Government of Western Australia
Department of Mines and Petroleum

# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

**Permit application No.:** 4521/1
**Permit type:** Purpose Permit

### 1.2. Proponent details

**Proponent's name:** **BHP Billition Iron Ore Pty Ltd**

### 1.3. Property details

**Property:** *Iron Ore (Mount Newman) Agreement Act 1964*, Mineral Lease 70/244 (AML 70/244)
**Local Government Area:** Shire of East Pilbara
**Colloquial name:** Jinidi Accommodation Project

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|---|---|---|---|
| 125 | | Mechanical Removal | Accommodation village and associated infrastructure |

### 1.5. Decision on application

**Decision on Permit Application:** Grant
**Decision Date:** 22 September 2011

## 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 for the whole of Western Australia and are useful to look at vegetation in a regional context. Two Beard vegetation associations have been mapped within the application areas (Shepherd, 2009; GIS Database):

**18:** Low woodland; mulga (*Acacia aneura*) and;
**82**: Hummock grasslands, low tree steppe: Snappy Gum over *Triodia wiseana* (GIS Database; Shepherd, 2009).

ENV Australia (2010a) identified six vegetation communities within the application area using a primary vegetation survey of the application area by ENV Australia (2010b) and a supporting flora survey by Onshore (2011). ENV Australia (2010a) described the vegetation communities of the application areas as follows:

1. Open hummock grassland of *Triodia pungens* and *Triodia longiceps* with low open woodland of *Eucalyptus victrix*, *Eucalyptus cerothermica* and *Eucalyptus camaldulensis* subsp. *refulgens* with high shrubland of *Acacia aneura, Acacia pyrifolia* and *Petalostylis labicheoides* on alluvial red-brown clay loam on floodplains/drainage lines;
2. Hummock grassland of *Triodia wiseana* and *Triodia pungens* with shrubland of *Petalostylis labicheoides, Rulingia luteiflora* and mixed *Acacia* species with low open woodland of *Eucalyptus xerothermica, Corymbia hamersleyana* and *Eucalyptus gamophylla* on red-brown alluvial clay loam on floodplains;
3. Hummock grassland of *Triodia wiseana and Triodia pungens* with shrubland of *Petalostylis labicheoides, Acacia aneura* and *Acacia pruinocarpa* with low open woodland of *Eucalyptus xerothermica, Corymbia hamersleyana* and *Eucalyptus leucophloia* subsp. *leucophloia* on red-brown loam on drainage lines/floodplains;
4. Hummock grasslands of *Triodia* sp. Shovelanna Hill, *Triodia wiseana* and *Triodia pungens* with low open woodland of *Eucalyptus leucophloia* subsp. *leucophloia, Corymbia hamersleyana, Eucalyptus gamophylla* and *Corymbia deserticola* subsp. *deserticola* with shrubland of *Acacia bivenosa, Acacia inaequilatera* and *Acacia ancistrocarpa* on red-brown loam on footslopes;
5. High shrubland of *Acacia aneura* var. *intermedia, Acacia aneura* var. *pilbarana* and *Acacia catenulate* subsp. *occidentalis* with low open woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* with very open hummock grassland of *Triodia pungens* and *Triodia wiseana* on red-brown clay loam on hillcrests and breakaways; and
6. Low open woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* with low open shrubland of *Senna venusta, Scaevola parvifolia* subsp. *pilbarae* and *Ptilotus obovatus* with very open tussock grassland of *Aristida holathera* var. *latifolia* and *Aristida holathera* var. *holathera* on red-brown loam on lower footslopes.

**Clearing Description**

BHP Billiton Iron Ore Pty Ltd is proposing to clear up to 125 hectares of native vegetation within a 538.21 hectare application area, for the Jinidi Accommodation project (BHP Billiton Iron Ore Pty Ltd, 2011). The clearing of vegetation is required for the establishment of a new accommodation village and associated

infrastructure including wastewater treatment facilities, permanent access roads, laydown and borrow areas.

The vegetation will be cleared using a dozer. The vegetation and topsoil will be stockpiled separately for use in rehabilitation.

**Vegetation Condition**

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

To:

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

**Comment**

The application areas are located in the Hamersley subregion of Western Australia and are situated approximately 54 kilometres north-west of the Newman town site (GIS Database).

The vegetation condition was derived from a vegetation survey conducted by ENV Australia (2010a; 2010b).

## 3. Assessment of application against clearing principles

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

**Comments**

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

The application areas occur within the Hamersley (PIL3) subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by Mulga low woodlands over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002).

The vegetation within the application areas consist of Beard vegetation associations 18 and 82, which are common and widespread throughout the Pilbara bioregion with approximately 100% of the pre-European vegetation extent remaining (Shepherd, 2009; GIS Database). A search of the Department of Environment and Conservation Declared Rare and Priority Flora databases revealed that no Declared Rare Flora (DRF) species and six Priority species may potentially occur within a 20 kilometre radius of the application areas (DEC, 2011). ENV Australia (2010a; 2010b) identified no DRF or Priority flora species within the application areas. A vegetation survey by ENV Australia (2010a; 2010b) during 2009 of the application areas and surrounding vegetation identified 588 species of flora taxa. ENV Australia (2010a) identified six vegetation communities within the application areas using a primary vegetation survey of the application areas by ENV Australia (2010b) and a supporting flora survey by Onshore (2011). The condition of these vegetation types were classified from 'degraded' to 'excellent' (Keighery, 1994).

No Threatened Ecological Communities or Priority Ecological Communities were recorded or identified within the application area (GIS Database).

Five weed species were identified during the survey: Ulcardo melon (*Cucumis melo* subsp. *agrestis*), Spiked Malvastrum (*Malvastrum americanum*), Pig Weed (*Portulaca oleracea*), Bipinnate Beggartick (*Bidens bipinnata*) and Buffel Grass (*Cenchrus ciliaris*) (ENV Australia, 2010a; 2010b). None of these species are listed by the Western Australian Department of Agriculture and Food as Declared Plants. Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

The fauna habitats within the application area are considered to be common and widespread within the subregion and faunal assemblages are unlikely to be different to that found in similar habitat located elsewhere in the region (ENV Australia, 2010c). Several habitat types are of high ecological significance however the clearing of 125 hectares of native vegetation within a 538.21 hectare application area is unlikely to have a significant impact in a regional and local context.

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

**Methodology**

CALM (2002)
DEC (2011)
ENV Australia (2010a)
ENV Australia (2010b)
ENV Australia (2010c)
Keighery (1994)
Onshore (2011)
Shepherd (2009)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation
- Threatened Ecological Sites Buffered

**(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**

There were six broad fauna habitat types occurring within the survey area as recorded by ENV Australia (2010c);

1. Hill crests and slopes;
2. Drainage lines;
3. Lower slopes and plains;
4. Floodplains;
5. Riverines; and
6. Gorges.

ENV Australia (2010c) identified the vegetation condition to be 'very good' (Keighery, 1994). The landforms and habitat found within the application areas are considered as being well represented in the Pilbara bioregion (ENV Australia, 2010c; BHP Billiton Iron Ore Pty Ltd, 2011). The application areas do contain habitats or faunal assemblages that are ecologically significant, but it is unlikely that any species of conservation significance will be significantly impacted by the clearing of native vegetation in the application areas. The 125 hectares of native vegetation proposed for clearing is not likely to contain significant habitat for conservation significant fauna that may exist the subregion.

There is approximately 100% of the pre-European vegetation remaining within the Pilbara bioregion (Shepherd, 2009; GIS Database). Given the extent of the native vegetation remaining in the local area and bioregion, the vegetation to be cleared does not represent a significant ecological link.

ENV Australia (2010c) conducted a level one fauna survey of the application areas during March 2008. ENV Australia (2010c) recorded four species of conservation significance within the application areas. Three of these species; the Australian Bustard (*Ardeotis australis*), Western Pebble-mound Mouse (*Pseudomys chapmani*) and Ghost Bat (*Macroderma gigas*) may use the study area for foraging as part of a larger territory area. The habitat present within the application areas is not considered significant habitat for these species (ENV Australia, 2010c; BHP Billiton Iron Ore Pty Ltd, 2011).

A record of the Pilbara leaf-nosed Bat (*Rhinonicteris aurantia*) has been recorded in the application areas, however this species is generally sparsely distributed and requires deep caves or disused mine shafts in which to roost. No suitable roosting habitat occurs within the application areas, however this species may utilise the application areas for foraging (ENV Australia, 2010c; BHP Billiton Iron Ore Pty Ltd, 2011).

The Northern Quoll (*Dasyurus hallucatus*) has previously been recorded from the Hope Downs Mine area, however no Northern Quolls have been recorded in the vicinity of the application areas and surrounding. Despite targeted trapping by ENV Australia (2010c), no Northern Quolls were recorded possibly due to lack of core habitat in the application areas. This species is not considered to have significant populations in the application areas.

The proposed clearing of 125 hectares of native vegetation within a 538.21 hectare application area is not likely to impact critical feeding or breeding habitat for any conservation significant fauna species as the application areas do not contain significant habitat for the potential species. The recorded conservation significant species are considered highly mobile and/or have a wide distribution, therefore the proposed clearing is unlikely to significantly impact these species (ENV Australia, 2010c; BHP Billiton Iron Ore Pty Ltd, 2011).

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

**Methodology**

BHP Billiton Iron Ore Pty Ltd (2011)
DEC (2011)
ENV Australia (2010c)
Keighery (1994)
Shepherd (2009)
GIS Database:
- Pre-European Vegetation
- IBRA WA (regions - subregions)

**(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 databases, there are no records of Declared Rare Flora (DRF) within the application areas (GIS Database). A search of the Department of Environment and Conservation Declared Rare and Priority Flora databases identified no DRF species as occurring within a 20 kilometre radius of the application areas (DEC, 2011).

ENV Australia (2010a; 2010b) conducted a vegetation and flora survey of the application areas during 2009. No DRF were recorded within the survey area.

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

**Methodology** DEC (2011)
ENV Australia (2010a)
ENV Australia (2010b)
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 the available databases shows that there are no Threatened Ecological Communities situated within 100 kilometres of the application areas (GIS Database).

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 areas fall within the Pilbara IBRA bioregion (GIS Database). The vegetation within the application areas is recorded as:
**Beard vegetation association 18:** Low woodland; mulga (*Acacia aneura*); and
**Beard vegetation association 82:** Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database; Shepherd, 2009).

According to Shepherd (2009), Beard vegetation associations 18 and 82 retain approximately 100**%** of their pre-European extent. Therefore, the areas proposed to be cleared are not a significant remnant of native vegetation in an area that has been extensively cleared.

| | Pre-European area (ha)* | Current extent (ha)* | Remaining %* | Conservation Status** | Pre-European % in IUCN Class I-IV Reserves |
|---|---|---|---|---|---|
| IBRA Bioregion - Pilbara | 17,804,193.01 | 17,785,000.82 | ~99.98 | Least Concern | 6.32 |
| Beard vegetation associations - State | | | | | |
| 18 | 19,890,663.25 | 19,889,916.06 | ~99.99 | Least Concern | 2.13 |
| 82 | 2,565,901.28 | 2,565,901.28 | ~100 | Least Concern | 10.24 |
| Beard vegetation associations - Bioregion | | | | | |
| 18 | 676,556.72 | 676,556.72 | ~100 | Least Concern | 2.13 |
| 82 | 2,563,583.23 | 2,563,583.23 | ~100 | Least Concern | 10.25 |

* Shepherd (2009)
** 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 (2009)
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 not likely to be at variance to this Principle**

According to available databases there are several ephemeral drainage lines which intersect through the application areas (GIS Database). These drainage lines are small and intermittent, and only flow after major rainfall events (BHP Billiton Iron Ore Pty Ltd, 2011).

Based on vegetation mapping by ENV Australia (2010a; 2010b), there are two vegetation types associated with the drainage lines;

1. Open hummock grassland of *Triodia pungens* and *Triodia longiceps* with low open woodland of *Eucalyptus victrix*, *Eucalyptus cerothermica* and *Eucalyptus camaldulensis* subsp. *refulgens* with high shrubland of *Acacia aneura, Acacia pyrifolia* and *Petalostylis labicheoides* on alluvial red-brown clay loam on floodplains/drainage lines; and

2. Hummock grassland of *Triodia wiseana and Triodia pungens* with shrubland of *Petalostylis labicheoides, Acacia aneura* and *Acacia pruinocarpa* with low open woodland of *Eucalyptus xerothermica, Corymbia hamersleyana* and *Eucalyptus leucophloia* subsp. *leucophloia* on red-brown loam on drainage lines/floodplains.

The condition of these vegetation assemblages associated with these drainage channels is 'good' (Keighery, 1994) and they are well represented within the Pilbara bioregion (BHP Billiton Iron Ore Pty Ltd, 2011; ENV Australia 2010a; 2010b).

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

**Methodology**

BHP Billiton Iron Ore Pty Ltd (2011)
ENV Australia (2010a)
ENV Australia (2010b)
GIS Database:
- Geodata, Lakes
- Hydrography, Linear

**(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**

According to available databases, the application areas are comprised of the Platform land system (GIS Database). This land system is characterised by dissect slopes and raised plains supporting hard spinifex glasses. Vegetation on this system is not suitable for pasture or grazing and is not susceptible to erosion (van Vreeswyk et al., 2004).

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

**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 areas are not located within any conservation area (GIS Database). The nearest conservation area is Karijini National Park, located approximately 73 kilometres west of the application areas (GIS Database).

Given the distance of the application areas from Karijini National Park, the proposed clearing is not likely to provide a significant ecological linkage or fauna movement corridor and is not likely to impact the environmental values of the conservation area.

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**

The application areas are located within the proclaimed Pilbara groundwater area under the *Rights in Water*

*and Irrigation Act 1994* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water.

There are several ephemeral watercourses passing through the application areas which only support surface water for short periods following significant rainfall events (GIS Database; ENV Australia, 2010a). The proposed clearing is not likely to cause deterioration in the quality of any surface water within or outside of the application areas.

The application areas lie within a low rainfall zone and any surface water within the application area is likely to only remain for short periods following significant rainfall events (BoM, 2011). The proposed clearing is not likely to cause deterioration in the quality of any surface water within or outside of the application areas.

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

**Methodology**

BoM (2011)
ENV Australia (2010a)
GIS Database:
- Geodata, Lakes
- RIWI Act, Groundwater Areas
- Hydrography, Linear
- Public Drinking Water Source 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 areas experience a semi-desert tropical climate with summer cyclonic or thunderstorm rainfall, with an annual average rainfall of approximately 312.7 millimetres per year (CALM, 2002; BoM, 2011). Based on an average annual evaporation rate of 3,200- 3,600 millimetres (BoM, 2011), any surface water resulting from rainfall events is likely to be relatively short lived.

Given the size of the area to be cleared (125 hectares) compared to the size of the Fortescue River catchment area (2,975,192 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate the incidence or intensity of flooding.

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

**Methodology**

BoM (2011)
CALM (2002)
GIS Database:
- Hydrographic Catchments - Catchments
- Hydrography, Linear

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

**Comments**

This proposal is for the construction of an accommodation camp which will service the Jinidi Iron Ore Mine, a project which is currently under assessment by the Office of the Environmental Protection Authority (EPA). Under section 51F(1) of the *Environmental Protection Act (1986) (EP Act)* the Department of Mines and Petroleum is prevented from making a decision on an application for a clearing permit that is related to a proposal currently under assessment by the EPA, for which it is constrained under section 41 of the EP Act. However, the EPA has advised that the accommodation camp is located outside of the area currently under assessment by the EPA and that there is no impediment to the accommodation camp being constructed.

There is one Native Title claim over the areas under application (WC05/6). 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 is one registered Aboriginal Sites of Significance within the application areas (Site ID 23508) (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.

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 1 August 2011 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 - Registered with the NNTT

## 4. References


BHP Billiton Iron Ore Pty Ltd (2011) Jinidi Accommodation Village, Native Vegetation Clearing (Purpose Permit) Application - Supporting Documentation, Prepared July 2011.

BoM (2011) Climate Statistics for Australian Locations. A Search for Climate Statistics for Newman Aero, Australian Government Bureau of Meteorology, viewed 8 September 2011, <http://reg.bom.gov.au/climate/averages/tables/cw_007176.shtml>.

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.

DEC (2011) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 8 September 2011, <http://naturemap.dec.wa.gov.au>.

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.

ENV Australia (2010a) Jinayri Lease Flora and Vegetation Survey. Report prepared by ENV Australia Pty Ltd for BHP Billiton Iron Ore Pty Ltd, August 2010.

ENV Australia (2010b) Jinayri Access Road Flora and Vegetation Survey. Report prepared by ENV Australia Pty Ltd for BHP Billiton Iron Ore Pty Ltd, August 2010.

ENV Australia (2010c) Jinayri Mining Lease Vertebrate Fauna Survey, Report prepared by ENV Australia Pty Ltd for BHP Billiton Iron Ore Pty Ltd, February 2010.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Onshore (2011) Jinidi Project Flora and Vegetation Impact Assessment Report. Unpublished report prepared for BHP Billiton Iron Ore Pty Ltd.

Shepherd, D.P. (2009) 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., Leighton, K.A & Hennig, P. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia, Department of Agriculture, Western Australia.


## 5. Glossary

### Acronyms:

| | |
|---|---|
| **BoM** | Bureau of Meteorology, Australian Government |
| **CALM** | Department of Conservation and Land Management (now DEC), Western Australia |
| **DAFWA** | Department of Agriculture and Food, Western Australia |
| **DEC** | Department of Environment and Conservation, Western Australia |
| **DEH** | Department of Environment and Heritage (federal based in Canberra) previously Environment Australia |
| **DEP** | Department of Environment Protection (now DEC), Western Australia |
| **DIA** | Department of Indigenous Affairs |
| **DLI** | Department of Land Information, Western Australia |
| **DMP** | Department of Mines and Petroleum, Western Australia |
| **DoE** | Department of Environment (now DEC), Western Australia |
| **DoIR** | Department of Industry and Resources (now DMP), Western Australia |
| **DOLA** | Department of Land Administration, Western Australia |
| **DoW** | Department of Water |
| **EP Act** | Environmental Protection Act 1986, Western Australia |
| **EPBC Act** | Environment Protection and Biodiversity Conservation Act 1999 (Federal Act) |
| **GIS** | Geographical Information System |
| **ha** | Hectare (10,000 square metres) |
| **IBRA** | Interim Biogeographic Regionalisation for Australia |
| **IUCN** | International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union |
| **RIWI Act** | Rights in Water and Irrigation Act 1914, Western Australia |
| **s.17** | Section 17 of the Environment Protection Act 1986, Western Australia |
| **TEC** | Threatened Ecological Community |

### 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.