composition.

Rehabilitation is defined as the re-establishment of ecological attributes in a damaged ecological community although the community will remain modified.

2. DEFINITIONS AND CRITERIA FOR PRESUMED TOTALLY DESTROYED, CRITICALLY ENDANGERED, ENDANGERED AND VULNERABLE ECOLOGICAL COMMUNITIES

Presumed Totally Destroyed (PD)
An ecological community that has been adequately searched for but for which no representative occurrences have been located. The community has been found to be totally destroyed or so extensively modified throughout its range that no occurrence of it is likely to recover its species composition and/or structure in the foreseeable future.

An ecological community will be listed as presumed totally destroyed if there are no recent records of the community being extant **and either** of the following applies (A or B):

A) Records within the last 50 years have not been confirmed despite thorough searches of known or likely habitats **or**

B) All occurrences recorded within the last 50 years have since been destroyed

Critically Endangered (CR)
An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or that was originally of limited distribution and is facing severe modification or destruction throughout its range in the immediate future, or is already severely degraded throughout its range but capable of being substantially restored or rehabilitated.

An ecological community will be listed as **Critically Endangered** when it has been adequately surveyed and is found to be facing an extremely high risk of total destruction in the immediate future. This will be determined on the basis of the best available information, by it meeting **any one or more** of the following criteria (A, B or C):

A) The estimated geographic range, and/or total area occupied, and/or number of discrete occurrences since European settlement have been reduced by at least 90% **and either or both** of the following apply (i or ii):

i) geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is imminent (within approximately 10 years);

ii) modification throughout its range is continuing such that in the immediate future (within approximately 10 years) the community is unlikely to be capable of being substantially rehabilitated.

B) Current distribution is limited, **and one or more** of the following apply (i, ii or iii):

i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the immediate future (within approximately 10 years);

ii) there are very few occurrences, each of which is small and/or isolated and extremely vulnerable to known threatening processes;

iii) there may be many occurrences but total area is very small and each occurrence is small and/or isolated and extremely vulnerable to known threatening processes.

C) The ecological community exists only as highly modified occurrences that may be capable of being rehabilitated if such work begins in the immediate future (within approximately 10 years).

Endangered (EN)

An ecological community that has been adequately surveyed and found to have been subject to a major contraction in area and/or was originally of limited distribution and is in danger of significant modification throughout its range or severe modification or destruction over most of its range in the near future.

An ecological community will be listed as **Endangered** when it has been adequately surveyed and is not Critically Endangered but is facing a very high risk of total destruction in the near future. This will be determined on the basis of the best available information by it meeting **any one or more** of the following criteria (A, B, or C):

A) The geographic range, and/or total area occupied, and/or number of discrete occurrences have been reduced by at least 70% since European settlement **and either or both** of the following apply (i or ii):

i) the estimated geographic range, and/or total area occupied and/or number of discrete occurrences are continuing to decline such that total destruction of the community is likely in the short term future (within approximately 20 years);

ii) modification throughout its range is continuing such that in the short term future (within approximately 20 years) the community is unlikely to be capable of being substantially restored or rehabilitated.

B) Current distribution is limited, **and one or more** of the following apply (i, ii or iii):

i) geographic range and/or number of discrete occurrences, and/or area occupied is highly restricted and the community is currently subject to known threatening processes which are likely to result in total destruction throughout its range in the short term future (within approximately 20 years);

ii) there are few occurrences, each of which is small and/or isolated and all or most occurrences are very vulnerable to known threatening processes;

iii) there may be many occurrences but total area is small and all or most occurrences are small and/or isolated and very vulnerable to known threatening processes.

C) The ecological community exists only as very modified occurrences that may be capable of being substantially restored or rehabilitated if such work begins in the short-term future (within approximately 20 years).

Vulnerable (VU)
An ecological community that has been adequately surveyed and is found to be declining and/or has declined in distribution and/or condition and whose ultimate security has not yet been assured and/or a community that is still widespread but is believed likely to move into a category of higher threat in the near future if threatening processes continue or begin operating throughout its range.

An ecological community will be listed as **Vulnerable** when it has been adequately surveyed and is not Critically Endangered or Endangered but is facing a high risk of total destruction or significant modification in the medium (within approximately 50 years) to long-term future. This will be determined on the basis of the best available information by it meeting **any one or more** of the following criteria (A, B or C):

A) The ecological community exists largely as modified occurrences that are likely to be capable of being substantially restored or rehabilitated.

B) The ecological community may already be modified and would be vulnerable to threatening processes, is restricted in area and/or range and/or is only found at a few locations.

C) The ecological community may be still widespread but is believed likely to move into a category of higher threat in the medium to long term future because of existing or impending threatening processes.

3. DEFINITIONS AND CRITERIA FOR PRIORITY ECOLOGICAL COMMUNITIES PRIORITY ECOLOGICAL COMMUNITY LIST

Possible threatened ecological communities that do not meet survey criteria or that are not adequately defined are added to the Priority Ecological Community Lists under Priorities 1, 2 and 3. These three categories are ranked in order of priority for survey and/or definition of the community. Ecological Communities that are adequately known, and are rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list, are placed in Priority 4. These ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

Priority One: Poorly-known ecological communities:

Ecological communities that are known from very few occurrences with a very restricted distribution (generally ≤5 occurrences or a total area of ≤100ha). Occurrences are believed to be under threat either due to limited extent, or being on lands under immediate threat (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) or for which current threats exist. May include communities with occurrences on protected lands. Communities may be included if they are comparatively well-known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under immediate threat from known threatening processes across their range.

Priority Two: Poorly-known ecological communities:

Communities that are known from few occurrences with a restricted distribution (generally ≤10 occurrences or a total area of ≤200ha). At least some occurrences are not believed to be under immediate threat (within approximately 10 years) of destruction or degradation. Communities may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements, and/or are not well defined, and appear to be under threat from known threatening processes.

Priority Three: Poorly known ecological communities:

(i) Communities that are known from several to many occurrences, a significant number or area of which are not under threat of habitat destruction or degradation or:

(ii) Communities known from a few widespread occurrences, which are either large or with significant remaining areas of habitat in which other occurrences may occur, much of it not under imminent threat (within approximately 10 years), or;

(iii) Communities made up of large, and/or widespread occurrences, that may or may not be represented in the reserve system, but are under threat of modification across much of their range from processes such as grazing by domestic and/or feral stock, inappropriate fire regimes, clearing, hydrological change etc.

Communities may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and/or are not well defined, and known threatening processes exist that could affect them.

Priority Four: Ecological communities:

Communities that are adequately known, rare but not threatened or meet criteria for Near Threatened, or that have been recently removed from the threatened list. These communities require regular monitoring.

(i) Rare. Ecological communities known from few occurrences that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These communities are usually represented on conservation lands.

(ii) Near Threatened. Ecological communities that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for a higher threat category.

(iii) Ecological communities that have been removed from the list of threatened communities during the past five years.

Priority Five: Conservation Dependent ecological communities:

Ecological communities that are not threatened but are subject to a specific conservation program, the cessation of which would result in the community becoming threatened within five years.

Current as of January 2013

Appendix C: Conservation Codes for Western Australian Flora and Fauna (DPaW 2015c)

Specially protected fauna or flora are species* which have been adequately searched for and are deemed to be, in the wild, either rare, at risk of extinction, or otherwise in need of special protection, and have been gazetted as such.

Categories of specially protected fauna and flora are:

T Threatened species
Published as Specially Protected under the *Wildlife Conservation Act* 1950, and listed under Schedules 1 to 4 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened fauna is that subset of 'Specially Protected Fauna' declared to be 'likely to become extinct' pursuant to section 14(4) of the Wildlife Conservation Act.

Threatened flora is flora that has been declared to be 'likely to become extinct or is rare, or otherwise in need of special protection', pursuant to section 23F(2) of the Wildlife Conservation Act.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR Critically Endangered Species: Threatened species considered to be facing an extremely high risk of extinction in the wild. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EN Endangered Species: Threatened species considered to be facing a very high risk of extinction in the wild. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

VU Vulnerable Species: Threatened species considered to be facing a high risk of extinction in the wild. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna and Wildlife Conservation (Rare Flora) Notice for Threatened Flora.

EX Presumed extinct species
Listed as Specially Protected under the *Wildlife Conservation Act 1950,* published under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).

Species which have been adequately searched for and there is no reasonable doubt that the last individual has died, and have been gazetted as such.

IA Migratory birds protected under an international agreement
Listed as Specially Protected under the Wildlife Conservation Act 1950, listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice.

Birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), relating to the protection of migratory birds.

CD Conservation dependent fauna
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 6 of the Wildlife Conservation (Specially Protected Fauna) Notice.

OS Other specially protected fauna
Fauna otherwise in need of special protection to ensure their conservation. Published as Specially Protected under the Wildlife Conservation Act 1950, in Schedule 7 of the Wildlife Conservation (Specially Protected Fauna) Notice.

P Priority species

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened flora or fauna.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

1: Priority One: Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

2: Priority Two: Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

3: Priority Three: Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

4: Priority Four: Rare, Near Threatened and other species in need of monitoring

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

*Species includes all taxa (plural of taxon - a classificatory group of any taxonomic rank, e.g. a family, genus, species or any infraspecific category i.e. subspecies, variety or forma).

Current as of 11th November 2015

Appendix D: Environmental Weed Strategy - Criteria for the Assessment and Rating of Weeds in Terms of their Environmental Impact on Biodiversity (CALM 1999)

ENVIRONMENTAL WEEDS RATING

- **Invasiveness-** ability to invade bushland in good to excellent condition or ability to invade waterways (Score as yes or no).
- **Distribution** – wide current or potential distribution including consideration of known history of wide spread distribution elsewhere in the world (Score as yes or no).
- **Environmental Impacts** – ability to change the structure, composition and function of ecosystems; in particular an ability to form a monoculture in a vegetation community (Score as yes or no).

The Rating System used in the Environmental Weed Strategy for Western Australia

High	A weed species would have to score yes for all three criteria. Rating a weed species as high would indicate prioritising this weed for control and/or research.
Moderate	A weed species would have to score yes for two of the above criteria. Rating a weed species as moderate would indicate that control or research effort should be directed to it if funds are available; however it should be monitored (possibly a reasonably high level of monitoring).
Mild	A weed species scoring one of the criteria. A mild rating would indicate monitoring of the weed and control where appropriate.
Low	A weed species would score none of the criteria. A low ranking would mean that this species would require a low level of monitoring.

Appendix E: Vegetation Condition Scale for the Eremaean and Northern Botanical Provinces (adapted from Keighery (1994), for the Pilbara Biological Survey (McKenzie *et al.* (2009))

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

Appendix F: Vascular Plant Taxa Amalgamated in or Omitted From the Floristic Analysis

Description	Taxon	Reasoning
Omitted Taxa	*Abutilon* sp. (unidentified)	Taxonomy unclear
	Acacia ampliceps x *sclerosperma subsp. sclerosperma*	Known hybrid
	Acacia ancistrocarpa x *tumida var. pilbarensis*	Putative hybrid
	Acacia arida (variant?)	Likely to be a hybrid
	Acacia eriopoda x *trachycarpa*	Known hybrid
	Acacia ?eriopoda	Taxonomy unclear
	Acacia ?holosericea	Taxonomy unclear
	Acacia ?hilliana x *stellaticeps*	Known hybrid
	Acacia monticola x	Putative hybrid
	Acacia monticola x *trachycarpa*	Known hybrid
	Acacia monticola x *tumida var. pilbarensis*	Known hybrid
	Acacia sphaerostachya	Known hybrid
	Acacia trachycarpa x *tumida var. pilbarensis*	Known hybrid
	Acacia trachycarpa x?	Putative hybrid
	Acacia tumida var. *pilbarensis* x ?*ancistrocarpa*	Putative hybrid
	Acacia ?tumida x	Putative hybrid
	Acacia sp. (hybrid)	Putative hybrid
	Acacia sp. indet	Taxonomy unclear
	Amyema preissii	Parasitic, random occurrence
	Amyema sanguinea var. *sanguinea*	Parasitic, random occurrence
	Amyema ?sanguinea var. *sanguinea*	Parasitic, random occurrence
	?*Bonamia* sp.	Taxonomy unclear
	Cheilanthes brownii	Geophyte perennial
	Cheilanthes ?lasiophylla	Geophyte perennial
	Cheilanthes sieberi subsp. *pseudovellea*	Geophyte perennial
	Cheilanthes sieberi subsp. *sieberi*	Geophyte perennial
	Cheilanthes sp.	Geophyte perennial
	?*Chrysopogon fallax*	Taxonomy unclear
	Corchorus sp. (unidentified)	Taxonomy unclear
	Crotalaria novae-hollandiae subsp. *novae-hollandiae*	Short-lived perennial, occurring in recently burnt areas only
	?*Crotalaria* sp.	Taxonomy unclear
	Cullen martinii	Short-lived perennial, occurring in recently burnt areas only
	Cullen pogonocarpum	Short-lived perennial, occurring in recently burnt areas only
	?*Cyperus difformis*	Taxonomy unclear
	Cyperus ?iria	Taxonomy unclear
	Cyperus pulchellus	Geophyte perennial
	Eragrostis sp.	Taxonomy unclear
	Eriachne ?helmsii	Taxonomy unclear

Description	Taxon	Reasoning
Omitted Taxa cont.	*Fimbristylis dichotoma*	Geophyte perennial
	Gomphrena sp. (inadequate material)	Taxonomy unclear
	Heliotropium skeleton	Short-lived perennial, occurring in recently burnt areas only
	Heliotropium sp.	Taxonomy unclear
	?*Hibiscus* sp.	Taxonomy unclear
	?*Seringia* sp.	Taxonomy unclear
	?*Maireana* sp.	Taxonomy unclear
	Marsilea hirsuta	Geophyte perennial
	?*Mollugo molluginea*	Taxonomy unclear
	?*Pluchea rubelliflora*	Taxonomy unclear
	Pterocaulon ?*serrulatum*	Taxonomy unclear
	Pterocaulon sp.	Taxonomy unclear
	Ptilotus nobilis subsp. *nobilis*	Geophyte perennial
	?*Schoenoplectus laevis*	Taxonomy unclear
	?*Sclerolaena* sp.	Taxonomy unclear
	Senna artemisioides subsp. *helmsii* x *oligophylla*	Putative hybrid
	Senna artemisioides subsp. *oligophylla* x ?*symonii*	Putative hybrid
	Senna artemisioides subsp. *oligophylla* x ?	Putative hybrid
	Senna glutinosa subsp. x *luerssenii*	Known hybrid
	Senna ?*glutinosa* hybrid	Putative hybrid
	Senna notabilis	Short-lived perennial, generally occurring in recently burnt areas only
	Senna symonii ?x	Putative hybrid
	Sida ?*arenicola*	Taxonomy unclear
	Sida sp. (unidentified)	Taxonomy unclear
	Stemodia sp.	Taxonomy unclear
	Streptoglossa ?*bubakii*	Taxonomy unclear
	Streptoglossa ?*odora*	Taxonomy unclear
	Streptoglossa sp.	Taxonomy unclear
	Swainsona formosa	Short-lived perennial, occurring in recently burnt areas only
	Tephrosia stipuligera	Short-lived perennial, occurring in recently burnt areas only
	Tribulus hirsutus	Short-lived perennial, occurring in recently burnt areas only
	Tribulus platypterus	Short-lived perennial, occurring in recently burnt areas only
	Tribulus sp. long-styled eichlerianus (A.S. George 10666)	Short-lived perennial, occurring in recently burnt areas only
	Trichodesma zeylanicum	Short-lived perennial, occurring in recently burnt areas only
	Triumfetta clementii	Short-lived perennial, occurring in recently burnt areas only
	Velleia connata	Short-lived perennial, occurring in recently burnt areas only
	Zornia albiflora	Geophyte perennial

Description	Taxon	Reasoning
Omitted Taxa cont.	*Zornia muelleriana* subsp. *congesta*	Geophyte perennial
Amalgamated Taxa	*Abutilon* ?*lepidum*	Amalgamated with *Abutilon lepidum*
	Acacia bivenosa x *sclerosperma* subsp. *sclerosperma*	Known hybrid
	Acacia colei var. colei	Amalgamated with *Acacia colei* – taxonomy unclear in the field
	Acacia pyrifolia var. *morrisonii*	Amalgamated with *Acacia pyrifolia* var. *pyrifolia* – unlikely to be *Acacia pyrifolia* var. *morrisonii*, more likely to be a non-pruinose variant of *Acacia pyrifolia* var. *pyrifolia*
	Bonamia ?*alatisemina*	Amalgamated with *Bonamia alatisemina*
	Bonamia ?*erecta*	Amalgamated with *Bonamia erecta*
	Clerodendrum floribundum var. *angustifolium*; *Clerodendrum floribundum* var. *floribundum*	Amalgamated with *Clerodendrum floribundum* – taxonomy often unclear in the field, no correlation between variants and VTs
	Clerodendrum tomentosum var. *lanceolatum; Clerodendrum tomentosum* var. *tomentosum*	Amalgamated with *Clerodendrum tomentosum* – taxonomy often unclear in the field, no correlation between variants and VTs
	Corchorus ?*sidoides* subsp. *sidoides*	Amalgamated with *Corchorus sidoides* subsp. *sidoides*
	Corymbia candida subsp. *lautifolia*	Amalgamated with *Corymbia flavescens*
	Corymbia ?*ferriticola*	Amalgamated with *Corymbia ferriticola*
	Eragrostis ?*eriopoda*	Amalgamated with *Eragrostis eriopoda*
	Eriachne aff. *benthamii*	Amalgamated with *Eriachne benthamii* – taxonomy previously confused/unclear
	Eriachne aff. *festucacea*	Amalgamated with *Eriachne benthamii* – taxonomy previously confused/unclear
	Eucalyptus camaldulensis subsp. *refulgens*	Amalgamated with *Eucalyptus camaldulensis* - taxonomy often unclear in the field
	Eucalyptus ?*xerothermica*	Amalgamated with *Eucalyptus xerothermica*
	Euphorbia alsiniflora	Amalgamated with *Euphorbia trigonosperma* – changes in taxonomy
	Goodenia ?*muelleriana*	Amalgamated with *Goodenia muelleriana*
	Goodenia ?*nuda*	Amalgamated with *Goodenia nuda*
	Goodenia ?*stobbsiana*	Amalgamated with *Goodenia stobbsiana*
	Grevillea wickhamii subsp. *aprica*; *Grevillea wickhamii* subsp. *hispidula*; *Grevillea wickhamii* subsp. *macrodonta*	Amalgamated with *Grevillea wickhamii* - taxonomy often unclear in the field, no correlation between variants and VTs
	Melhania aff. *oblongifolia*	Amalgamated with *Melhania oblongifolia*
	Neptunia ?*dimorphantha*	Amalgamated with *Neptunia dimorphantha*
	Pluchea ?*dentex*	Amalgamated with *Pluchea dentex*
	Pluchea ?*rubelliflora*	Amalgamated with *Pluchea rubelliflora*
	Pterocaulon ?*sphaeranthoides*	Amalgamated with *Pterocaulon sphaeranthoides*
	Sida ?*clementii*	Amalgamated with *Sida clementii*

Description	Taxon	Reasoning
Amalgamated Taxa cont.	*Sida* ?*echinocarpa*	Amalgamated with *Sida echinocarpa*
	Sida ?*fibulifera*; *Sida* aff. *fibulifera*	Amalgamated with *Sida fibulifera*
	Sida ?*macropoda* (complex)	Amalgamated with *Sida macropoda*
	Solanum ?*cleistogamum*	Amalgamated with *Solanum cleistogamum*
	Solanum ?*phlomoides*	Amalgamated with *Solanum phlomoides*
	Stemodia ?*grossa*	Amalgamated with *Stemodia grossa*
	Streptoglossa ?*decurrens*	Amalgamated with *Streptoglossa decurrens*
	Triodia ?*brizoides*	Amalgamated with *Triodia brizoides*

Appendix G: OptimClass Combinations Tested for Classification Analysis

Clustering	Resemblance	Transformation
Average Linkage (UPGMA)	Bray-Curtis	none
Average Linkage (UPGMA)	Bray-Curtis	log(2)
Average Linkage (UPGMA)	Bray-Curtis	power 0.333
Average Linkage (UPGMA)	Bray-Curtis	power 0
Average Linkage (UPGMA)	Jaccard	none
Average Linkage (UPGMA)	Jaccard	log(2)
Average Linkage (UPGMA)	Jaccard	power 0.333
Average Linkage (UPGMA)	Jaccard	power 0
Beta flexible (□ = -0.25)	Bray-Curtis	none
Beta flexible (□ = -0.25)	Bray-Curtis	log(2)
Beta flexible (□ = -0.25)	Bray-Curtis	power 0.333
Beta flexible (□ = -0.25)	Bray-Curtis	power 0
Beta flexible (□ = -0.25)	Jaccard	none
Beta flexible (□ = -0.25)	Jaccard	log(2)
Beta flexible (□ = -0.25)	Jaccard	power 0.333
Beta flexible (□ = -0.25)	Jaccard	power 0
Beta flexible (□ = -0.1)	Bray-Curtis	none
Beta flexible (□ = -0.1)	Bray-Curtis	log(2)
Beta flexible (□ = -0.1)	Bray-Curtis	power 0.333
Beta flexible (□ = -0.1)	Bray-Curtis	power 0
Beta flexible (□ = -0.1)	Jaccard	none
Beta flexible (□ = -0.1)	Jaccard	log(2)
Beta flexible (□ = -0.1)	Jaccard	power 0.333
Beta flexible (□ = -0.1)	Jaccard	power 0
Beta flexible (□ = -0.4)	Bray-Curtis	none
Beta flexible (□ = -0.4)	Bray-Curtis	log(2)
Beta flexible (□ = -0.4)	Bray-Curtis	power 0.333
Beta flexible (□ = -0.4)	Bray-Curtis	power 0
Beta flexible (□ = -0.4)	Jaccard	none
Beta flexible (□ = -0.4)	Jaccard	log(2)
Beta flexible (□ = -0.4)	Jaccard	power 0.333
Beta flexible (□ = -0.4)	Jaccard	power 0
Ward's method (= ISS)	Chord (= normalised ED)	none
Ward's method (= ISS)	Chord (= normalised ED)	log(2)
Ward's method (= ISS)	Chord (= normalised ED)	power 0.333
Ward's method (= ISS)	Chord (= normalised ED)	power 0
Ward's method (= ISS)	Euclid	none
Ward's method (= ISS)	Euclid	log(2)
Ward's method (= ISS)	Euclid	power 0.333
Ward's method (= ISS)	Euclid	power 0
Furthest neighbour (CLC)	Bray-Curtis	none
Furthest neighbour (CLC)	Bray-Curtis	log(2)
Furthest neighbour (CLC)	Bray-Curtis	power 0.333
Furthest neighbour (CLC)	Bray-Curtis	power 0
Furthest neighbour (CLC)	Jaccard	none
Furthest neighbour (CLC)	Jaccard	log(2)
Furthest neighbour (CLC)	Jaccard	power 0.333
Furthest neighbour (CLC)	Jaccard	power 0

Appendix H: Misclassified Quadrats Manually Reassigned within the Floristic Classification

Quadrat	Original Dendrogram VT	Reallocation VT	Reasoning
CD-045	VT 2	VT 1	Quadrat placed within an ecotone
CD-086	VT 2	VT 12	Quadrat placed within an ecotone
CD-109	VT 1	VT 10	Quadrat placed within an ecotone
CD-112	VT 1	VT 10	Quadrat placed within an ecotone
CD-139	VT 2	VT 12	Quadrat placed within an ecotone
CD-155	VT 2	VT 10	Quadrat placed within an ecotone
CD-168	VT 2	VT 10	Quadrat placed within an ecotone
CD-200	VT 2	VT 1	Quadrat placed within an ecotone
CD-255	VT 1	VT 10	Quadrat placed within an ecotone
CD-407	VT 2	VT 10	Quadrat placed within an ecotone
CE-022	VT 2	VT 5	Quadrat placed within an ecotone
CE-034	VT 2	VT 12	Quadrat placed within an ecotone
CE-035	VT 1	VT 5	Species-poor quadrat
CE-040	VT 1	VT 5	Species-poor quadrat
CE-045	VT 1	VT 5	Species-poor quadrat
CE-072	VT 2	VT 12	Quadrat placed within an ecotone
CE-086	VT 2	VT 5	Quadrat placed within an ecotone, recently burnt
CE-137	VT 1	VT 10	Quadrat placed within an ecotone
CE-139	VT 1	VT 10	Quadrat placed within an ecotone
CE-145	VT 1	VT 10	Quadrat placed within an ecotone
CE-150	VT 2	VT 10	Quadrat placed within an ecotone, recently burnt
CE-152	VT 1	VT 11	Species-poor quadrat
CE-172	VT 1	VT 5	Species-poor quadrat
CE-176	VT 1	VT 5	Species-poor quadrat
CE-188	VT 1	VT 11	Species-poor quadrat
CE-306B	VT 2	VT 5	Quadrat placed within an ecotone, recently burnt

Appendix I: Vascular Plant Taxa Recorded in the Study Area, 2014 and 2016

Note: * denotes introduced taxon

FAMILY	TAXON
Acanthaceae	*Rostellularia adscendens* var. *latifolia* (P3)
Aizoaceae	*Trianthema cusackianum*
	Trianthema oxycalyptrum var. *oxycalyptrum*
	Trianthema pilosum
	Trianthema triquetrum
	Zaleya galericulata subsp. *galericulata*
Amaranthaceae	**Aerva javanica*
	Alternanthera angustifolia
	Alternanthera nana
	Amaranthus cuspidifolius
	Amaranthus undulatus
	**?Amaranthus viridis*
	Gomphrena cunninghamii
	Gomphrena leptoclada subsp. *leptoclada*
	Ptilotus astrolasius
	Ptilotus auriculifolius
	Ptilotus axillaris
	Ptilotus calostachyus
	Ptilotus clementii
	Ptilotus fusiformis
	Ptilotus gomphrenoides
	Ptilotus incanus
	Ptilotus mollis (P4)
	Ptilotus murrayi
	Ptilotus nobilis subsp. *nobilis*
	Ptilotus obovatus
Apocynaceae	**Calotropis procera*
	Carissa lanceolata
	Cynanchum floribundum
	Marsdenia angustata
	Sarcostemma viminale subsp. *australe*
	Tylophora flexuosa
Araliaceae	*Trachymene oleracea* subsp. *oleracea*
Asteraceae	Asteraceae sp.
	Blumea tenella
	Centipeda minima subsp. *macrocephala*
	**Flaveria trinervia*

Asteraceae cont.	*Pentalepis trichodesmoides* subsp. *trichodesmoides*
	Peripleura virgata
	Pluchea dentex
	Pluchea ferdinandi-muelleri
	Pluchea rubelliflora
	Pluchea tetranthera
	Podolepis capillaris
	Pterocaulon sphacelatum
	Pterocaulon sphaeranthoides
	**Sonchus oleraceus*
	Streptoglossa bubakii
	Streptoglossa decurrens
	Streptoglossa liatroides
Bixaceae	*Cochlospermum macnamarae* (P1)
Boraginaceae	*Ehretia saligna* var. *saligna*
	Heliotropium chrysocarpum
	Heliotropium crispatum
	Heliotropium cunninghamii
	Heliotropium heteranthum
	Heliotropium murinum (P3)
	Heliotropium ovalifolium
	Heliotropium pachyphyllum
	Heliotropium skeleton
	Heliotropium tanythrix
	Heliotropium tenuifolium
	Trichodesma zeylanicum
Brassicaceae	?*Lepidium pholidogynum*
Campanulaceae	*Lobelia arnhemiaca*
	Wahlenbergia tumidifructa
Capparaceae	*Capparis spinosa* var. *nummularia*
Caryophyllaceae	*Polycarpaea corymbosa*
	Polycarpaea holtzei
	Polycarpaea involucrata
	Polycarpaea longiflora
Celastraceae	*Stackhousia muricata*
Chenopodiaceae	*Dysphania rhadinostachya* subsp. *rhadinostachya*
	Dysphania sphaerosperma
	Salsola australis
	Sclerolaena costata
	Sclerolaena densiflora

Chenopodiaceae cont.	*Sclerolaena hostilis*
Cleomaceae	*Cleome viscosa*
Combretaceae	*Terminalia canescens*
Commelinaceae	*Commelina ensifolia*
Convolvulaceae	*Bonamia alatisemina* *Bonamia erecta* *Bonamia media* *Bonamia pannosa* *Bonamia pilbarensis* *Bonamia* aff. *pilbarensis* *Evolvulus alsinoides* var. *villosicalyx* *Ipomoea coptica* *Ipomoea lonchophylla* *Ipomoea muelleri* *Ipomoea polymorpha* *Operculina aequisepala* *Polymeria ambigua*
Cucurbitaceae	*Austrobryonia pilbarensis* *Cucumis melo* *Cucumis variabilis* *Trichosanthes cucumerina*
Cyperaceae	*Bulbostylis barbata* *Cyperus bifax* *Cyperus blakeanus* *Cyperus cunninghamii* subsp. *cunninghamii* *Cyperus difformis* *Cyperus hesperius* *Cyperus iria* *Cyperus ixiocarpus* *Cyperus pulchellus* *Cyperus squarrosus* *Cyperus vaginatus* *Eleocharis geniculata* *Fimbristylis dichotoma* *Fimbristylis elegans* *Fimbristylis microcarya* *Fimbristylis simulans* *Fuirena ciliaris* *Lipocarpha microcephala* *Schoenoplectus subulatus* *Schoenus falcatus*

Cyperaceae cont.	*Schoenus* sp. Marble Bar (D. Coultas & S. Coultas DCSC-Opp 07) (P1)
Droseraceae	*Drosera finlaysoniana*
Elatinaceae	*Bergia ammannioides* *Bergia pedicellaris* *Bergia trimera*
Eriocaulaceae	*Eriocaulon pusillum*
Euphorbiaceae	*Adriana tomentosa* var. *tomentosa* *Euphorbia australis* var. *subtomentosa* *Euphorbia biconvexa* *Euphorbia boophthona* *Euphorbia careyi* *Euphorbia coghlanii* *Euphorbia tannensis* subsp. *eremophila* *Euphorbia trigonosperma* *Euphorbia vaccaria* var. *vaccaria*
Fabaceae	*Acacia acradenia* *Acacia ampliceps* *Acacia ancistrocarpa* *Acacia ancistrocarpa* x *tumida* var. *pilbarensis* *Acacia aptaneura* *Acacia arrecta* *Acacia bivenosa* *Acacia colei* var. *colei* *Acacia coriacea* subsp. *pendens* *Acacia eriopoda* *Acacia hilliana* *Acacia inaequilatera* *Acacia levata* (P3) *Acacia maitlandii* *Acacia monticola* *Acacia orthocarpa* *Acacia pruinocarpa* *Acacia ptychophylla* *Acacia pyrifolia* var. *pyrifolia* *Acacia retivenea* subsp. *clandestina* *Acacia sclerosperma* subsp. *sclerosperma* *Acacia sphaerostachya* *Acacia spondylophylla* *Acacia stellaticeps* *Acacia synchronicia* *Acacia trachycarpa* *Acacia tumida* var. *pilbarensis*

Fabaceae cont.	*Alysicarpus muelleri*
	Cajanus cinereus
	Cajanus pubescens
	Crotalaria cunninghamii
	Crotalaria medicaginea var. *neglecta*
	Crotalaria novae-hollandiae
	Crotalaria dissitiflora subsp. *benthamiana*
	Cullen graveolens
	Cullen lachnostachys
	Cullen leucanthum
	Cullen martinii
	Cullen pogonocarpum
	Cullen stipulaceum
	Desmodium filiforme
	Dichrostachys spicata
	Erythrina vespertilio
	Gastrolobium grandiflorum
	Indigastrum parviflorum
	Indigofera colutea
	Indigofera linifolia
	Indigofera linnaei
	Indigofera monophylla
	Indigofera rugosa
	Indigofera trita subsp. *trita*
	Isotropis atropurpurea
	Lotus australis var. *australis*
	Neptunia dimorphantha
	Petalostylis labicheoides
	Rhynchosia minima
	Rothia indica subsp. *australis* (P1)
	Senna artemisioides subsp. *helmsii*
	Senna artemisioides subsp. *oligophylla*
	Senna glutinosa subsp. *glutinosa*
	Senna glutinosa subsp. *pruinosa*
	Senna glutinosa subsp. x *luerssenii*
	Senna notabilis
	Senna symonii
	Senna venusta
	Sesbania cannabina
	Sesbania formosa
	Swainsona decurrens
	Swainsona formosa
	Swainsona thompsoniana (P3)
	Tephrosia clementii
	Tephrosia rosea var. *clementii*

Fabaceae cont.	*Tephrosia stipuligera*
	Tephrosia supina
	Tephrosia virens
	Tephrosia sp. Bungaroo Creek (M.E. Trudgen 11601)
	Tephrosia sp. clay soils (S. van Leeuwen et al. PBS 0273)
	Tephrosia sp. Fortescue (A.A. Mitchell 606)
	Tephrosia sp. NW Eremaean (S. van Leeuwen et al. PBS 0356)
	**Vachellia farnesiana*
	Vigna lanceolata subsp. *lanceolata*
	Zornia albiflora
Goodeniaceae	*Dampiera candicans*
	Goodenia cusackiana
	Goodenia lamprosperma
	Goodenia microptera
	Goodenia aff. *microptera*
	Goodenia muelleriana
	Goodenia stobbsiana
	Goodenia triodiophila
	Scaevola amblyanthera var. *centralis*
	Scaevola browniana subsp. *browniana*
	Scaevola spinescens
Gyrostemonaceae	*Codonocarpus cotinifolius*
Haloragaceae	*Gonocarpus ephemerus*
Lamiaceae	*Clerodendrum floribundum* var. *angustifolium*
	Clerodendrum tomentosum
	Clerodendrum tomentosum var. *lanceolatum*
Lauraceae	*Cassytha capillaris*
Loganiaceae	*Mitrasacme connata*
Loranthaceae	*Amyema preissii*
	Amyema sanguinea var. *sanguinea*
Lythraceae	*Ammannia baccifera*
	Ammannia multiflora
	Rotala diandra
Malvaceae	*Abutilon macrum*
	Abutilon malvifolium
	Abutilon aff. *hannii*
	Abutilon sp.
	Abutilon sp. Dioicum (A.A. Mitchell PRP 1618)
	Abutilon sp. Pilbara (W.R. Barker 2025)

Malvaceae cont.	*Corchorus laniflorus*
	Corchorus parviflorus
	Corchorus tridens
	Corchorus aff. *walcottii*
	Gossypium australe
	Gossypium robinsonii
	Hibiscus austrinus var. *austrinus*
	Hibiscus coatesii
	Hibiscus goldsworthii
	Hibiscus leptocladus
	Hibiscus sturtii var. *campylochlamys*
	Seringia nephrosperma
	**Malvastrum americanum*
	Melhania oblongifolia
	Melhania aff. *oblongifolia*
	Sida clementii
	Sida echinocarpa
	Sida fibulifera
	Sida macropoda
	Sida rohlenae subsp. *rohlenae*
	Sida spinosa
	Sida sp. Articulation below (A.A. Mitchell PRP 1605)
	Sida sp. Excedentifolia (J.L. Egan 1925)
	Sida sp. Pilbara (A.A. Mitchell PRP 1543)
	Sida sp. spiciform panicles (E. Leyland s.n. 14/8/90)
	Sida sp. verrucose glands (F.H. Mollemans 2423)
	Triumfetta aff. *appendiculata*
	Triumfetta chaetocarpa
	Triumfetta clementii
	Triumfetta maconochieana
	Waltheria indica
	Waltheria virgata
Marsileaceae	*Marsilea hirsuta*
Menispermaceae	*Tinospora smilacina*
Molluginaceae	*Mollugo cerviana*
	Mollugo molluginea
Moraceae	*Ficus aculeata* subsp. *indecora*
	Ficus brachypoda
	Ficus platypoda
Myrtaceae	*Corymbia ferriticola*
	Corymbia flavescens
	Corymbia hamersleyana

Myrtaceae cont.	*Eucalyptus camaldulensis* subsp. *refulgens*
	Eucalyptus leucophloia subsp. *leucophloia*
	Eucalyptus victrix
	Eucalyptus xerothermica
	Melaleuca argentea
	Melaleuca glomerata
	Melaleuca linophylla
Nyctaginaceae	*Boerhavia burbidgeana*
	Boerhavia coccinea
	Boerhavia gardneri
Onagraceae	*Ludwigia perennis*
Orobanchaceae	*Buchnera linearis*
	Striga squamigera
Papaveraceae	**Argemone ochroleuca* subsp. *ochroleuca*
Passifloraceae	**Passiflora foetida* var. *hispida*
Pedaliaceae	*Josephinia ?eugeniae*
Phrymaceae	*Peplidium* sp. E Evol. Fl. Fauna Arid Aust. (A.S. Weston 12768)
Phyllanthaceae	*Flueggea virosa* subsp. *melanthesoides*
	Notoleptopus decaisnei
	Phyllanthus erwinii
	Phyllanthus exilis
	Phyllanthus maderaspatensis
Plantaginaceae	*Stemodia grossa*
	Stemodia viscosa
Poaceae	*Aristida contorta*
	Aristida holathera var. *holathera*
	Cynodon convergens
	Cynodon prostratus
	**Cenchrus ciliaris*
	**Cenchrus setiger*
	**Chloris barbata*
	Chrysopogon fallax
	Cymbopogon ambiguus
	**Cynodon dactylon*
	Dactyloctenium radulans
	Dichanthium fecundum
	Dichanthium sericeum subsp. *humilius*
	Digitaria brownii
	Digitaria ctenantha

Poaceae cont.	**Echinochloa colona* *Enneapogon caerulescens* *Enneapogon lindleyanus* *Enneapogon polyphyllus* *Enteropogon ramosus* *Eragrostis crateriformis* (P3) *Eragrostis cumingii* *Eragrostis desertorum* *Eragrostis dielsii* *Eragrostis eriopoda* *Eragrostis falcata* *Eragrostis setifolia* *Eragrostis speciosa* *Eragrostis tenellula* *Eriachne aristidea* *Eriachne benthamii* *Eriachne ciliata* *Eriachne flaccida* *Eriachne mucronata* *Eriachne obtusa* *Eriachne pulchella* subsp. *dominii* *Eriachne tenuiculmis* *Eulalia aurea* *Heteropogon contortus* *Iseilema dolichotrichum* *Leptochloa fusca* subsp. *fusca* *Panicum decompositum* *Paraneurachne muelleri* *Paspalidium basicladum* *Paspalidium clementii* *Paspalidium rarum* *Paspalidium tabulatum* *Perotis rara* *Schizachyrium fragile* **Setaria verticillata* *Sporobolus actinocladus* *Sporobolus australasicus* *Themeda avenacea* *Themeda triandra* *Triodia angusta* *Triodia brizoides* *Triodia epactia* *Triodia longiceps* *Triodia secunda* *Triodia wiseana*

Poaceae cont.	*Tripogon loliiformis*
	Yakirra australiensis subsp. *australiensis*
Polygalaceae	*Polygala glaucifolia*
	Polygala isingii
Portulacaceae	*Calandrinia pumila*
	Calandrinia quadrivalvis
	Portulaca conspicua
	Portulaca cyclophylla
	Portulaca oleracea
	**Portulaca pilosa*
	Portulaca sp. (potentially undescribed)
Potamogetonaceae	*Potamogeton tricarinatus*
Proteaceae	*Grevillea pyramidalis* subsp. *leucadendron*
	Grevillea wickhamii
	Grevillea wickhamii subsp. *hispidula*
	Hakea lorea subsp. *lorea*
Pteridaceae	*Acrostichum speciosum*
	Cheilanthes brownii
	Cheilanthes sp.
Rubiaceae	*Oldenlandia crouchiana*
	Oldenlandia galioides
	Oldenlandia sp. (potentially undescribed)
	Synaptantha tillaeacea
Santalaceae	*Santalum lanceolatum*
Sapindaceae	*Atalaya hemiglauca*
	Dodonaea coriacea
Scrophulariaceae	*Eremophila latrobei* subsp. *glabra*
	Eremophila longifolia
Solanaceae	*Nicotiana ?benthamiana*
	Nicotiana benthamiana
	Nicotiana umbratica (P3)
	Solanum cleistogamum
	Solanum diversiflorum
	Solanum horridum
	**Solanum nigrum*
	Solanum phlomoides
Stylidiaceae	*Stylidium fluminense*
	Stylidium weeliwolli (P2)

Typhaceae	*Typha domingensis*
Violaceae	*Hybanthus aurantiacus*
Zygophyllaceae	*Tribulopis angustifolia* *Tribulus hirsutus* *Tribulus platypterus* *Tribulus suberosus* **Tribulus terrestris*

Conservation Significant Taxa	= 13	
Common Native Taxa	= 383	
Hybrid Taxa	= 2	(1x known, 1x putative)
Introduced Taxa	= 17	
Total Taxa	**415**	

Appendix J: Location Details of Conservation Significant Flora and Introduced Flora Recorded within the Study Area and Surrounds, 2014 and 2016

All coordinates were recorded in GDA94 (Zone 50)

Taxon	Status	Easting	Northing	Record Location	Source	Count
Abutilon aff. *hannii*	Potentially undescribed	777834	7617186	Opportunistic	WEC	NA
Abutilon aff. *hannii*	Potentially undescribed	773038	7622945	Opportunistic	WEC	NA
Abutilon aff. *hannii*	Potentially undescribed	775932	7615042	Opportunistic	WEC	20
Acacia levata	P3	765907	7629283	Opportunistic	WEC	5
Acacia levata	P3	765683	7629226	Opportunistic	WEC	2
Acacia levata	P3	766058	7629234	Opportunistic	WEC	10
Acacia levata	P3	766282	7629289	Opportunistic	WEC	2
Acacia levata	P3	765380	7631615	CD001	WEC	1
Acacia levata	P3	766194	7629225	CD045	WEC	24
Acacia levata	P3	765173	7633064	CD002	WEC	1
Acacia levata	P3	765751	7631578	Opportunistic	WEC	10
Acacia levata	P3	766704	7632293	Opportunistic	WEC	1
Acacia levata	P3	765620	7632151	Opportunistic	WEC	30
Acacia levata	P3	765600	7631777	Opportunistic	WEC	100
Acacia levata	P3	765220	7631809	Opportunistic	WEC	50
Acacia levata	P3	764782	7631698	Opportunistic	WEC	20
Acacia levata	P3	765112	7632747		DPaW	1
Acacia levata	P3	765401	7633137		DPaW	1
Acacia levata	P3	765428	7632855		DPaW	1
Acacia levata	P3	765452	7632371		DPaW	1
Acacia levata	P3	765546	7633196		DPaW	1
Acacia levata	P3	766129	7633253		DPaW	1
Acrostichum speciosum	Significantly Disjunct Record	776743	7623790	Opportunistic	WEC	3
Cochlospermum macnamarae	P1	773611	7612913	Opportunistic	WEC	76
Cochlospermum macnamarae	P1	773050	7612700	Opportunistic	WEC	3
Cochlospermum macnamarae	P1	773321	7614165	CD172	WEC	1
Cochlospermum macnamarae	P1	773471	7612880	CD171	WEC	4
Cochlospermum macnamarae	P1	773586	7613897	Opportunistic	WEC	20
Cochlospermum macnamarae	P1	773166	7613915	Opportunistic	WEC	25
Cochlospermum macnamarae	P1	773139	7614145	Opportunistic	WEC	10
Cochlospermum macnamarae	P1	773400	7614328	Opportunistic	WEC	15
Eragrostis crateriformis	P3	779729	7636023	Opportunistic	WEC	1
Eragrostis crateriformis	P3	779662	7636134	Opportunistic	WEC	40
Eragrostis crateriformis	P3	779892	7633917	Opportunistic	WEC	10
Eragrostis crateriformis	P3	779756	7634904	Opportunistic	WEC	10

Taxon	Status	Easting	Northing	Record Location	Source	Count
Eragrostis crateriformis	P3	779770	7634585	Opportunistic	WEC	3
Eragrostis crateriformis	P3	779606	7635630	CE-091	WEC	50
Eragrostis crateriformis	P3	779833	7634211	Opportunistic	WEC	6
Eragrostis crateriformis	P3	779761	7634570	Opportunistic	WEC	2
Eragrostis crateriformis	P3	779751	7634578	Opportunistic	WEC	12
Eragrostis crateriformis	P3	779735	7635063	Opportunistic	WEC	75
Eragrostis crateriformis	P3	779721	7634992	Opportunistic	WEC	55
Eragrostis crateriformis	P3	779816	7634193	Opportunistic	WEC	1
Eragrostis crateriformis	P3	779861	7634267	Opportunistic	WEC	2
Eragrostis crateriformis	P3	779832	7634212	Opportunistic	WEC	5
Eriocaulon pusillum		764847	7631929	Opportunistic	WEC	10
Heliotropium murinum	P3	780467	7636043	CE-090	WEC	1
Heliotropium murinum	P3	780031	7637239	CE-073	WEC	1
Heliotropium murinum	P3	780004	7636551	Opportunistic	WEC	1
Nicotiana umbratica	P3	776155	7620711	Opportunistic	WEC	15
Nicotiana umbratica	P3	778008	7634123	Opportunistic	WEC	100
Oldenlandia sp.	Potentially undescribed	780526	7638975	CE-068	WEC	1
Portulaca sp.	Potentially undescribed	770630	7630790	Opportunistic	WEC	NA
Ptilotus mollis	P4	779672	7625913	Opportunistic	WEC	5
Ptilotus mollis	P4	779469	7626616	Opportunistic	WEC	5
Ptilotus mollis	P4	779661	7625880	CE-160	WEC	30
Ptilotus mollis	P4	779430	7625977	CE-161	WEC	35
Ptilotus mollis	P4	777580	7622000	Opportunistic	WEC	30
Ptilotus mollis	P4	777350	7623650	Opportunistic	WEC	20
Ptilotus mollis	P4	775870	7611749	Opportunistic	WEC	30
Ptilotus mollis	P4	776408	7611657	Opportunistic	WEC	20
Ptilotus mollis	P4	776811	7611657	Opportunistic	WEC	20
Ptilotus mollis	P4	776829	7611489	Opportunistic	WEC	10
Ptilotus mollis	P4	776960	7611863	Opportunistic	WEC	10
Ptilotus mollis	P4	777790	7612796	Opportunistic	WEC	10
Ptilotus mollis	P4	776820	7613050	Opportunistic	WEC	25
Ptilotus mollis	P4	777053	7613010	Opportunistic	WEC	30
Ptilotus mollis	P4	777060	7613113	Opportunistic	WEC	20
Ptilotus mollis	P4	777872	7621616	Opportunistic	WEC	30
Ptilotus mollis	P4	777228	7616201	CD159	WEC	1
Ptilotus mollis	P4	777044	7612906	CD308	WEC	50
Ptilotus mollis	P4	777151	7622284	CD131	WEC	30
Ptilotus mollis	P4	777338	7615581	CD160	WEC	3
Ptilotus mollis	P4	776985	7616107	Opportunistic	WEC	30
Ptilotus mollis	P4	776876	7616166	Opportunistic	WEC	150
Ptilotus mollis	P4	777047	7615951	Opportunistic	WEC	30
Ptilotus mollis	P4	777666	7616053	Opportunistic	WEC	20

Taxon	Status	Easting	Northing	Record Location	Source	Count
Ptilotus mollis	P4	775405	7614918	Opportunistic	WEC	20
Ptilotus mollis	P4	777272	7615533	Opportunistic	WEC	25
Ptilotus mollis	P4	777150	7615700	Opportunistic	WEC	7
Ptilotus mollis	P4	776195	7615583	Opportunistic	WEC	10
Ptilotus mollis	P4	777408	7616617	Opportunistic	WEC	30
Ptilotus mollis	P4	776829	7621294	Opportunistic	WEC	10
Ptilotus mollis	P4	777548	7621645	Opportunistic	WEC	15
Ptilotus mollis	P4	777377	7623303	Opportunistic	WEC	6
Ptilotus mollis	P4	777449	7623464	Opportunistic	WEC	2
Ptilotus mollis	P4	777270	7622380	Opportunistic	WEC	10
Ptilotus mollis	P4	777370	7622310	Opportunistic	WEC	10
Ptilotus mollis	P4	776660	7620745	Opportunistic	WEC	20
Ptilotus mollis	P4	776820	7612770	Opportunistic	WEC	10
Ptilotus mollis	P4	777010	7612600	Opportunistic	WEC	15
Ptilotus mollis	P4	776647	7620903	Opportunistic	WEC	15
Ptilotus mollis	P4	776594	7620955	Opportunistic	WEC	10
Ptilotus mollis	P4	776662	7621022	Opportunistic	WEC	10
Rostellularia adscendens var. *latifolia*	P3	780101	7647302	CE-024	WEC	1
Rostellularia adscendens var. *latifolia*	P3	771121	7624361	Opportunistic	WEC	100
Rothia indica subsp. *australis*	P1	779626	7633791	Opportunistic	WEC	40
Rothia indica subsp. *australis*	P1	779573	7633939	CE-171	WEC	50
Rothia indica subsp. *australis*	P1	779604	7633871	Opportunistic	WEC	10
Rothia indica subsp. *australis*	P1	779630	7633925	Opportunistic	WEC	6
Rothia indica subsp. *australis*	P1	779645	7633819	Opportunistic	WEC	1
Rothia indica subsp. *australis*	P1	779640	7633808	Opportunistic	WEC	1
Rothia indica subsp. *australis*	P1	779649	7633787	Opportunistic	WEC	1
Rothia indica subsp. *australis*	P1	779612	7633916	Opportunistic	WEC	2
Rothia indica subsp. *australis*	P1	779614	7633774	Opportunistic	WEC	28
Rothia indica subsp. *australis*	P1	779626	7633780	Opportunistic	WEC	50
Rothia indica subsp. *australis*	P1	779623	7633748	Opportunistic	WEC	10
Rothia indica subsp. *australis*	P1	779616	7633915	Opportunistic	WEC	55
Rothia indica subsp. *australis*	P1	779559	7633815	Opportunistic	WEC	1
Schoenus sp. Marble Bar (D. Coultas & S. Coultas DCSC-Opp 07)	P1	764847	7631929	Opportunistic	WEC	50
Stylidium weeliwolli	P2	764847	7631929	Opportunistic	WEC	2
Swainsona thompsoniana	P3	779007	7645788	CE-313	WEC	1
Swainsona thompsoniana	P3	777102	7642373	CE-312	WEC	1
Swainsona thompsoniana	P3	777607	7642887	CE-184	WEC	1
**Aerva javanica*	Introduced	784798	7654054		WEC	5
**Aerva javanica*	Introduced	780101	7647302	CE-024	WEC	1
**Aerva javanica*	Introduced	780467	7636043	CE-090	WEC	1
**Aerva javanica*	Introduced	780321	7635264	CE-096	WEC	1

Taxon	Status	Easting	Northing	Record Location	Source	Count
*Aerva javanica	Introduced	780735	7632288	CE-125	WEC	1
*Aerva javanica	Introduced	780346	7633136	CE-109	WEC	1
*Aerva javanica	Introduced	778958	7630978	CE-119	WEC	1
*Aerva javanica	Introduced	779722	7634373	CE-098	WEC	1
*Aerva javanica	Introduced	778711	7637904	CE-057	WEC	2
*Aerva javanica	Introduced	780472	7638136	CE-066	WEC	25
*Aerva javanica	Introduced	778730	7642133	CE-036	WEC	6
*Aerva javanica	Introduced	783611	7647768	CE-019	WEC	5
*Aerva javanica	Introduced	778066	7644349	CE-020	WEC	8
*Aerva javanica	Introduced	780949	7647694	CE-316	WEC	1
*Aerva javanica	Introduced	779260	7636140	CE-304	WEC	1
*Aerva javanica	Introduced	779661	7625880	CE-160	WEC	30
*Aerva javanica	Introduced	779430	7625977	CE-161	WEC	10
*Aerva javanica	Introduced	780040	7628779	CE-135	WEC	1
*Aerva javanica	Introduced	779491	7626442	CE-157	WEC	1
*Aerva javanica	Introduced	779711	7630352	CE-130	WEC	1
*Aerva javanica	Introduced	779668	7627761	CE-153	WEC	5
*Aerva javanica	Introduced	779759	7627767	CE-154	WEC	4
*Aerva javanica	Introduced	778865	7626061	CE-147	WEC	100
*Aerva javanica	Introduced	780674	7633422	CE-110	WEC	1
*Aerva javanica	Introduced	780455	7633140	CE-108	WEC	2
*Aerva javanica	Introduced	780515	7634167	CE-174	WEC	3
*Aerva javanica	Introduced	780577	7634122	CE-175	WEC	1
*Aerva javanica	Introduced	783350	7647039	CE-186	WEC	1
*Aerva javanica	Introduced	788618	7656043	CE-187	WEC	50
*Aerva javanica	Introduced	783652	7648286		WEC	15
*Aerva javanica	Introduced	766373	7635064	CD007	WEC	1
*Aerva javanica	Introduced	768455	7633834	CD012	WEC	1
*Aerva javanica	Introduced	766757	7632162	CD004	WEC	1
*Aerva javanica	Introduced	766106	7627797	CD048	WEC	2
*Aerva javanica	Introduced	770355	7624917	CD086	WEC	1
*Aerva javanica	Introduced	770630	7630790	CD053	WEC	4
*Aerva javanica	Introduced	769899	7631106	CD059	WEC	2
*Aerva javanica	Introduced	771614	7634302	CD017	WEC	1
*Aerva javanica	Introduced	777834	7617186	CD162	WEC	5
*Aerva javanica	Introduced	772955	7622263	CD119	WEC	1
*Aerva javanica	Introduced	773247	7621393	CD120	WEC	10
*Aerva javanica	Introduced	775561	7614882	CD168	WEC	1
*Aerva javanica	Introduced	777228	7616201	CD159	WEC	1
*Aerva javanica	Introduced	773763	7617828	CD147	WEC	1
*Aerva javanica	Introduced	773717	7614557	CD163	WEC	1
*Aerva javanica	Introduced	774646	7614528	CD157	WEC	1
*Aerva javanica	Introduced	774692	7623980	CD204	WEC	1

Taxon	Status	Easting	Northing	Record Location	Source	Count
**Aerva javanica*	Introduced	776995	7621447	CD132	WEC	1
**Aerva javanica*	Introduced	774987	7621749	CD126	WEC	1
**Aerva javanica*	Introduced	777617	7616945	Opportunistic	WEC	10
**Aerva javanica*	Introduced	776250	7615404	Opportunistic	WEC	15
**Aerva javanica*	Introduced	766445	7629469	Opportunistic	WEC	1
**Aerva javanica*	Introduced	776631	7616060	Opportunistic	WEC	25
**Aerva javanica*	Introduced	774194	7623914	Opportunistic	WEC	5
**Aerva javanica*	Introduced	776964	7616056	Opportunistic	WEC	150
**Aerva javanica*	Introduced	777612	7616077	Opportunistic	WEC	30
**Aerva javanica*	Introduced	772936	7631445	Opportunistic	WEC	3
**Aerva javanica*	Introduced	774939	7612753	Opportunistic	WEC	5
**Aerva javanica*	Introduced	774749	7612819	Opportunistic	WEC	10
**Aerva javanica*	Introduced	777408	7616617	Opportunistic	WEC	10
**Aerva javanica*	Introduced	776470	7615430	Opportunistic	WEC	20
**Aerva javanica*	Introduced	772306	7629472	Opportunistic	WEC	3
**Aerva javanica*	Introduced	772346	7629278	Opportunistic	WEC	5
**Aerva javanica*	Introduced	771330	7628127	Opportunistic	WEC	5
**Aerva javanica*	Introduced	771146	7627895	Opportunistic	WEC	5
**Aerva javanica*	Introduced	771341	7627573	Opportunistic	WEC	10
**Aerva javanica*	Introduced	771310	7627456	Opportunistic	WEC	7
**Aerva javanica*	Introduced	771296	7626191	Opportunistic	WEC	20
**Aerva javanica*	Introduced	776648	7615661	Opportunistic	WEC	20
**Aerva javanica*	Introduced	773646	7623886	Opportunistic	WEC	30
**Aerva javanica*	Introduced	773725	7623870	Opportunistic	WEC	20
**?Amaranthus viridis*	Introduced	774692	7623980	CD204	WEC	1
**?Amaranthus viridis*	Introduced	772927	7630998	CD073	WEC	1
**Argemone ochroleuca* subsp. *ochroleuca*	Introduced	778730	7642133	CE-036	WEC	7
**Argemone ochroleuca* subsp. *ochroleuca*	Introduced	777834	7617186	CD162	WEC	1
**Calotropis procera*	Introduced	780455	7633140	CE-108	WEC	4
**Calotropis procera*	Introduced	779728	7631449	Opportunistic	WEC	1
**Calotropis procera*	Introduced	780256	7635243	Opportunistic	WEC	1
**Calotropis procera*	Introduced	780562	7639510	Opportunistic	WEC	4
**Calotropis procera*	Introduced	780555	7639475	Opportunistic	WEC	11
**Calotropis procera*	Introduced	780923	7639453	Opportunistic	WEC	3
**Calotropis procera*	Introduced	780882	7638661	Opportunistic	WEC	4
**Calotropis procera*	Introduced	780667	7638468	Opportunistic	WEC	4
**Calotropis procera*	Introduced	780462	7638887	Opportunistic	WEC	2
**Calotropis procera*	Introduced	773038	7622945	CD116	WEC	1
**Calotropis procera*	Introduced	766373	7635064	CD007	WEC	1
**Calotropis procera*	Introduced	773032	7622913	Opportunistic	WEC	20
**Calotropis procera*	Introduced	777482	7616330	Opportunistic	WEC	5
**Calotropis procera*	Introduced	772952	7631042	Opportunistic	WEC	1

Taxon	Status	Easting	Northing	Record Location	Source	Count
*Cenchrus ciliaris	Introduced	777359	7637042	Opportunistic	WEC	20
*Cenchrus ciliaris	Introduced	777895	7637065	Opportunistic	WEC	10000
*Cenchrus ciliaris	Introduced	778881	7641231	Opportunistic	WEC	2000
*Cenchrus ciliaris	Introduced	780417	7638181	Opportunistic	WEC	50000
*Cenchrus ciliaris	Introduced	780129	7635572	Opportunistic	WEC	50000
*Cenchrus ciliaris	Introduced	779821	7633607	CE-166	WEC	1
*Cenchrus ciliaris	Introduced	779350	7633943	CE-170	WEC	100
*Cenchrus ciliaris	Introduced	779935	7633464	CE-167	WEC	1
*Cenchrus ciliaris	Introduced	779573	7633939	CE-171	WEC	5
*Cenchrus ciliaris	Introduced	780515	7634167	CE-174	WEC	10000
*Cenchrus ciliaris	Introduced	780577	7634122	CE-175	WEC	100
*Cenchrus ciliaris	Introduced	779900	7634639	CE-177	WEC	5
*Cenchrus ciliaris	Introduced	781186	7640516	CE-178	WEC	25000
*Cenchrus ciliaris	Introduced	780230	7637634	CE-180	WEC	1000
*Cenchrus ciliaris	Introduced	778739	7640918	CE-182	WEC	200
*Cenchrus ciliaris	Introduced	777890	7643829	CE-185	WEC	4
*Cenchrus ciliaris	Introduced	783350	7647039	CE-186	WEC	20000
*Cenchrus ciliaris	Introduced	778920	7641058	CE-183	WEC	1000
*Cenchrus ciliaris	Introduced	785828	7653997	CE-189	WEC	5
*Cenchrus ciliaris	Introduced	788618	7656043	CE-187	WEC	300
*Cenchrus ciliaris	Introduced	783045	7645054	CE-195	WEC	50
*Cenchrus ciliaris	Introduced	777640	7643779	CE-192	WEC	5
*Cenchrus ciliaris	Introduced	780674	7633422	CE-110	WEC	1
*Cenchrus ciliaris	Introduced	780455	7633140	CE-108	WEC	50
*Cenchrus ciliaris	Introduced	780093	7635667	CE-093	WEC	10
*Cenchrus ciliaris	Introduced	778865	7626061	CE-147	WEC	1
*Cenchrus ciliaris	Introduced	779759	7627767	CE-154	WEC	60
*Cenchrus ciliaris	Introduced	779069	7625791	CE-150	WEC	10
*Cenchrus ciliaris	Introduced	779668	7627761	CE-153	WEC	1000
*Cenchrus ciliaris	Introduced	782640	7645033	CE-197	WEC	100
*Cenchrus ciliaris	Introduced	782983	7646502	CE-198	WEC	15000
*Cenchrus ciliaris	Introduced	777381	7641619	CE-309	WEC	1
*Cenchrus ciliaris	Introduced	777666	7641117	CE-307	WEC	1
*Cenchrus ciliaris	Introduced	777276	7640107	CE-308	WEC	1
*Cenchrus ciliaris	Introduced	787895	7651890	CE-317	WEC	1
*Cenchrus ciliaris	Introduced	780949	7647694	CE-316	WEC	1
*Cenchrus ciliaris	Introduced	787733	7651712	CE-320	WEC	1
*Cenchrus ciliaris	Introduced	787864	7651847	CE-318	WEC	1
*Cenchrus ciliaris	Introduced	779744	7628317	CE-151	WEC	1
*Cenchrus ciliaris	Introduced	779491	7626442	CE-157	WEC	1
*Cenchrus ciliaris	Introduced	779661	7625880	CE-160	WEC	1
*Cenchrus ciliaris	Introduced	779694	7635691	CE-303	WEC	1
*Cenchrus ciliaris	Introduced	778619	7642661	CE-033	WEC	20

Taxon	Status	Easting	Northing	Record Location	Source	Count
*Cenchrus ciliaris	Introduced	783611	7647768	CE-019	WEC	250
*Cenchrus ciliaris	Introduced	778066	7644349	CE-020	WEC	40
*Cenchrus ciliaris	Introduced	785442	7654274	CE-003	WEC	1
*Cenchrus ciliaris	Introduced	778730	7642133	CE-036	WEC	200
*Cenchrus ciliaris	Introduced	778940	7642151	CE-037	WEC	1
*Cenchrus ciliaris	Introduced	778553	7640889	CE-041	WEC	12500
*Cenchrus ciliaris	Introduced	780472	7638136	CE-066	WEC	1
*Cenchrus ciliaris	Introduced	780526	7638975	CE-068	WEC	3
*Cenchrus ciliaris	Introduced	779557	7642056	CE-044	WEC	150
*Cenchrus ciliaris	Introduced	778711	7637904	CE-057	WEC	7500
*Cenchrus ciliaris	Introduced	778907	7637888	CE-058	WEC	12500
*Cenchrus ciliaris	Introduced	779724	7646499	CE-026	WEC	1
*Cenchrus ciliaris	Introduced	779697	7646560	CE-027	WEC	1
*Cenchrus ciliaris	Introduced	782408	7652412	CE-008	WEC	1
*Cenchrus ciliaris	Introduced	780101	7647302	CE-024	WEC	1
*Cenchrus ciliaris	Introduced	777159	7636133	CE-076	WEC	1
*Cenchrus ciliaris	Introduced	780031	7637239	CE-073	WEC	1
*Cenchrus ciliaris	Introduced	780126	7636768	CE-074	WEC	1
*Cenchrus ciliaris	Introduced	779298	7638112	CE-065	WEC	1
*Cenchrus ciliaris	Introduced	779656	7642090	CE-043	WEC	1
*Cenchrus ciliaris	Introduced	777876	7639625	CE-049	WEC	1
*Cenchrus ciliaris	Introduced	777135	7639253	CE-050	WEC	1
*Cenchrus ciliaris	Introduced	777239	7639650	CE-051	WEC	1
*Cenchrus ciliaris	Introduced	777127	7639091	CE-054	WEC	1
*Cenchrus ciliaris	Introduced	780321	7635264	CE-096	WEC	1
*Cenchrus ciliaris	Introduced	779797	7635710	CE-092	WEC	1
*Cenchrus ciliaris	Introduced	779660	7634998	CE-095	WEC	1
*Cenchrus ciliaris	Introduced	779606	7635630	CE-091	WEC	1
*Cenchrus ciliaris	Introduced	780467	7636043	CE-090	WEC	1
*Cenchrus ciliaris	Introduced	777705	7636285	CE-077	WEC	1
*Cenchrus ciliaris	Introduced	777958	7636079	CE-079	WEC	1
*Cenchrus ciliaris	Introduced	779340	7631368	CE-127	WEC	1
*Cenchrus ciliaris	Introduced	780735	7632288	CE-125	WEC	1
*Cenchrus ciliaris	Introduced	778958	7630978	CE-119	WEC	1
*Cenchrus ciliaris	Introduced	780346	7633136	CE-109	WEC	1
*Cenchrus ciliaris	Introduced	781044	7636408	CE-100	WEC	1
*Cenchrus ciliaris	Introduced	779722	7634373	CE-098	WEC	1
*Cenchrus ciliaris	Introduced	782349	7645044	Opportunistic	WEC	20
*Cenchrus ciliaris	Introduced	783590	7648347	Opportunistic	WEC	50
*Cenchrus ciliaris	Introduced	784798	7654054	Opportunistic	WEC	20
*Cenchrus ciliaris	Introduced	785663	7655746	Opportunistic	WEC	50
*Cenchrus ciliaris	Introduced	785767	7655874	Opportunistic	WEC	50
*Cenchrus ciliaris	Introduced	785585	7654805	Opportunistic	WEC	1

Taxon	Status	Easting	Northing	Record Location	Source	Count
*Cenchrus ciliaris	Introduced	772271	7629171	Opportunistic	WEC	1000
*Cenchrus ciliaris	Introduced	774749	7612819	Opportunistic	WEC	50
*Cenchrus ciliaris	Introduced	775932	7615042	Opportunistic	WEC	100
*Cenchrus ciliaris	Introduced	777408	7616617	Opportunistic	WEC	100
*Cenchrus ciliaris	Introduced	776229	7615590	Opportunistic	WEC	100
*Cenchrus ciliaris	Introduced	776470	7615430	Opportunistic	WEC	100
*Cenchrus ciliaris	Introduced	771341	7627573	Opportunistic	WEC	50
*Cenchrus ciliaris	Introduced	771670	7628737	Opportunistic	WEC	50
*Cenchrus ciliaris	Introduced	773725	7623870	Opportunistic	WEC	50
*Cenchrus ciliaris	Introduced	766818	7627871	Opportunistic	WEC	1000
*Cenchrus ciliaris	Introduced	771296	7626191	Opportunistic	WEC	100
*Cenchrus ciliaris	Introduced	772970	7620750	CD121	WEC	1
*Cenchrus ciliaris	Introduced	773080	7625998	CD075	WEC	1
*Cenchrus ciliaris	Introduced	764504	7631690	CD312	WEC	1
*Cenchrus ciliaris	Introduced	770777	7632729	CD014	WEC	1000
*Cenchrus ciliaris	Introduced	768310	7634924	CD010	WEC	2000
*Cenchrus ciliaris	Introduced	774692	7623980	CD204	WEC	1
*Cenchrus ciliaris	Introduced	773038	7622945	CD116	WEC	10000
*Cenchrus ciliaris	Introduced	776995	7621447	CD132	WEC	1
*Cenchrus ciliaris	Introduced	766373	7635064	CD007	WEC	1
*Cenchrus ciliaris	Introduced	768455	7633834	CD012	WEC	1000
*Cenchrus ciliaris	Introduced	765505	7633350	CD006	WEC	1
*Cenchrus ciliaris	Introduced	767901	7626778	CD057	WEC	1
*Cenchrus ciliaris	Introduced	769227	7628358	CD087	WEC	1
*Cenchrus ciliaris	Introduced	766106	7627797	CD048	WEC	2000
*Cenchrus ciliaris	Introduced	770355	7624917	CD086	WEC	1
*Cenchrus ciliaris	Introduced	770630	7630790	CD053	WEC	2000
*Cenchrus ciliaris	Introduced	769899	7631106	CD059	WEC	1000
*Cenchrus ciliaris	Introduced	772927	7630998	CD073	WEC	1
*Cenchrus ciliaris	Introduced	774646	7614528	CD157	WEC	100
*Cenchrus ciliaris	Introduced	769649	7624093	CD085	WEC	1
*Cenchrus ciliaris	Introduced	773183	7613496	CD169	WEC	1
*Cenchrus ciliaris	Introduced	777228	7616201	CD159	WEC	1
*Cenchrus ciliaris	Introduced	773763	7617828	CD147	WEC	1
*Cenchrus ciliaris	Introduced	771679	7634520	CD013	WEC	1
*Cenchrus ciliaris	Introduced	777834	7617186	CD162	WEC	500
*Cenchrus ciliaris	Introduced	774788	7623946	Opportunistic	WEC	50
*Cenchrus ciliaris	Introduced	774971	7623804	Opportunistic	WEC	20
*Cenchrus ciliaris	Introduced	776631	7616060	Opportunistic	WEC	200
*Cenchrus ciliaris	Introduced	776964	7616056	Opportunistic	WEC	15
*Cenchrus ciliaris	Introduced	775284	7614789	Opportunistic	WEC	50
*Cenchrus ciliaris	Introduced	766265	7629508	Opportunistic	WEC	30
*Cenchrus ciliaris	Introduced	766368	7629867	Opportunistic	WEC	100

Taxon	Status	Easting	Northing	Record Location	Source	Count
**Cenchrus ciliaris*	Introduced	766401	7629473	Opportunistic	WEC	50
**Cenchrus ciliaris*	Introduced	777612	7616077	Opportunistic	WEC	200
**Cenchrus ciliaris*	Introduced	777617	7616945	Opportunistic	WEC	100
**Cenchrus ciliaris*	Introduced	776648	7615661	Opportunistic	WEC	100
**Cenchrus setiger*	Introduced	780455	7633140	CE-108	WEC	1
**Chloris barbata*	Introduced	782640	7645033	CE-197	WEC	10
**Chloris barbata*	Introduced	780526	7638975	CE-068	WEC	1
**Chloris barbata*	Introduced	772927	7630998	CD073	WEC	1
**Cynodon dactylon*	Introduced	780455	7633140	CE-108	WEC	1
**Cynodon dactylon*	Introduced	780526	7638975	CE-068	WEC	1
**Cynodon dactylon*	Introduced	780321	7635264	CE-096	WEC	1
**Cynodon dactylon*	Introduced	779697	7646560	CE-027	WEC	1
**Cynodon dactylon*	Introduced	778730	7642133	CE-036	WEC	1
**Cynodon dactylon*	Introduced	780256	7635243	Opportunistic	WEC	1
**Cynodon dactylon*	Introduced	768455	7633834	CD012	WEC	1
**Cynodon dactylon*	Introduced	773038	7622945	CD116	WEC	3
**Echinochloa colona*	Introduced	780321	7635264	CE-096	WEC	1
**Echinochloa colona*	Introduced	779697	7646560	CE-027	WEC	1
**Echinochloa colona*	Introduced	780101	7647302	CE-024	WEC	1
**Echinochloa colona*	Introduced	780455	7633140	CE-108	WEC	1
**Flaveria trinervia*	Introduced	780455	7633140	CE-108	WEC	2
**Flaveria trinervia*	Introduced	774670	7623941	Opportunistic	WEC	5
**Flaveria trinervia*	Introduced	772927	7630998	CD073	WEC	2
**Flaveria trinervia*	Introduced	774692	7623980	CD204	WEC	10
**Malvastrum americanum*	Introduced	773038	7622945	CD116	WEC	12
**Malvastrum americanum*	Introduced	773247	7621393	CD120	WEC	2
**Malvastrum americanum*	Introduced	775932	7615042	Opportunistic	WEC	1
**Passiflora foetida* var. *hispida*	Introduced	777050	7629044	CD082	WEC	1
**Passiflora foetida* var. *hispida*	Introduced	776606	7627440	CD065	WEC	1
**Portulaca pilosa*	Introduced	765380	7631615	CD001	WEC	1
**Setaria verticillata*	Introduced	772927	7630998	CD073	WEC	1
**Solanum nigrum*	Introduced	780455	7633140	CE-108	WEC	1
**Sonchus oleraceus*	Introduced	780101	7647302	CE-024	WEC	1
**Sonchus oleraceus*	Introduced	772927	7630998	CD073	WEC	1
**Tribulus terrestris*	Introduced	780472	7638136	CE-066	WEC	1
**Vachellia farnesiana*	Introduced	780343	7633189	Opportunistic	WEC	1