



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3915/2
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Hamersley Iron Pty Ltd

1.3. Property details

Property: Iron Ore (Hamersley Range) Agreement Act 1963, Mineral Lease 4SA (AML 70/4)
Local Government Area: Shire of Ashburton
Colloquial name: Brockman 3 Evaluation Drilling Program

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 17 November 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. Three Beard vegetation associations have been mapped within the application area:

82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*;

175: Short bunch grassland - savanna/grass plain; and

567: Hummock grasslands, shrub steppe; mulga and kanji over soft spinifex and *Triodia basedowii* (GIS Database; Shepherd, 2009).

The application area was surveyed during June and July 2008 by Rio Tinto Iron Ore botanists (Rio Tinto, 2008). The following vegetation types were identified within the application area:

Slopes

1. Upper Stony Slope

Eucalyptus leucophloia and *Hakea lorea* low open forest over *Acacia maitlandii* and *Acacia sibirica* shrubland over *Triodia wiseana* hummock grassland.

2. Stony Slope

Eucalyptus leucophloia low woodland over *Acacia maitlandii*, *Acacia exilis* and *Acacia tenuissima* open shrubland over *Sida echinocarpa*, *Solanum sturtianum*, *Ptilotus obovatus* low open heath over *Triodia wiseana* very open hummock grassland.

3. Mid Slope

Eucalyptus leucophloia and *Corymbia ferritcola* low open forest over *Acacia synchronicia* high open shrubland over *Acacia maitlandii* and *Senna pruinosa* open shrubland over *Triodia wiseana* hummock grassland.

4. Mid Slope

Eucalyptus leucophloia and *Hakea lorea* low woodland over *Acacia maitlandii* open heath over *Triodia basedowii*, hummock grassland over *Eriachne mucronata* and *Paraneurachne muelleri* open tussock grassland.

5. Mid Slope

Eucalyptus leucophloia low open forest over *Acacia bivenosa*, *Acacia tenuissima*, *Senna glutinosa* open shrubland over *Triodia basedowii* and *Triodia wiseana* hummock grassland.

6. Lower Slope

Eucalyptus leucophloia and *Acacia aneura* low open woodland over *Sida* sp. spiciform panicles open shrubland over various very open herbs over *Triodia pungens* very open hummock grassland

7. Rolling Lower Slopes

Eucalyptus leucophloia, *Eucalyptus gamophylla* and *Hakea lorea* low woodland over *Acacia inaequilatera* high open shrubland over *Acacia bivenosa* and *Acacia atkinsiana* shrubland over *Gompholobium karijini* low open shrubland over *Triodia wiseana* and *Triodia bitextura* hummock grassland.

8. Stony Lower Slope

Eucalyptus leucophloia and *Hakea lorea* low open forest over *Acacia maitlandii*, *Senna pruinosa* and *Senna glutinosa* open heath over *Triodia wiseana* open hummock grassland over *Eriachne mucronata* and *Paraneurachne muelleri* open tussock grassland over *Dampiera candidans* and *Indigofera monophylla* open herbs.

Cliff

9. Under Cliff

Eucalyptus leucophloia low open woodland over *Senna glutinosa* and *Abutilon lepidum* open shrubland over *Sida excendentifolia*, *Sida* sp. Pilbara, *Ptilotus obovatus* and *Indigofera fractiflexa* low open heath over *Eriachne mucronata* open tussock grassland over various open herbs.

Floodplains and Flowlines

10. Run Off, Drainage Line

Eucalyptus leucophloia low open woodland over *Senna pruinosa* and *Senna glutinosa* shrubland over *Sida lasiocarpus* low open heath over *Triodia pungens* very open hummock grassland.

11. Floodplain

Corymbia hamersleyana low woodland over *Gossypium robinsonii* and *Grevillea wickhamii* high shrubland over *Acacia ancistrocarpa* and *Acacia monticola* open heath over *Senna oligophylla*, *Tephrosia rosea* and *Corchorus lasiocarpus* low open heath over *Triodia pungens* very open hummock grassland over *Eriachne tenuiculmis* and *Paraneurachne muelleri* open tussock grassland over various very open herbs (Rio Tinto, 2008).

Clearing Description Hamersley Iron Pty Ltd is proposing to clear up to 35.4 hectares of native vegetation within a larger boundary of 364.5 hectares, for the Brockman 3 evaluation drilling program (Hamersley Iron Pty Ltd, 2010). The evaluation drilling program will include:

- Maintaining and establishing tracks;
- Clearing of drill lines and access tracks;
- Creation of drill pads;
- Creation of sumps; and
- Drilling of holes (Hamersley Iron Pty Ltd, 2010).

Vegetation will be cleared using a raised blade technique where practicable or scrub rake in level terrain. Where previously cleared tracks require maintenance, the track may be graded using blade down technique (Hamersley Iron Pty Ltd, 2010).

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

Comment The application area is located in the Pilbara region of Western Australia and is situated approximately 44 kilometres north-west of Tom Price (GIS Database).

Clearing permit CPS 3915/1 was granted by the Department of Mines and Petroleum on 21 October 2010 and was valid from 20 November 2010 to 30 September 2015. The clearing permit authorised the clearing of 10.4 hectares of native vegetation within an application area of approximately 364.5 hectares. Hamersley Iron Pty Ltd has requested an increase in the amount of clearing to 35.4 hectares. The application area boundary will remain unchanged. The additional clearing is not likely to have additional significant environmental impacts.

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) sub-region of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This sub-region is characterised by sedimentary ranges and plateaux, dissected by gorges (CALM, 2002). At a broad scale, vegetation can be described as Mulga low woodlands over bunch grasses on fine textured soils in valley floors and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002).

A vegetation survey of the application area identified eleven intact vegetation types occurring within the application area (Rio Tinto, 2008). During the vegetation survey, 187 vascular plant taxa from 93 genera and 44 families were recorded from within the application area (Rio Tinto, 2008). The number of flora species recorded within the application area is considered diverse. This is likely to reflect the variety of vegetation units encompassed by the area. However, this is considered typical of the floristic diversity for similar landform features which are widespread throughout the Pilbara region.

Two Priority flora species were recorded within the application area during the vegetation survey, *Triumfetta leptacantha* (P3) and *Sida* sp. Pilbara (S. Van Leeuwen 4377) (P1) (Rio Tinto, 2008). Both of these species have since been removed from the list of Priority flora species and are categorised as 'not threatened' (Western Australian Herbarium, 2011).

One alien weed species was recorded within the vegetation survey area (Rio Tinto, 2008). This was Indian Weed (*Sigesbeckia orientalis*) (Rio Tinto, 2008). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This in turn can lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. This

species is not listed as a 'Declared Plant' species under the *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.

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

Methodology CALM (2002)
Rio Tinto (2008)
Western Australian Herbarium (2011)
GIS Database:
- IBRA WA (Regions – Sub Regions)
- Pre-European Vegetation

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

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

Analysis of aerial photography and imagery indicates that the proposed clearing area is located on undulating hills and in a broad drainage valley in an uncleared landscape characterised by ridges, valleys and plains (GIS Database).

Fauna habitat in the local area is largely undisturbed. The scale and nature of the clearing proposal render it highly unlikely to result in a loss of significant habitat for fauna indigenous to Western Australia.

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

Methodology GIS Database:
- Rocklea 50 cm Orthomosaic 2004

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

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

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

A flora survey was conducted over the application area by staff from Rio Tinto during June 2008 (Rio Tinto, 2008). No DRF or species listed under the *Environment Protection and Biodiversity Conservation Act 1999* were recorded within the application area (Rio Tinto, 2008).

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

Methodology Rio Tinto (2008)
GIS Database:
- Threatend 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

A search of available databases reveals that there are no Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest TEC is located approximately 6.8 kilometres north-east 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:
- 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 falls within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 99.89% of the pre-European vegetation remains in this bioregion.

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

82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*;
175: Short bunch grassland - savanna/grass plain; and
567: Hummock grasslands, shrub steppe; mulga and kanji over soft spinifex and *Triodia basedowii* (GIS Database; Shepherd, 2009).

According to Shepherd (2009) over 99.9% of each of these Beard vegetation associations 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	17,785,001	~99.89	Least Concern	6.32
Beard Veg Assoc. – State					
82	2,565,901	2,565,901	~100	Least Concern	10.24
175	526,206	524,861	~99.74	Least Concern	4.22
567	777,507	777,507	~100	Least Concern	22.33
Beard Veg Assoc. – Bioregion					
82	2,563,583	2,563,583	~100	Least Concern	10.25
175	507,036	507,036	~99.99	Least Concern	4.38
567	776,824	776,824	~100	Least Concern	22.35

* Shepherd (2007)

** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
 Shepherd (2009)
 GIS Database:
 - IBRA WA (Regions – Sub Regions)
 - Pre-European Vegetation

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

Comments Proposal is at variance to this Principle

According to available GIS databases there are no permanent wetlands or watercourses within the application area, however, there are several minor ephemeral watercourses within the application area (GIS Database).

Based on vegetation mapping conducted by Rio Tinto (2008), two of the eleven vegetation associations found within the application area are associated with drainage areas.

Run Off, Drainage Line

Eucalyptus leucophloia low open woodland over *Senna pruinosa* and *Senna glutinosa* shrubland over *Sida echinocarpa* low open heath over *Triodia pungens* very open hummock grassland.

Floodplain

Corymbia hamersleyana low woodland over *Gossypium robinsonii* and *Grevillea wickhamii* high shrubland over *Acacia ancistrocarpa* and *Acacia monticola* open heath over *Senna oligophylla*, *Tephrosia rosea* and *Corchorus lasiocarpus* low open heath over *Triodia pungens* very open hummock grassland over *Eriachne tenuiculmis* and *Paraneurachne muelleri* open tussock grassland over various very open herbs (Rio Tinto, 2008).

The riparian vegetation of the application area is likely to be disturbed due to the construction of access tracks crossing the drainage lines which may alter the watercourses natural regime. To minimise the impact and ensure the natural water flow is maintained it is recommended that culverts and floodways be installed where access tracks intersect drainage lines.

Based on the above, the proposed clearing is at variance to this Principle. However, the proposed clearing is not likely to significantly impact on the conservation of vegetation growing in association with permanent watercourses or wetlands due to the absence of these within the application area. The proposed clearing of 35.4 hectares of native vegetation within a larger boundary of 364.5 hectares is unlikely to significantly impact on vegetation communities growing in association with these drainage channels. Should any watercourses be disturbed the proponent should liaise with the Department of Water to determine whether a Bed and Banks permit is necessary for the proposed works.

Methodology Rio Tinto (2008)
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

The application area has been surveyed by the Department of Agriculture and Food (Van Vreeswyk et al., 2004), and is comprised of the Newman and Platform 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). The Platform land system is described as dissected slopes and raised plains supporting hard spinifex grasslands (Van Vreeswyk et al., 2004). Neither of these land systems are 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. Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a rehabilitation condition.

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

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

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

The proposed clearing is not located within a conservation reserve (GIS Database). The nearest known conservation reserve is Karijini National Park, located approximately 51 kilometres east (GIS Database).

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

Methodology GIS Database:
- DEC Tenure

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

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

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). The nearest PDWSA is the Millstream Water Reserve located approximately 30 kilometres north of the application area (GIS Database). At this distance it is unlikely that the proposed clearing will impact on the quality of the Millstream Water Reserve.

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

The groundwater salinity within the application area is approximately 500 - 1,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be potable water. Given the size of the area to be cleared (35.4 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 283.8 millimetres recorded from the nearest weather station at Paraburdoo approximately 75 kilometres south-south-east of the application area (CALM, 2002; BoM, 2010). The size of the proposed clearing area within the above climate is unlikely to result in significant changes to surface water flows.

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

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

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

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

The application area experiences a semi-desert, tropical climate with an average annual rainfall of 283.8 millimetres (CALM, 2002; BoM, 2010). Rainfall is usually experienced during summer months and can be either cyclonic or thunderstorm events (CALM, 2002). It is likely that during times of intense rainfall there may be some localised flooding in adjacent areas. Local flooding occurs seasonally within the Pilbara region as a result of cyclonic activity and sporadic thunderstorm events. The proposed clearing of 35.4 hectares within a larger boundary of 364.5 hectares is unlikely to significantly alter the intensity of flooding within the application area and surrounding areas.

The application area is located within the Ashburton River catchment area (GIS Database). However, the size of the area to be cleared (35.4 hectares) in relation to the size of the Ashburton River catchment area (7,877,743 hectares) (GIS Database) is not likely to increase the potential for flooding within the application area, local area or within the catchment.

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

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

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

Comments

There is one Native Title Claim over the area under application (WC97/89) (GIS Database). The claim has been determined by the Federal Court. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

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

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.

Clearing permit CPS 3915/1 was granted by the Department of Mines and Petroleum (DMP) on 21 October 2010 and was valid from 20 November 2010 to 30 September 2015. The clearing permit authorised the clearing of 10.4 hectares of native vegetation within an application area of approximately 364.5 hectares. Hamersley Iron Pty Ltd has requested an increase in the amount of clearing to 35.4 hectares. The application area boundary will remain unchanged. The additional clearing is not likely to have additional significant environmental impacts.

The clearing permit amendment was advertised on 17 October 2011 by DMP inviting submissions from the public. No submissions were received.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Determined by the Federal Court

4. References

- BoM (2010) BOM Website - Climate Averages by Number, Averages for PARABURDOO.
www.bom.gov.au/climate/averages/tables/cw_007178.shtml (Accessed 30 August 2010).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 3 (PIL3 - Hamersley Subregion) Department of Conservation and Land Management, Western Australia.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Hamersley Iron Pty Ltd (2010) Supporting Documentation for CPS 3915/1. August 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.
- Rio Tinto (2008) Botanical Survey of the Brockman 3 HPB 2008 Drilling AR_07_02408 A & B. Unpublished Report prepared by Rio Tinto. September 2008.
- 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 7 November 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 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.