



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 4582/1  
 Permit type: Purpose Permit

### 1.2. Proponent details

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

### 1.3. Property details

Property: Miscellaneous Licence 45/194  
 Local Government Area: Town of Port Hedland  
 Colloquial name: Ore Car Repair Shop Project

### 1.4. Application

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

### 1.5. Decision on application

Decision on Permit Application: Grant  
 Decision Date: 13 October 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. Two Beard vegetation associations have been mapped within the application area (GIS Database; Shepherd, 2009):

93: Hummock grasslands, shrub steppe; kanji over soft spinifex; and

647: Hummock grasslands, dwarf-shrub steppe; *Acacia translucens* over soft spinifex.

A flora and vegetation survey of the application area conducted by Maia (2010) in August 2010 identified the following four vegetation associations within the application area:

- Hummock Grassland of *Triodia epactia* and *Triodia lanigera* with an Open Shrubland of *Acacia inaequilatera*, *Acacia ancistrocarpa* and *Acacia stellaticeps* with +/- Scattered Low Trees of *Corymbia hamersleyana* on Plains;

- Hummock Grassland of *Triodia secunda* on Low Lying Seasonally inundated areas;

- High Shrubland of *Acacia tumida* var. *pilbarensis* and *Acacia coleii* var. *coleii* with a Low Open Shrubland of *Hybanthus aurantiacus* with Very Open Hummock Grassland of *Triodia epactia* on Flood Plains and at the base of Granite Domes and Tors; and

- Low Open Woodland of *Corymbia candida* subsp. *lautifolia* with High Shrubland of *Acacia tumida* var. *pilbarensis* and *Acacia coleii* var. *coleii* with Open Tussock Grassland of *Eulalia aurea* and *Cenchrus ciliaris* on Major Flow Lines.

**Clearing Description** BHP Billiton Iron Ore Pty Ltd is proposing to clear up to 70 hectares of native vegetation within a broader boundary of 2,107 hectares for the purpose of undertaking geotechnical investigations.

Clearing will be conducted using mechanical means.

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

To

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

**Comment** The application area is located within the Pilbara region of Western Australia and is situated approximately 17 kilometres south of Port Hedland.

### 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 may be at variance to this Principle**

The proposed clearing is located approximately 17 kilometres south of Port Hedland in the Chichester subregion of the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). At a broad scale, vegetation can be described as Undulating Archaean granite and basalt plains including significant areas of basaltic ranges (CALM, 2002). The plains support a shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* hummock grasslands, while *Eucalyptus leucophloia* tree steppe occurs on the ranges (CALM, 2002).

A flora and vegetation survey of the application area was conducted by Maia (2010) in August 2010. A total of 170 flora taxa from 37 families and 92 genera were recorded within the application area (Maia, 2010). This is considered to be consistent with other surveys previously conducted nearby to the application area (Maia, 2010).

Eight introduced taxa, *Aerva javanica*, *Cenchrus ciliaris*, *Cenchrus setiger*, *Citrullus colocynthis*, *Echinochloa colona*, *Malvastrum americanum*, *Stylosanthes hamata* and *Portulaca oleracea*, were recorded within the application area during the flora and vegetation survey conducted by Maia (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 can in turn lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. None of these species are listed as 'Declared Plant' species under the *Agriculture and Related Resources Protection Act 1976* by the Department of Agriculture and Food. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

There are no known Priority Ecological Communities (PEC's) within the application area (GIS Database). The nearest known PEC is approximately 79 kilometres east of the application area (GIS Database). At this distance, there is little likelihood of any impact to the PEC as a result of the proposed clearing.

One Priority 1 flora species, *Heliotropium muticum*, was recorded during a flora and vegetation survey of the application area conducted by Maia (2010) in August 2010. This species was recorded at 13 locations within the application area with a total of 15 individuals being recorded (Maia, 2010). This species is known from seven locations on Florabase however surveys carried out for other mining companies have recorded further populations of this species, therefore suggesting this species may be more common than Florabase indicates (Western Australian Herbarium, 2011; Maia, 2010). BHP Billiton Iron Ore Pty Ltd (referred to as BHP BIO from here on) (2011) has indicated that this species will be avoided during the clearing. Potential impacts to this species may be mitigated by the implementation of a flora management condition.

A two part fauna survey of the application area conducted by Biologic (2010) recorded a total of 72 vertebrate fauna taxa, comprised of 17 mammal, 40 bird and 15 reptile species. Within the application area there were six species of conservation significance recorded, including the *Environmental Protection and Biodiversity Conservation Act 1999* listed Northern Quoll (*Dasyurus hallucatus*) (Biologic, 2010). There were seven natural and two artificial habitats identified within the application area, four of which were considered to be of 'high significance' due to their potential to support conservation significant fauna (Biologic, 2010). All of the habitats within the application area are well represented across the Pilbara bioregion, however, the presence of the Northern Quoll represents an important biodiversity value.

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

**Methodology** BHP BIO (2011)  
Biologic (2010)  
CALM (2002)  
Maia (2010)  
Western Australian Herbarium (2011)  
GIS Database:  
- IBRA WA (regions – subregions)  
- 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 may be at variance to this Principle**

A two part fauna survey was conducted over the application area by Biologic (2010) in July 2010 and then in November 2010. This survey identified the following seven natural habitat types and two artificial habitat types within the application area (Biologic, 2010):

- Sandy Plains with spinifex hummock grasslands and mixed *Acacia* shrublands;
- Stony Plains with open shrubland of *Acacia inaequilatera* and Spinifex hummock grasslands;
- Bore Creek: a drainage line supporting scattered *Corymbia* sp. and fringing mixed *Acacia* shrubland;
- Granite Outcrops: containing boulder piles, seasonal gnamma holes, moist depressions and fringing *Acacia* thickets;
- Rocky Ridges: a series of linear Quartz ridges extend north to south on the eastern and western margins of the survey area;
- Low Lying drainage depressions: supporting Spinifex grassland with seasonal small waterholes on sandy clay loam;
- Occasional minor rocky outcrops (including Quartz, Calcrete, Silcrete) occurring within the sandy and stony plains;
- Quarry 1; and
- Artificial Rock Piles along the Rail Access Track.

A total of six conservation significant fauna species were recorded in the application area during fauna surveys conducted by Biologic (2010) in July and November (2010):

- Australian bustard (*Ardeotis australis*) Priority 4 – tracks of this species were found throughout the application area therefore indicating it is a regular visitor. This species is nomadic and may roam over very large areas;
- Bush Stone-curlew (*Burhinus grallarius*) Priority 4 – two individuals and numerous tracks of this species recorded within the application area, mostly within the bed of Bore Creek, particularly near small, ephemeral pools of water. The application area may form a component of the home range of one or several breeding pairs, BHP BIO (2011) have committed to avoiding the creekline therefore rendering it unlikely that the conservation of this species will be impacted;
- Oriental Plover (*Charadrius veredus*) Migratory – this species is a non-breeding visitor to Australia occurring in both coastal and inland areas. Seven individuals were recorded within the application area, however, given the wide distribution of this species it is considered unlikely that the proposed clearing of 70 hectares of native vegetation will impact on the conservation of this species;
- Rainbow Bee-eater (*Merops ornatus*) Migratory – this species was recorded in Bore Creek within the application area, which BHP BIO (2011) have committed to avoiding. Additionally, this species is versatile in its selection of nest sites and the proposed clearing is considered unlikely to impact on its conservation;
- Northern Quoll (*Dasyurus hallucatus*) Schedule 1, Endangered – recorded at two locations within the application area. BHP BIO (2011) have committed to avoiding known Northern Quoll habitats by 50 metres. Potential impacts on the Northern Quoll will be managed under BHP BIO's Northern Quoll Management Plan developed for their rail expansion project in consultation with DEC. Should this management plan be adhered to then impacts on the Northern Quoll are not expected to be significant; and
- Western Pebble-mound Mouse (*Pseudomys chapmani*) Priority 4 – four inactive mounds and one active mound were recorded within the application area. The Western Pebble-mound Mouse is confined to, but common throughout the Pilbara. It is unlikely that the proposed clearing will impact the conservation of this species.

A further two conservation significant species are considered likely to reside within the application area (Biologic, 2010):

- Pilbara Olive Python (*Liasis olivaceus barroni*) Schedule 1, Vulnerable – suitable habitat for this species is present along Bore Creek. BHP BIO (2011) have committed to avoiding this creek, therefore rendering it unlikely that this species will be impacted by the proposed clearing;
- Woma (*Aspidites ramsayi*) Schedule 4 – occurs in the arid zones of Western Australia, favouring open myrtaceous heath on sandplains, and dunefields dominated by Spinifex (DEC, 2011). This habitat is uncommon within the application area and therefore the conservation of this species is unlikely to be impacted by the proposed clearing.

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

**Methodology** BHP BIO (2011)  
Biologic (2010)  
DEC (2011)

**(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**

No Declared Rare Flora (DRF) species are known to occur within the application area (GIS Database).

A flora and vegetation survey of the application area was conducted by Maia (2010) in August 2010. No DRF species were recorded during this survey (Maia, 2010).

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

**Methodology** GIS Database:  
- Threatened and Priority Flora

**(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**

There are no known records of Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest known TEC is approximately 181 kilometres south west of the application area (GIS Database). At this distance, there is little likelihood of any impact to the TEC as a result of 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 is located within the Pilbara Interim Biogeographic 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 has been broadly mapped as the following two Beard vegetation associations :

93: Hummock grasslands, shrub steppe; kanji over soft spinifex; and  
647: Hummock grasslands, dwarf shrub steppe: *Acacia translucens* over soft spinifex.

According to Shepherd (2009) approximately 100% of Beard vegetation associations 93 and 647 remain 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	17,804,193	17,785,000	~99.9	Least Concern	~6.3
Beard veg assoc. – State					
93	3,044,308	3,044,249	~100	Least Concern	~0.4
647	196,372	196,372	~100	Least Concern	n/a
Beard veg assoc. – Bioregion					
93	3,042,113	3,042,064	~100	Least Concern	~0.4
647	196,371	196,371	~100	Least Concern	n/a

\* Shepherd (2009)

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

The vegetation within the application is not considered to be 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 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**

There are no permanent wetlands or watercourses within the application area, however there is one ephemeral watercourse at the southern end of the application area (GIS Database).

A flora and vegetation survey conducted by Maia (2010) in August 2010 recorded one vegetation type

associated with an ephemeral watercourse at the southern end of the application area:

Low Open Woodland of *Corymbia candida* subsp. *lautifolia* with High Shrubland of *Acacia tumida* var. *pilbarensis* and *Acacia coleii* var. *coleii* with Open Tussock Grassland of *Eulalia aurea* and *Cenchrus ciliaris* on Major Flow Lines.

Heavy grazing and high weed infestation have reduced the conservation significance of this community to low (Maia, 2010). Additionally, BHP BIO (2011) have committed to avoiding this drainage line beyond the effects of the existing infrastructure.

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

**Methodology** BHP BIO (2011)  
Maia (2010)  
GIS Database:  
- 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**

The application area has been mapped as occurring on the Macroy and Uaroo land systems (GIS Database). Both of these land systems are generally not prone to erosion (Van Vreeswyk et al., 2004). The application area is relatively flat apart from some quartz ridges and granite outcrops (Biologic, 2010; GIS Database). BHP BIO (2010) has indicated that these areas will not be disturbed by the proposed clearing.

Given that none of the land systems are prone to erosion, the proposed clearing is not likely to cause appreciable land degradation.

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

**Methodology** BHP BIO (2010)  
Biologic (2010)  
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 proposed clearing is not located within a conservation reserve (GIS Database). The nearest onshore conservation reserve is the Mungaroo Range Nature Reserve, located approximately 90 kilometres south-south-west of the application area (GIS Database). At this distance it is unlikely that the proposed clearing will impact on the environmental values of any conservation areas.

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 is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The nearest PDWSA is the Turner River Water Reserve, located approximately 5.5 kilometres west of the application area (GIS Database). At this distance it is unlikely that the proposed clearing will impact on the quality of the Turner River Water Reserve.

The groundwater salinity within the application area is approximately 1,000 – 3,000 milligrams/Litre total Dissolved Solids (TDS) (GIS Database). Given the relatively small scale of the clearing (70 hectares) within the Pilbara Groundwater Province (5,557,665 hectares), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

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

**Methodology** GIS Database:  
- Groundwater Provinces  
- Groundwater Salinity, Statewide  
- Public Drinking Water Source Areas (PDWSAs)

**(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 313.6 millimetres and an average annual evaporation rate of 3,400 – 3,600 millimetres (BoM, 2011; CALM, 2002; GIS Database). During normal seasonal rainfalls it is likely there will be little surface flow. Whilst large rainfall events may result in the flooding of the area, the proposed clearing is not likely to lead to an increase in 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:  
- Evaporation Isopleths

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

**Comments**

There is one Native Title Claim (WC99/3) over the area under application (GIS Database). This claim has been registered with the 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 is one 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.

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 was advertised on 5 September 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) Rail Operations - Ore Car Repair Shop Geotechnical Investigation. Application to Clear Native Vegetation (Purpose Permit) Under the Environmental Protection Act 1986. Unpublished Report Dated August 2011.
- Biologic (2010) Mooka Siding, Level 1 / Targeted Fauna Survey Prepared for FAST JV. Unpublished Report Dated December 2010.
- BoM (2011) BoM Website - Climate Averages by Number, Averages for PORT HEDLAND AIRPORT. [www.bom.gov.au/climate/averages/tables.shtml](http://www.bom.gov.au/climate/averages/tables.shtml) (Accessed 27 September 2011)
- DEC (2011) Fauna Species Profiles - Woma Python. <http://www.dec.wa.gov.au/content/view/3432/1999/1/3/> accessed 5 October 2011.
- CALM (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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Maia (2010) BHPBIO Mooka Siding. Level One Flora and Vegetation Assessment. Unpublished Report Dated December 2010.
- 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 27/09/2011).

## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>CALM</b>	Department of Conservation and Land Management (now DEC), Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia
<b>DEH</b>	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
<b>DEP</b>	Department of Environment Protection (now DEC), 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 (now DEC), Western Australia
<b>DoIR</b>	Department of Industry and Resources (now DMP), Western Australia
<b>DOLA</b>	Department of Land Administration, Western Australia
<b>DoW</b>	Department of Water
<b>EP Act</b>	Environmental 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>ha</b>	Hectare (10,000 square metres)
<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 Act</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>TEC</b>	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.