



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3297/1
Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: *Iron Ore (Mt Newman) Agreement Act 1964*, Mineral Lease 244SA (AML70/244), General Purpose Leases 52/113, 52/186, 52/193, 52/194, 52/200, 52/201, 52/202, 52/208, 52/209, 52/210, 52/216, 52/217, 52/218, 52/222, 52/223, 52/225, 52/226, 52/230, 52/231, 52/232, 52/233, 52/234, 52/235, 52/236, 52/276, 52/279

Local Government Area: Shire of East Pilbara
Colloquial name: Mt Whaleback Project

1.4. Application

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

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The vegetation of the application area is broadly mapped as Beard Vegetation Association (GIS Database):

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

82: Hummock grasslands, low tree steppe; Snappy Gum over *Triodia wiseana* (GIS Database).

Onshore Environmental Consultants (2009) describes the vegetation of the application area as consisting of the following vegetation associations:

Acacia Low Open Forest

1a. Low Open Forest of *Acacia citrinoviridis* over Tussock Grassland of **Cenchrus ciliaris* and **Cenchrus setigera* with Open Woodland of *Eucalyptus camaldulensis* and *Eucalyptus victrix*.

Acacia Low Woodland

2a. Low Woodland of *Acacia citrinoviridis*, *Acacia var. tenuis* over *Acacia pruinocarpa* over Tussock Grassland of *Aristida inaequiglumis*, *Chrysopogon fallax* and **Cenchrus ciliaris* with Open Shrubland of *Rhagodia eremaea* and *Eremophila longifolia*.

Acacia Low Open Woodland

3a. Low Open Woodland of *Acacia paraneura* and *Acacia aneura var. tenuis* over Open Shrubland of *Acacia synchronicia*, *Acacia bivenosa* and *Acacia tetragonophylla* over Open Hummock Grassland of *Triodia pungens*.

Eucalyptus Open Woodland

4a. Open Mallee of *Eucalyptus gamophylla* and *Eucalyptus socialis* ssp *eucentrica* over High Shrubland of *Acacia bivenosa* over Open Hummock Grassland of *Triodia wiseana*, *Triodia pungens* and *Triodia angusta*.

Acacia High Open Shrubland

5a. High Open Shrubland of *Acacia pruinocarpa*, *Acacia aneura var. tenuis* and *Grevillea wickhamii* ssp *aprica* over Open Tussock Grassland of **Cenchrus ciliaris*.

Triodia Hummock Grassland

6a. Hummock Grassland of *Triodia pungens* with Low Open Woodland of *Corymbia hamersleyana* and *Acacia pruinocarpa* and Open Shrubland of *Acacia pachyacra*.

6b. Hummock Grassland of *Triodia* sp Shovellana Hill with Low Open Woodland of *Eucalyptus leucophloia* ssp *leucophloia* and *Acacia pruinocarpa* and Open Shrubland of *Acacia bivenosa*, *Acacia hamersleyensis* and *Senna glutinosa* ssp. *Luerssenii*.

6c. Hummock Grassland of *Triodia pungens* with Low Woodland of *Eucalyptus leucophloia* ssp *leucophloia*, *Acacia pruinocarpa* and *Corymbia ferritcola* and High Shrubland of *Eremophila tietkensis*, *Dodonaea pachyneura* and *Acacia hamersleyensis*.

***Cenchrus Tussock Grassland**

7a. Tussock Grassland of **Cenchrus ciliaris*.

* Denote introduced flora species

Clearing Description

BHP Billiton Iron Ore Pty Ltd (BHP Billiton) have applied to clear up to 440 hectares of native vegetation within a total application area of approximately 2,589 hectares. The proposed clearing is for the purpose of continued mining operations at the Mt Whaleback mine site (BHP Billiton, 2009).

Vegetation Condition

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

To

Completely Degraded: no longer intact; completely/almost completely without native species (Keighery, 1994).

Comment

The vegetation condition was derived from a description by Onshore Environmental Consultants (2009) and aerial photography viewed by the assessing officer (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 areas is located within the Hamersley subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Pilbara Bioregion (GIS Database).

The application areas covers much of the Mt Whaleback mine site, much of which has suffered very high levels disturbance (Onshore Environmental Consultants, 2009; GIS Database).

Onshore Environmental Consultants (2009) conducted flora and fauna surveys of the application areas in June 2009. The surveys concluded that the vegetation associations and fauna habitats in the survey areas were common and widespread within the Pilbara region (BHP Billiton, 2009; Onshore Environmental Consultants, 2009).

Onshore Environmental Consultants (2009) recorded 201 species of plant taxa within the application areas, which is not considered to represent a high level of biological diversity. The vegetation condition within the application areas ranged from "very good" to "completely degraded", and several weed species were recorded (Onshore Environmental Consultants, 2009).

No flora species of conservation significance, restricted vegetation types or significant fauna habitat features were recorded within the application areas (Onshore Environmental Consultants, 2009).

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

Methodology BHP Billiton (2009)
Onshore Environmental Consultants (2009)
GIS Database:
- Interim Biogeographic Regionalisation for Australia (Subregions)
- Newman 1.4m Orthomosaic

(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

Onshore Environmental Consultants (2009) conducted a Level 1 fauna survey of the application area in June 2009. Two other baseline fauna surveys have been undertaken at the Mt Whaleback mine site in the past 12 years.

As a part of the Onshore Environmental Consultants (2009) fauna survey an assessment was made to determine the ecological value of habitats for native fauna, in particular fauna of conservation significance. A standardised approach was used to determine fauna habitat, based on a measure of the following structural characteristics:

- structural complexity of ground cover;
- heterogeneity of ground cover;
- the presence of specific habitat features, e.g. logs burrows, rocky outcrops, rock crevices, hollows); and
- disturbance, either previous (e.g. fire) or ongoing (e.g. cattle grazing).

Five broad habitat types were identified in the application area (Onshore Environmental Consultants, 2009).

Riverine: *Eucalyptus caladulensis* and *E. victrix* over sparse medium and low shrubs, over herbs and grasses.

Spinifex Sandplain: small areas of scattered *Eucalyptus hamersleyana* and *Acacia pruinocarpa* sometimes over scattered medium and low shrubs, over herbs and hummock grass.

Spinifex hilltop/slopes: and minor drainage lines: scattered *Eucalyptus leucophloia* sometimes with *Corymbia hamersleyana* over scattered medium shrubs, over *Triodia* hummock grassland.

Patches of Mulga woodland: moderately dense tall shrublands of *Acacia aneura* and *Acacia spp.*

Rehabilitated areas: sparse to scattered *Acacia aneura* sometimes with *Grevillea wickamii* sometimes over mixed medium shrubs, over *Cenchrus ciliaris* and other grasses and herbs.

Although many species of fauna are likely to utilise the habitats above, none of these habitat types are specifically restricted to the application area. Similar habitats are likely to occur in much of the local and regional landscape (Onshore Environmental Consultants, 2009). Therefore, it is unlikely that the native vegetation of the application area would constitute 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 Onshore Environmental Consultants (2009)

(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

Onshore Environmental Consultants (2009) conducted a Level 2 flora and vegetation survey of the application areas in June 2009. There have been a number of flora and vegetation surveys conducted at, or in the vicinity of the Mt Whaleback mine site since 1992 (Onshore Environmental Consultants, 2009).

No Declared Rare Flora (DRF) pursuant to the *Wildlife Conservation (Rare Flora) Notice 2008*, or Priority Flora listed with the Department of Environment and Conservation was identified in the application area (Onshore Environmental Consultants, 2009).

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

Methodology Onshore Environmental Consultants (2009)

(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 Threatened Ecological Communities (TEC's) within the application areas (GIS Database). The nearest known TEC is the Ethel Gorge aquifer stygobiont community which is located approximately 13 kilometres east-north-east of the application areas (GIS Database).

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

Methodology GIS Database:
- Threatened Ecological Communities

(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 Bioregion of the Interim Biogeographic Regionalisation for Australia (GIS Database). Shepherd (2007), reports that approximately 99.9 percent of the pre-European vegetation still exists in the Pilbara Bioregion. The vegetation in the application areas is broadly mapped as Beard Vegetation Associations 18: Low woodland; mulga (*Acacia aneura*) and 82: Hummock grasslands, low tree steppe; Snappy Gum over *Triodia wiseana* (GIS Database). According to Shepherd (2007) there is approximately 100 percent of these vegetation types remaining (see table below).

Although several large scale mining operations are located within a 50 Kilometre radius of the application area (GIS Database), on a broader scale the Pilbara region has not been extensively cleared. Hence the application areas are not considered to represent a significant remnant of native vegetation in an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,804,164	17,794,164	~99.9	Least Concern	6.3
Beard Vegetation Associations - WA					
18	19,892,305	19,890,195	~100	Least Concern	2.1
82	2,565,930	2,565,930	~100	Least Concern	10.2
Beard Vegetation Associations - Pilbara Bioregion					
18	676,557	676,557	~100	Least Concern	16.8
82	2,563,610	2,563,610	~100	Least Concern	10.2

* Shepherd (2007)

** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002).
Shepherd (2007).
GIS Database:
- Interim Biogeographic Regionalisation of Australia
- Pre-European Vegetation
- Newman 1.4m Orthomosaic - Landgate 2003

(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 databases, there are no known Directory of Important Wetlands or Ramsar wetlands within the application area (GIS Database).

There are no permanent watercourses or wetlands within the application area, however, the application area crosses a number of ephemeral drainage lines (Onshore Environmental Consultants, 2009). Two vegetation units associated with drainage lines were identified within the application area during a flora and vegetation survey (Onshore Environmental Consultants 2009):

Acacia Low Open Forest

1a. Low Open Forest of *Acacia citrinoviridis* over Tussock Grassland of **Cenchrus ciliaris* and **Cenchrus setigera* with Open Woodland of *Eucalyptus camaldulensis* and *Eucalyptus victrix*; and

Acacia Low Woodland

2a. Low Woodland of *Acacia citrinoviridis*, *Acacia var. tenuis* over *Acacia pruinoarpa* over Tussock Grassland of *Aristida inaequiglumis*, *Chrysopogon fallax* and **Cenchrus ciliaris* with Open Shrubland of *Rhagodia eremaea* and *Eremophila longifolia*.

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

The application area is contained within land systems which contain hills and ridges with dissected slopes and valleys containing ephemeral drainage lines (Van Vreeswyk et al., 2004). Although, the drainage lines themselves comprise a relatively small total area, their distribution is quite widespread throughout the Pilbara. The drainage lines present within the application area are dry for most of the year, only flowing briefly immediately following significant rainfall (Onshore Environmental Consultants, 2009). Vegetation, including riparian vegetation, of the application area is typical of vegetation previously described for the Pilbara area (Onshore Environmental Consultants, 2009). Therefore, the loss of a small percentage of vegetation associated with drainage lines is not expected to have a significant environmental impact.

Methodology Onshore Environmental Consultants (2009)
Van Vreeswyk et al., 2004
GIS Database:
- Directory of Important Wetlands

(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 lies within the Elimunna, Newman, River and Rocklea Land Systems (GIS Database).

The Elimunna Land System consists of hills and low rises with stony soils on shallow red loams; Groves land unit on red loamy earth soils; and drainage floors with self mulching cracking clay soils. The Elimunna Land System is also reasonably resistant to soil erosion, however soil disturbance or altered water flows may cause localised soil erosion (DAFWA, 2006; Van Vreeswyk et al., 2004).

The Newman Land System consists of lower slopes, with stony soils and some red loamy earths; narrow drainage floors up to 400 metres in width with stony mantles on shallow red loam soils; and lower stony plains with stony soils, shallow loams or loamy earth soils. The Newman Land System soils are not particularly prone to soil erosion (DAFWA, 2006; Van Vreeswyk et al., 2004).

The River Land System consists of flood plains and river terraces subject to fairly regular overbank flooding from major channels and watercourses. The system is largely stabilised by buffel and spinifex and accelerated erosion is uncommon. However, susceptibility to erosion is high to very high if vegetation cover is removed. (Van Vreeswyk et al., 2004)

The Rocklea Land System consists of lower slopes of shallow red loams or duplex soils that usually have protective stone mantles; stony plains of shallow red loam, sand or clay soils; and drainage line and drainage floor land units with a range of often shallow soils. The Rocklea Land System is quite resistant to soil erosion in its natural state (DAFWA, 2006; Van Vreeswyk et al., 2004).

The proposed land clearing is for the purpose of mine development including mine pits, roads and waste rock dumps. Once an area is cleared the second land use is likely to mitigate any forms of erosion.

The proposed clearing will remove most of the organic matter in a given area. Organic matter is not prevalent in such a dry climate. Should a clearing permit be granted it is recommended that conditions be placed on the permit for the retention of topsoil and vegetation.

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

Methodology DAFWA (2006).
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

There are no conservation areas in the vicinity of the application area. The nearest DEC managed land is the Karijini National Park, approximately 110km north-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 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 area is located within the Newman Water Reserve, which has been gazetted under the *Country Areas Water Supply Act 1947 (CAWS)*. The area has been assigned as Priority 1 (P1) under the Water Sources Protection System. Clearing activities for mineral production are compatible with conditions in a P1 Public Drinking Water Source Area (DoW, 2009).

Advice received from the Department of Water (2009) on 13 October 2009 states the following. "The DoW is satisfied that the proposed clearing of 440 hectares is unlikely to have a significant impact on the quality of groundwater. Further to this, the DoW does not consider the proposed activities to be significant enough to require formal referral to the Environmental Protection Authority".

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

Methodology DoW (2009)

(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 proposed clearing is unlikely to cause, or exacerbate, the incidence or intensity of flooding for the following reasons:

- low annual rainfall of approximately 300 millimetres per year (GIS Database);
- high evaporation rates of approximately 3,600 millimetres per year (GIS Database);
- gently undulating topography (GIS Database);
- the relatively small area of proposed clearing (440 hectares) in relation to the size of the Fortescue River Upper catchment area (2,975,192 hectares) (GIS Database); and
- the lack of standing waterbodies or watercourses (GIS database)

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

Methodology GIS Database:
- Evaporation Isopleths
- Hydrography, linear
- Rainfall, Mean Annual
- Topographic Contours, Statewide

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

The clearing permit application was advertised on 14 September 2009 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim over the application area (GIS Database). This claim (WC99-004) has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenements have been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (ie. 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 numerous Aboriginal Site 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 Sites of Aboriginal Significance are damaged through the clearing process.

BHP Billiton has an internal process; the Project Environment and Aboriginal Heritage Review (PEAHR), which is designed to prevent inadvertent disturbance of Aboriginal heritage sites within BHP Billiton operations. Prior to the commencement of any land disturbance activity, a PEAHR must be completed and submitted to BHP Billiton's Aboriginal Affairs Department for assessment. All land disturbance activities must be approved by BHP Billiton's Environment and Aboriginal Heritage staff (BHP Billiton, 2005).

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.

Methodology BHP Billiton (2005)
GIS Databases:
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

The proposal has been assessed against the Clearing Principles, and the proposed clearing is at variance to Principle (f), is not likely to be at variance to Principles (a), (b), (c), (d), (g), (h), (i) and (j) and is not at variance to Principle (e).

Should the permit be granted, it is recommended that conditions be imposed on the permit for the purposes of weed management, topsoil and vegetation retention, record keeping and permit reporting.

5. References

- BHP Billiton. (2005). Aboriginal Heritage Induction Handbook. BHP Billiton Iron Ore Pty Ltd, Western Australia.
- BHP Billiton. (2009). Mt Whaleback, Native Vegetation Clearing Permit Application Supporting Documentation for a Clearing Permit, August 2009.
- DAFWA. (2006). Land degradation assessment report. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR), for clearing permit application CPS 1018/1. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food 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.
- DoW. (2009). Public Drinking Water Source Area (PDWSA) Advice. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Mines and Petroleum (DMP). Department of Water, Western Australia.
- Onshore Environmental Consultants. (2009). Flora and Vegetation survey and Fauna Assessment: Mt Whaleback Mine Site, Yallingup, Western Australia.
- Keighery, B.J. (1994). Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P., and Leighton, K.A. (2004). An Inventory and Condition Survey of the Pilbara Region, Western Australia. Department of Agriculture, Western Australia.

6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), 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, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
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	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

Definitions:

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

- P1** **Priority One - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P2** **Priority Two - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P3** **Priority Three - Poorly Known taxa:** taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
- P4** **Priority Four – Rare taxa:** taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

- R Declared Rare Flora – Extant taxa** (= *Threatened Flora = Endangered + Vulnerable*): taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
- X Declared Rare Flora - Presumed Extinct taxa:** taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

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

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

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

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

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

- EX Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.
- EX(W) Extinct in the wild:** A native species which:
 (a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
 (b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.
- CR Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- EN Endangered:** A native species which:
 (a) is not critically endangered; and
 (b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- VU Vulnerable:** A native species which:
 (a) is not critically endangered or endangered; and
 (b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.
- CD Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.