

## **Clearing Permit Decision Report**

1. Application details					
1.1. Permit application Permit application No.: Permit type:	on details 4352/1 Purpose Permit				
1.2. Proponent deta Proponent's name:	Hamersley Iron Pty Ltd				
1.3. Property details Property: Local Government Area: Colloquial name:	<i>Iron Ore (Yandicoogina) Agreement Act 1996</i> , Mining Lease 274SA (AM 70/274) Shire of East Pilbara Yandicoogina Workshop Excavations				
1.4.ApplicationClearing Area (ha)3	No. TreesMethod of ClearingFor the purpose of:Mechanical RemovalState Agreement				
1.5. Decision on application:       Grant         Decision Date:       7 July 2011					
2. Site Information					
2.1. Existing enviro	ment and information				
2.1.1. Description of th	e native vegetation under application				
Vegetation Description	Beard vegetation associations have been mapped for the whole of Western Australia. One Beard vegetation association has been mapped within the application area (GIS Database; Shepherd, 2009):				
	82: Hummock grasslands, low tree steppe; snappy gum over Triodia wiseana.				
	The application area was surveyed by E.M. Mattiske and Associates (1995) in 1994 and 1995. The following three vegetation types were identified within the application area:				
	2c: Woodland of Eucalyptus xerothermica, Acacia aneura, Acacia citrinoviridis;				
	Immock grassland of <i>Triodia pungens – Triodia</i> spp. with emergent <i>Eucalyptus xerothermica</i> Acacia spp.; and				
	5I: Hummock grassland of <i>Triodia basedowii</i> with emergent <i>Eucalyptus leucophloia, Eucalyptus gamophylla</i> and dense shrub layer of <i>Acacia</i> spp.				
Clearing Description	Hamersley Iron Pty Ltd is proposing to clear up to 3 hectares of native vegetation for the purpose of building and infrastructure construction.				
	Clearing will be done using a dozer with blade down techniques. Vegetation will be stockpiled and used in rehabilitation (Hamersley Iron Pty Ltd, 2011).				
Vegetation Condition	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994);				
	То				
	bood: Structure significantly altered by multiple disturbances; retains basic structure/ability to egenerate (Keighery, 1994).				
Comment	The application area is located in the Pilbara region of Western Australia and is situated approximately 83 kilometres 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. Comments Proposal is not likely to be at variance to this Principle The application area occurs within the Hamersley (PIL3) subregion of the Pilbara Interim Biogeographic Regionalisation for 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 Eucalyptus leucophloia over Triodia brizoides on skeletal soils of the ranges (CALM, 2002). A total of 373 plant taxa from 57 plant families have been recorded within the Yandicoogina Junction area (E.M. Mattiske and Associates, 1995). According to E.M. Mattiske and Associates (1995), the Yandicoogina Junction area is considered not to have higher flora diversity than other nearby areas, including the Hamersley Ranges. No Priority Flora species were recorded within the application area during flora and vegetation surveys conducted by E.M. Mattiske and Associates (1995). Additionally, available databases do not show any known records of Priority Flora species within the application area (DEC, 2011; GIS Database). No weed species were recorded within the application area during a vegetation survey conducted by E.M. Mattiske and Associates (1995). 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 can in turn lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition. According to Rio Tinto (2011), one broad fauna habitat was identified within the application area: Flats supporting Spinifex (Triodia) hummock grasslands with emergent Eucalyptus and Acacia species (Rio Tinto, 2011). A NatureMap search over the Mining Lease revealed a total of 130 fauna taxa (DEC, 2011). The majority of Mining Lease AM 70/274 consists of low hills, gullies and perennial watercourses. It is likely that the majority of the 130 fauna taxa recorded within the Mining Lease would utilise the surrounding habitats rather than the Spinifex flats recorded within the application area. It is therefore unlikely that the proposed clearing will impact on faunal diversity. Based on the above, the proposed clearing is not likely to be at variance to this Principle. Methodology CALM (2002) DEC (2011) E.M. Mattiske and Associates (1995) Rio Tinto (2011) GIS Database: - Declared Rare and Priority Flora List - IBRA WA (regions - subregions) (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. Proposal is not likely to be at variance to this Principle Comments According to Rio Tinto (2011) the application area consists of a single, broad habitat: - Flats supporting Spinifex (Triodia) hummock grasslands with emergent Eucalyptus and Acacia species (Rio Tinto, 2011). A search of NatureMap by the assessing officer found records of following three conservation significant species within Mining Lease AM 70/274 (DEC, 2011): - Olive Python (Liasis olivaceus subsp. barroni) - Threatened. Preferred habitat of escarpments, gorges and waterholes (Department of Sustainability, Environment, Water, Population and Communities, 2011); - Australian Bustard (Ardeotis australis) - Priority 4. Preferred habitat of open country, preferring grasslands, low shrublands and grassy woodlands (Department of Natural Resources, Environment and the Arts, 2006); and - Western Pebble-mound Mouse (Pseudomys chapmani) - Priority 4. Preferred habitat of rocky hummock grasslands with little or no soil. Most common on the spurs and lower ridges of slopes (Environment Australia, 1995). Given the preferred habitats for both the Olive Python and the Western Pebble-mound Mouse are not present within the application area it is considered unlikely that the area to be cleared represents significant habitat for these species.

	The preferred habitat for the Australian Bustard is present within the application area, however, the vegetation associations present within the application area are common throughout the Pilbara. It is therefore unlikely that the area to be cleared represent significant habitat for this species.			
	Based on the above, the proposed clearing is not likely to be at variance to this Principle.			
Methodology	DEC (2011) Department of Natural Resources, Environment and the Arts (2006) Department of Sustainability, Environment, Water, Population and Communities (1995) Environment Australia (1995) Rio Tinto (2011) Shepherd (2009)			
(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.				
Comments	<b>Proposal is not likely to be at variance to this Principle</b> According to available GIS Databases, there are no known records of Declared Rare Flora (DRF) within the application area (GIS Database). One DRF species, <i>Lepidium catapycnon</i> , has been recorded approximately 1 kilometre south of the application area (GIS Database). According to Florabase this species is found on hill slopes (Western Australian Herbarium, 2011). According to available databases the records of this species near the application area also occur on hill slopes (GIS Database). The application area is on flat land and it is therefore unlikely that the proposed clearing will impact the conservation of this species.			
	A flora survey was conducted by E.M. Mattiske and Associates (1995) in January and March 1994 and then again in February 1995. No DRF taxa were recorded within the application area during these surveys (E.M. Mattiske and Associates, 1995).			
	Based on the above, the proposed clearing is not likely to be at variance to this Principle.			
Methodology	E.M. Mattiske and Associates (1995) Western Australian Herbarium (2011) GIS Database: - Declared Rare and Priority Flora List - Weeli Wolli 50cm Orthomosaic – Landgate 2004 (image)			
(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.				
(d) Native mainter	vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the nance of a threatened ecological community.			
(d) Native mainter Comments	<ul> <li>vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the nance of a threatened ecological community.</li> <li>Proposal is not likely to be at variance to this Principle.</li> <li>There are no known Threatened Ecological Communities (TEC's) within the application area (GIS Database).</li> <li>The nearest TEC is approximately 75 kilometres south east of the application area. At this distance it is not likely that the proposed clearing will impact on this TEC.</li> </ul>			
(d) Native mainter	<ul> <li>vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the nance of a threatened ecological community.</li> <li>Proposal is not likely to be at variance to this Principle.</li> <li>There are no known Threatened Ecological Communities (TEC's) within the application area (GIS Database). The nearest TEC is approximately 75 kilometres south east of the application area. At this distance it is not likely that the proposed clearing will impact on this TEC.</li> <li>Based on the above, the proposed clearing is not likely to be at variance to this Principle.</li> </ul>			
(d) Native mainter Comments Methodology	<ul> <li>vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the nance of a threatened ecological community.</li> <li>Proposal is not likely to be at variance to this Principle.</li> <li>There are no known Threatened Ecological Communities (TEC's) within the application area (GIS Database). The nearest TEC is approximately 75 kilometres south east of the application area. At this distance it is not likely that the proposed clearing will impact on this TEC.</li> <li>Based on the above, the proposed clearing is not likely to be at variance to this Principle.</li> <li>GIS Database:</li> <li>Threatened Ecological Sites Buffered</li> </ul>			
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<ul> <li>(d) Native mainten</li> <li>Comments</li> <li>Methodology</li> <li>(e) Native mathematical structure mathematica</li></ul>	<ul> <li>vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the nance of a threatened ecological community.</li> <li>Proposal is not likely to be at variance to this Principle.</li> <li>There are no known Threatened Ecological Communities (TEC's) within the application area (GIS Database). The nearest TEC is approximately 75 kilometres south east of the application area. At this distance it is not likely that the proposed clearing will impact on this TEC.</li> <li>Based on the above, the proposed clearing is not likely to be at variance to this Principle.</li> <li>GIS Database:     <ul> <li>Threatened Ecological Sites Buffered</li> </ul> </li> <li>vegetation should not be cleared if it is significant as a remnant of native vegetation in an area s been extensively cleared.</li> <li>Proposal is not at variance to this Principle</li> <li>The application area is located within the Pilbara Interim Biogeographical Regionalisation for Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 99.89% of the pre-European vegetation remains in the Pilbara bioregion.</li> <li>The vegetation within the application area is broadly mapped as Beard vegetation association:</li> </ul>			
<ul> <li>(d) Native mainter</li> <li>Comments</li> <li>Methodology</li> <li>(e) Native that has</li> <li>Comments</li> </ul>	<ul> <li>vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the nance of a threatened ecological community.</li> <li>Proposal is not likely to be at variance to this Principle. There are no known Threatened Ecological Communities (TEC's) within the application area (GIS Database). The nearest TEC is approximately 75 kilometres south east of the application area. At this distance it is not likely that the proposed clearing will impact on this TEC. Based on the above, the proposed clearing is not likely to be at variance to this Principle. GIS Database: <ul> <li>Threatened Ecological Sites Buffered</li> </ul> </li> <li>vegetation should not be cleared if it is significant as a remnant of native vegetation in an area s been extensively cleared. Proposal is not at variance to this Principle The application area is located within the Pilbara Interim Biogeographical Regionalisation for Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 99.89% of the pre-European vegetation remains in the Pilbara bioregion. The vegetation within the application area is broadly mapped as Beard vegetation association: 82: Hummock grasslands, low tree steppe; snappy gum over <i>Triodia wiseana</i> (GIS Database; Shepherd, 2009).</li></ul>			
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	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,804,193	17,785,001	~99.89	Least Concern	~6.32
Beard vegetation associations - State					
82	2,565,901	2,565,901	~100	Least Concern	~10.24
Beard vegetation associations - Bioregion					
82	2,563,583	2,563,583	~100	Least Concern	~10.25

\* Shepherd (2009)

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

The vegetation under application is not a remnant of native vegetation in an area that has been extensively cleared.

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

Methodology Department of Natural Resoures 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 at variance to this Principle.

According to available GIS Databases, there are no permanent wetlands or watercourses within the application area, however there is a minor non-perennial watercourse within the application area (GIS Database).

A flora and vegetation survey was conducted over the application area by E.M. Mattiske and Associates (1995). This survey identified one vegetation community associated with minor non-perennial watercourses:

2c: Woodland of *Eucalyptus xerothermica*, *Acacia aneura – Acacia citrinoviridis*, occurring on the major flowlines which are found in the Yandicoogina Junction area.

Minor non-perennial watercourses are common within the Pilbara bioregion and it is unlikely that the proposed clearing of 3 hectares of native vegetation will have any significant environmental impacts on the vegetation growing in association with these minor non-perennial watercourses.

Based on the above, the proposed clearing is at variance to this Principle.

Methodology E.M. Mattiske and Associates (1995)

- Hydrography, linear

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

#### Comments Proposal may 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 lies within the Newman and River land systems (GIS Database).

The Newman land system is described as rugged jaspilite plateaux, ridges and mountains supporting hard Spinifex grasslands (Van Vreeswyk et al., 2004). This land system is not susceptible to erosion.

The River land system is described as active floodplains and major rivers supporting grassy eucalypt woodlands, tussock grasslands and soft Spinifex grasslands. This land system is highly susceptible to erosion if vegetation cover is removed (Van Vreeswyk et al., 2004). Potential impacts from erosion as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

Based on the above, the proposed clearing may be at variance to this Principle.

GIS Database:

Methodology	Van Vreeswyk et al. (2004) GIS Database: - Rangeland Land System Mapping				
(h) Native v the env	(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	<b>Proposal is not likely to be at variance to this Principle</b> The proposed clearing is not located within a conservation reserve (GIS Database). The nearest known conservation reserve is Karijini National Park, located approximately 65 kilometres west of the application area (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 v in the q	(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	<b>Proposal is not likely to be at variance to this Principle</b> The application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).				
	The groundwater salinity within the application area is approximately 500 – 1000 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 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 313.7 millimetres recorded from the nearest weather station at Newman Aero approximately 83 kilometres south east of the application area (BoM, 2011; 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 (2011) CALM (2002) GIS Database: - Groundwater Provinces - Groundwater Salinity, statewide - Public Drinking Water Source Area (PDWSA)				
(j) Native v inciden	vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the ce or intensity of flooding.				
Comments	<b>Proposal is not likely to be at variance to this Principle</b> The application area experiences a semi-desert, tropical climate with an average annual rainfall of approximately 313.7 millimetres recorded from the nearest weather station at Newman Aero approximately 83 kilometres south east of the application area (BoM, 2011; CALM, 2002).				
	Rainfall is usually experienced during summer months and can be either cyclonic or through 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 hectares) is unlikely to significantly alter the intensity of the flooding within the application area and surrounding areas.				
	The application area is located within the Fortescue River-Upper catchment area (GIS Database). However, the size of the area to be cleared (3 hectares) in relation to the size of the Fortescue River-Upper catchment area (2,975,192 hectares) 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 (2011) CALM (2002) GIS Database: - Hydrographic Catchments – Catchments				

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

#### Comments

There are four Native Title Claims over the area under application (WC10/15, WC10/17, WC96/61 and WC98/62). 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 are (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 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 23 May 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 Determined by the Federal Court
- Native Title Claims Registered with the NNTT

#### 4. References

BoM (2011) BoM Website - Climate Averages by Number, Averages for Newman

- Aero.www.bom.gov.au/climate/averages/tables/cw\_002038.shtml (Accessed 27 June 2011).
- DEC (2011) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. URL: http://naturemap.dec.wa.gov.au/. Accessed 28 June 2011.
- Department of Conservation and Land Management (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions.
- 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.
- Department of Natural Resources, Environment and the Arts (2006) Threatened Species of the Northern Territory Australian Bustard, *Ardeotis australis*.
- http://www.nt.gov.au/nreta/wildlife/animals/threatened/pdf/birds/australian\_bustard\_vu.pdf Accessed 28 June 2011. Department of Sustainability, Environment, Water, Population and Communities (2011). Liasis olivaceus barroni in Species
  - Profile and Threats Database, Department of Sustainability, Environment, Water, Population and Communities, Canberra. Available from: http://www.environment.gov.au/sprat. Accessed Tue, 28 Jun 2011.
- E.M. Mattiske and Associates (1995) Flora and Vegetation Yandicoogina Junction Area. Western Australia.

Environment Australia (1995) Recovery outlines for Rare and Insufficiently Known Australian Rodents.

http://www.environment.gov.au/biodiversity/threatened/publications/action/rodents/rodap5.html. Accessed 28 June 2011.

Hamersley Iron Pty Ltd (2011) Application for a Clearing Permit (Purpose Permit) Building Construction and Infrastructure - ML 274SA. Supporting Documentation, May 2011.

- 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 (2011) Statement Addressing the 10 Clearing Principle Workshop at Yandicoogina. Western Australia

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., Hennig, P., and Leighton, K.A. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia, Department of Agriculture, Western Australia.
- Western Australian Herbarium (2011) FloraBase The Western Australian Flora. Department of Environment and Conservation. http://florabase.dec.wa.gov.au/ (Accessed 28 June 2011).

#### 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 Indigenous Affairs
DMP	Department of Land Information, Western Australia
DoE	Department of Kines and Petroleum, Western Australia
DOIR	Department of Mines and Petroleum, Western Australia
DOLA	Department of Environment (now DEC), Western Australia
DOUR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DOV	Department of Vater
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 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 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 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 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.