



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 3893/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: **Robe River Mining Co Pty Ltd**

### 1.3. Property details

Property: *Iron Ore (Cleveland Cliffs) Agreement Act 1964*, Mineral Lease 248SA (AML 70/248)  
Local Government Area: Shire of Ashburton  
Colloquial name: West Angelas Project

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|--------------------|-----------|--------------------|---------------------|
| 3.3                |           | Mechanical Removal | Mineral Exploration |

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

**Vegetation Description** Beard vegetation associations have been mapped at a 1:250,000 scale for the whole of Western Australia. Two Beard vegetation associations have been mapped within the application area (GIS Database; Shepherd, 2007).

**18:** Low woodland; mulga (*Acacia aneura*); and

**82:** Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database; Shepherd, 2007).

The application area was surveyed by Rio Tinto staff on 18-20 May 2010 (Rio Tinto, 2010). The following vegetation types were identified within the application area:

#### Stony Slope Vegetation

**SS1:** *Eucalyptus gamophylla* low open forest over *Acacia bivenosa*, *Acacia pruinoscarpa* open shrubland over *Eremophila forrestii*, *Keraudrenia velutina* low open shrubland over *Triodia pungens*, *Triodia basedowii* open hummock grassland;

**SS2:** *Eucalyptus gamophylla*, *Eucalyptus leucophloia*, *Acacia aneura* low open forest over *Acacia bivenosa* open shrubland over *Eremophila forrestii* low open shrubland over *Triodia basedowii*, *Triodia pungens* and *Triodia melvillei* hummock grassland over *Cymbopogon ambiguus* very open tussock grassland;

**SS3:** *Eucalyptus leucophloia*, *Corymbia hamersleyana* low open forest over *Acacia maitlandii* open shrubland over *Triodia* sp. Mt Ella, *Triodia wiseana* hummock grassland;

**SS4:** *Eucalyptus leucophloia*, *Eucalyptus gamophylla* low open woodland over *Acacia bivenosa* shrubland over *Acacia effusa*, *Acacia tenuissima* low open shrubland over *Triodia basedowii*, *Triodia wiseana* hummock grassland;

**SS5:** *Eucalyptus leucophloia* low open woodland over *Acacia bivenosa* open shrubland over *Ptilotus rotundifolius* low open shrubland over *Triodia pungens* hummock grassland;

**SS6:** *Eucalyptus gamophylla*, *Eucalyptus socialis*, *Acacia catenulata* low open forest over *Rulingia luteiflora* open shrubland over *Keraudrenia velutina*, *Sida cardiophylla*, *Sida arsiniata* low shrubland over *Triodia pungens* open hummock grassland;

**SS7:** *Eucalyptus leucophloia*, *Corymbia hamersleyana* low open forest over *Acacia adoxa*, *Mirbelia viminalis* low open heath over *Triodia wiseana* hummock grassland;

**SS8:** *Eucalyptus leucophloia*, *Corymbia ferritcola*, *Hakea lorea* low open forest over *Acacia pyrifolia*, *Acacia bivenosa* open shrubland over *Triodia wiseana*, *Triodia* sp. Mt Ella hummock grassland;

**SS9:** *Acacia aneura*, *Acacia pruinocarpa*, *Acacia ayersiana*, *Rulingia luteiflora* open heath over *Acacia bivenosa*, *Senna luerssenii*, *Eremophila forrestii* low open shrubland over *Triodia basedowii* open hummock grassland over *Cymbopogon ambiguus* very open tussock grassland;

#### **Vegetation from Rocky Crests**

**RC1:** *Eucalyptus leucophloia* low open forest over *Acacia monticola* open shrubland over *Triodia* sp. Mt Ella, *Triodia wiseana* hummock grassland over *Eriachne mucronata* very open tussock grassland;

**RC2:** *Eucalyptus leucophloia*, *Acacia aneura* low open forest over *Ptilotus rotundifolius* low open shrubland over *Triodia wiseana*, *Triodia* sp. Mt Ella hummock grassland over *Cymbopogon ambiguus* scattered tussock grass;

#### **Flowline Vegetation**

**FL1:** *Corymbia hamersleyana*, *Grevillea wickhamii*, *Eucalyptus xerothermica* low open forest over *Acacia pyrifolia*, *Gossypium robinsonii*, *Senna glutinosa* shrubland over *Tephrosia rosea* low shrubland over *Triodia pungens* very open hummock grassland over *Themeda triandra*, *Eriachne tenuiculmis*, *Cenchrus ciliaris* tussock grassland (Rio Tinto, 2010).

|                             |   |
|-----------------------------|---|
| <b>Clearing Description</b> | <p>Robe River mining Co Pty Ltd (Robe) is proposing to clear up to 3.3 hectares of native vegetation for evaluation drilling at West Angelas (Robe, 2010). The evaluation drilling program will include;</p> <ul style="list-style-type: none"><li>- Maintaining and establishing tracks;</li><li>- Clearing of drill lines and access tracks (2.9 kilometres x 5 metres);</li><li>- Creation of 34 drill pads (20 metres x 26 metres);</li><li>- Creation of 34 sumps (6 metres x 3 metres); and</li><li>- Drilling of 34 holes (Robe, 2010).</li></ul> <p>Vegetation will be cleared using a raised blade technique where practicable or scrub rake in level terrain. Where previously cleared tracks require maintenance, the track may be graded using blade down technique (Robe, 2010).</p> |
| <b>Vegetation Condition</b> | Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).   |
| <b>Comment</b>              | The application area is located in the Pilbara region of Western Australia and is situated approximately 95 kilometres west-north-west of Newman (GIS Database).  |

### **3. Assessment of application against clearing principles**

#### **(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.**

|                 |  |
|-----------------|--|
| <b>Comments</b> | <p><b>Proposal is not likely to be at variance to this Principle</b></p> <p>The application area occurs within the Hamersley (PIL3) sub-region of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This sub-region is characterised by sedimentary ranges and plateaux, dissected by gorges (CALM, 2002). At a broad scale, vegetation can be described as Mulga low woodlands over bunch grasses on fine textured soils in valley floors and <i>Eucalyptus leucophloia</i> over <i>Triodia brizoides</i> on skeletal soils of the ranges (CALM, 2002).</p> <p>A vegetation survey of the application area identified twelve intact vegetation types occurring within the application area (Rio Tinto, 2010). During the vegetation survey, 139 vascular plant taxa from 59 genera and 31 families were recorded from within the application area (Rio Tinto, 2010). The number of species recorded in the study area appears to be within the expected range for an area of this size and locality (Rio Tinto, 2010).</p> <p>Two Priority flora species were recorded within the application area during the vegetation survey: <i>Acacia effusa</i> (P3) and <i>Triodia</i> sp. Mt Ella (M.E. Trudgen 12739) (P3) (Rio Tinto, 2010). Two populations of <i>Acacia effusa</i> were recorded within the application area with a population size of 5 to 10 individuals (Rio Tinto, 2010). This species was recorded along one proposed drill line. Twenty two populations of <i>Triodia</i> sp. Mt Ella (M.E. Trudgen 12739), ranging in size from 2 to over 1000 individuals were recorded within the application area (Rio Tinto, 2010). The presence of Priority Flora within the proposed clearing area increases its biodiversity significance. The proposed clearing will result in the removal of several individuals of the above Priority Flora and their habitat. As these species have been recorded from locations outside the application area, the proposed clearing is unlikely to impact on the conservation status of the above Priority Flora.</p> <p>One alien weed species was recorded within the vegetation survey area (Rio Tinto, 2010). This was: Buffel Grass (<i>Cenchrus ciliaris</i>) (Rio Tinto, 2010). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This in turn can lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. This species is not listed as a 'Declared Plant' species under the <i>Agriculture and Related Resources Protection Act 1976</i> by the Department of Agriculture and Food. Potential impacts to biodiversity as a result of the proposed</p> |
|-----------------|--|

clearing may be minimised by the implementation of a weed management condition.

The exploration drilling program is located approximately 5 kilometres south-east of the Rio Tinto Iron Ore West Angelas mine (Rio Tinto, 2010).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** CALM (2002)  
Rio Tinto (2010)  
GIS Database  
- IBRA WA (regions - subregions)  
- Pre-European Vegetation

**(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.**

**Comments Proposal is not likely to be at variance to this Principle**

The application area contains three primary habitat types identified on the basis of vegetation type and landform. These were:

- Stony lower foot slopes at the interface between *Acacia* dominated and eucalypt dominated communities;
- Stony hilltops and upper slopes dominated by eucalypts over *Triodia*; and
- Minor flowlines (Rio Tinto, 2010).

An analysis of aerial photography and imagery indicates that the proposed clearing area is located on foothills (lower slopes) in a predominantly uncleared landscape characterised by ridges, valleys and plains (GIS Database). The application area is located approximately 5 kilometres south-east of the Rio Tinto West Angelas Iron Ore mine (Rio Tinto, 2010).

Fauna habitat in the local area is largely undisturbed, apart from various existing tracks from previous exploration activities. The scale and nature of the clearing proposal render it highly unlikely to result in a loss of significant habitat for fauna indigenous to Western Australia.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Rio Tinto (2010)  
GIS Database  
- Govenor 50cm Orthomosaic

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

**Comments Proposal is not likely to be at variance to this Principle**

According to available GIS databases there are no known records of Declared Rare Flora (DRF) within the application area (GIS Database).

Suitable habitat exists within the application area for the DRF species *Lepidium catapycnon*, and the species has also been recorded in the Rhodes Ridge locality (Rio Tinto, 2010).

However, a flora survey was conducted over the application area by staff from Rio Tinto during May 2010 recorded no DRF species within the application area (Rio Tinto, 2010).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Rio Tinto (2010)  
GIS Database  
- Declared Rare and Priority Flora List

**(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.**

**Comments Proposal is not likely to be at variance to this Principle**

A search of available databases reveals that there are no Threatened Ecological Communities (TEC's) within the application area (GIS Database).

The nearest TEC is located approximately 95 kilometres east-south-east of the application area (Ethel Gorge). At this distance there is little likelihood of any impact to the TEC from the proposed clearing.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS Database  
 - Threatened Ecological Sites Buffered

**(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.**

**Comments** **Proposal is not at variance to this Principle**

The application area falls within the Pilbara IBRA bioregion (GIS Database). Shepherd (2007) reports that approximately 99.95% of the pre-European vegetation remains in this bioregion.

The vegetation in the application area is recorded as Beard vegetation associations:

- 18: Low woodland; mulga (*Acacia aneura*); and
- 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database; Shepherd, 2007).

According to Shepherd (2007) approximately 100% of this Beard Vegetation Association remains within the Pilbara bioregion (see table below).

|   | Pre-European area (ha)* | Current extent (ha)* | Remaining %* | Conservation Status** | Pre-European % in IUCN Class I-IV Reserves |
|---|-------------------------|----------------------|--------------|-----------------------|--|
| IBRA Bioregion - Pilbara                  | 17,804,188              | 17,794,647           | ~99.95%      | Least Concern         | ~6.32%                                     |
| IBRA Subregion - Hamersley                | 5,634,726               | 5,634,726            | ~100%        | Least Concern         | ~12.88%                                    |
| Beard vegetation associations - State     |                         |                      |              |                       |  |
| 18  | 19,892,305              | 19,890,195           | ~100%        | Least Concern         | ~2.1%                                      |
| 82  | 2,565,901               | 2,565,901            | ~100%        | Least Concern         | ~10.2%                                     |
| Beard vegetation associations - Bioregion |                         |                      |              |                       |  |
| 18  | 676,557                 | 676,557              | ~100%        | Least Concern         | ~16.8%                                     |
| 82  | 2,563,583               | 2,563,583            | ~100%        | Least Concern         | ~10.2%                                     |

\* Shepherd (2007)

\*\* Department of Natural Resources and Environment (2002)

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** Department of Natural Resources and Environment (2002)  
 Shepherd (2007)  
 GIS Database  
 - IBRA WA (regions - subregions)  
 - Pre-European Vegetation

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Comments** **Proposal is at variance to this Principle**

According to available GIS Databases, there are no permanent wetlands or watercourses within the application area, however there are numerous non-perennial drainage lines within the application area (GIS Database).

Based on vegetation mapping conducted by Rio Tinto (2010) one of the twelve vegetation associations found within the application area is associated with drainage areas. No major watercourses or wetlands were recorded in the survey area (Rio Tinto, 2010).

**FL1:** *Corymbia hamersleyana*, *Grevillea wickhamii*, *Eucalyptus xerothermica* low open forest over *Acacia pyrifolia*, *Gossypium robinsonii*, *Senna glutinosa* shrubland over *Tephrosia rosea* low shrubland over *Triodia pungens* very open hummock grassland over *Themeda triandra*, *Eriachne tenuiculmis*, *Cenchrus ciliaris* tussock grassland (Rio Tinto, 2010).

The riparian vegetation of the application area is likely to be disturbed due to the construction of access tracks crossing the drainage lines which may alter the watercourses natural regime. To minimise the impact and

ensure the natural water flow is maintained it is recommended that culverts and floodways be installed where access tracks intersect drainage lines.

Based on the above, the proposed clearing is at variance to this Principle. However, the proposed clearing is not likely to significantly impact on the conservation of vegetation growing in association with permanent watercourses or wetlands due to the absence of these within the application area. The proposed clearing of 3.3 hectares of native vegetation is unlikely to significantly impact on vegetation communities growing in association with these drainage channels. Should any watercourses be disturbed the proponent should liaise with the Department of Water to determine whether a Bed and Banks permit is necessary for the proposed works.

**Methodology** Rio Tinto (2010)  
GIS Database  
- Hydrography, Linear  
- Geodata, Lakes

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

**Comments Proposal is not likely to be at variance to this Principle**

The application area has been surveyed by the Department of Agriculture and Food (Van Vreeswyk et al., 2004), and is comprised of the Boolgeeda and Newman land systems (GIS Database).

The Boolgeeda land system is described as stony lower slopes and plains below hill systems supporting hard and soft spinifex grasslands and mulga shrublands (Van Vreeswyk et al., 2004). While, the Newman land system is described as rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands (Van Vreeswyk et al., 2004).

Neither of these land systems are susceptible to erosion.

Based on the above, the proposed clearing is not likely to be at variance to this Principle. Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a rehabilitation condition.

**Methodology** Van Vreeswyk et al (2004)  
GIS Database  
- Rangeland Land System Mapping

**(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.**

**Comments Proposal is not likely to be at variance to this Principle**

The application area is not located within a conservation reserve (GIS Database). The nearest known conservation reserve is Karijini National Park, located approximately 21 kilometres west-north-west (GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS Database  
- DEC Tenure

**(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.**

**Comments Proposal is not likely to be at variance to this Principle**

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The application area is located within a *Rights in Water and Irrigation Act 1914* (RIWI Act) Groundwater Management Area (GIS Database). The proponent is required to obtain permits to abstract groundwater in this area.

The groundwater salinity within the application area is approximately 500 - 1,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be potable water. Given the size of the area to be cleared (3.3 hectares) compared to the size of the Hamersley Groundwater Province (10,166,833 hectares) (GIS Database), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

The application area is located in a semi-desert-tropical region, with an average annual rainfall of approximately 310.2 millimetres recorded from the nearest weather station at Newman approximately 95 kilometres east-south-east of the application area (BoM, 2010; CALM, 2002). The size of the proposed clearing area within the

above climate is unlikely to result in significant changes to surface water flows.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** BoM (2010)  
CALM (2002)  
GIS Database  
- Groundwater - Provinces  
- Groundwater Salinity  
- Public Drinking Water Source Areas (PDWSA)  
- RIWI Act, Groundwater Areas

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Comments Proposal is not likely to be at variance to this Principle**

The application area experiences a semi-desert, tropical climate with an average annual rainfall of 310.2 millimetres recorded from the nearest weather station at Newman approximately 95 kilometres east-south-east of the application area (CALM, 2002; BoM, 2010).

Rainfall is usually experienced during summer months and can be either cyclonic or thunderstorm events (CALM, 2002). It is likely that during times of intense rainfall there may be some localised flooding in adjacent areas. Local flooding occurs seasonally within the Pilbara region as a result of cyclonic activity and sporadic thunderstorm events. The small size of the proposed clearing (3.3 hectares) is unlikely to significantly alter the intensity of flooding within the application area and surrounding areas.

The application area is located within the Ashburton River and Upper Fortescue River catchment areas (GIS Database). However, the size of the area to be cleared (3.3 hectares) in relation to the size of the Ashburton River and Upper Fortescue River catchment areas (7,877,743 hectares and 2,975,192 hectares respectively) (GIS Database) is not likely to increase the potential for flooding within the application area, local area or within the catchment (GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** BoM (2010)  
CALM (2002)  
GIS Database  
- Hydrographic Catchments - Catchments

**Planning instrument, Native Title, Previous EPA decision or other matter.**

**Comments**

There are two Native Title Claims (WC97/043 and WC05/003) over the area under application. These claims have been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal sites of significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal sites of significance are damaged through the clearing process.

The application area is located within a *Rights in Water Irrigation Act 1914* (RIWI Act) Groundwater Area (GIS Database). The proponent is required to obtain permits to abstract groundwater in this area.

It is the proponent's responsibility to liaise with the Department of Environment and Conservation and the Department of Water to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 16 August 2010 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

**Methodology** GIS Database  
- Aboriginal Sites of Significance  
- Native Title Claims  
- RIWI - Groundwater Areas

**4. Assessor's comments**

## Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*, and the proposed clearing is at variance to Principle (f), is not likely to be at variance to Principles (a), (b), (c), (d), (g), (h), (i) and (j) and is not at variance to Principle (e).

## 5. References

- BoM (2010) BOM Website - Climate Averages by Number, Averages for NEWMAN. [www.bom.gov.au/climate/averages/tables/cw\\_007151.shtml](http://www.bom.gov.au/climate/averages/tables/cw_007151.shtml) (Accessed 22 September 2010).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 3 (PIL3 - Hamersley subregion) Department of Conservation and Land Management, Western Australia.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Rio Tinto (2010) Flora and Vegetation Survey for Proposed Exploration Drilling at West Angelas - Native Vegetation Clearing Permit Supporting Report. Unpublished Report dated July 2010. Rio Tinto, Western Australia.
- Robe (2010) Application for a Clearing Permit (Purpose Permit) Evaluation Drilling Program and Access Tracks - ML248SA. Supporting documentation prepared by Robe River Mining Co Pty Ltd. August 2010.
- Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P., and Leighton, K.A. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia, Department of Agriculture, Western Australia.

## 6. Glossary

### Acronyms:

|                 |   |
|-----------------|---|
| <b>BoM</b>      | Bureau of Meteorology, Australian Government.   |
| <b>CALM</b>     | Department of Conservation and Land Management, Western Australia.  |
| <b>DAFWA</b>    | Department of Agriculture and Food, Western Australia.  |
| <b>DA</b>       | Department of Agriculture, Western Australia.   |
| <b>DEC</b>      | Department of Environment and Conservation  |
| <b>DEH</b>      | Department of Environment and Heritage (federal based in Canberra) previously Environment Australia                       |
| <b>DEP</b>      | Department of Environment Protection (now DoE), Western Australia.  |
| <b>DIA</b>      | Department of Indigenous Affairs  |
| <b>DLI</b>      | Department of Land Information, Western Australia.  |
| <b>DMP</b>      | Department of Mines and Petroleum, Western Australia.   |
| <b>DoE</b>      | Department of Environment, Western Australia.   |
| <b>DoIR</b>     | Department of Industry and Resources, Western Australia.  |
| <b>DOLA</b>     | Department of Land Administration, Western Australia.   |
| <b>DoW</b>      | Department of Water   |
| <b>EP Act</b>   | Environment Protection Act 1986, Western Australia.   |
| <b>EPBC Act</b> | Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)   |
| <b>GIS</b>      | Geographical Information System.  |
| <b>IBRA</b>     | Interim Biogeographic Regionalisation for Australia.  |
| <b>IUCN</b>     | International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union |
| <b>RIWI</b>     | Rights in Water and Irrigation Act 1914, Western Australia.   |
| <b>s.17</b>     | Section 17 of the Environment Protection Act 1986, Western Australia.   |
| <b>TECs</b>     | Threatened Ecological Communities.  |

### Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-

- P1** **Priority One - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P2** **Priority Two - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

- P3** **Priority Three - Poorly Known taxa:** taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
- P4** **Priority Four – Rare taxa:** taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
- R** **Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):** taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
- X** **Declared Rare Flora - Presumed Extinct taxa:** taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

**{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-**

- Schedule 1** **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2** **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3** **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4** **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

**{CALM (2005). Priority Codes for Fauna. Department of Conservation and Land Management, Como, Western Australia} :-**

- P1** **Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2** **Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P3** **Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P4** **Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.
- P5** **Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

**Categories of threatened species (Environment Protection and Biodiversity Conservation Act 1999)**

- EX** **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W)** **Extinct in the wild:** A native species which:  
 (a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or  
 (b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- CR** **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN** **Endangered:** A native species which:  
 (a) is not critically endangered; and  
 (b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU** **Vulnerable:** A native species which:  
 (a) is not critically endangered or endangered; and  
 (b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with



the prescribed criteria.

**CD**

**Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.