



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6234/1
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 (AML 70/244)
Local Government Area: Shire of East Pilbara
Colloquial name: Orebody 32 Trial Pit

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
30		Mechanical Removal	Mineral Production, Haul Road and Associated Infrastructure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 25 September 2014

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 are located within the application area (GIS Database):

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

Beard vegetation association 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*.

Onshore Environmental (2014) consolidated the existing mapped BHP Billiton Iron Ore Pty Ltd vegetation associations and mapped a total of three broad floristic communities with six vegetation types within the application area:

Acacia Shrubland

MI AmoAanPI ChEITtAin – Shrubland of *Acacia monticola*, *Acacia ancistrocarpa* and *Petalostylis labicheoides* with Scattered Low Trees of *Corymbia hamersleyana* and *Eucalyptus leucophloia* subsp. *leucophloia* over Open Tussock Grassland of *Themeda triandra* and *Aristida inaequilatera* on red loamy sand on minor drainage lines.

Eucalyptus Low Woodland

ME TtEaEte ApyAtpPI EvCh – Tussock Grassland of *Themeda triandra*, *Eulalia aurea* and *Eriachne tenuiculmis* with High Shrubland of *Acacia pyrifolia* var. *pyrifolia*, *Acacia tumida* var. *pilbarensis* and *Petalostylis labicheoides* and Open Woodland of *Eucalyptus victrix* and *Corymbia hamersleyana* on red brown silty loam on medium drainage lines and flood plains.

Triodia Hummock Grassland

HC TpTs EI AaAkAsi – Hummock Grassland of *Triodia pungens* and *Triodia* sp. Shovelanna Hill with Scattered Low Trees of *Eucalyptus leucophloia* subsp. *leucophloia* over Scattered Tall Shrubs of *Acacia aptaneura*, *Acacia kempeana* and *Acacia sibirica* on red brown loam on hill crests, hill slopes and breakaway slopes;

HC TwTbrTp EICH AmaGwAb – Hummock Grassland of *Triodia wiseana*, *Triodia brizoides* and *Triodia pungens* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* over High Open Shrubland of *Acacia maitlandii*, *Grevillea wickhamii* subsp. *hispidula* and *Acacia bivenosa* on red brown sandy loam on hill crests and upper hill slopes;

HS TsTwTp EICH AhiAad – Hummock Grassland of *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835), *Triodia wiseana* and *Triodia pungens* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia* and *Corymbia hamersleyana* over Low Open Shrubland of *Acacia hilliana* and *Acacia adoxa* var. *adoxo* on red brown sandy loam on hills; and

HS Tw EICHhc AanAbAa – Hummock Grassland of *Triodia wiseana* with Low Open Woodland of *Eucalyptus leucophloia* subsp. *leucophloia*, *Corymbia hamersleyana* and *Hakea chordophylla* and Open Shrubland of *Acacia ancistrocarpa*, *Acacia bivenosa* and *Acacia aptaneura* on red sandy loam on hill slopes.

Clearing Description Orebody 32 Trail Pit Project.

BHP Billiton Iron Ore Pty Ltd proposes to clear up to 30 hectares of native vegetation within a total boundary of approximately 285 hectares, for the purposes of mineral production, haul road and associated infrastructure. The project is located approximately 6 kilometres north-east of Newman, in the Shire of East Pilbara.

Vegetation Condition	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994); To: Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).
Comment	BHP Billiton Iron Ore Pty Ltd are proposing to construct a trial pit at Orebody 32 to extract up to 1.5 million tonnes of iron ore which will be used to confirm if the current infrastructure at both Orebody 24 and Orebody 25 can process the material.

3. Assessment of application against clearing principles

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

Comments	<p>Proposal is not likely to be at variance to this Principle</p> <p>The application area occurs within the Hamersley (PIL3) subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by mulga low woodland over bunch grasses on fine textured soils in valley floors, and <i>Eucalyptus leucophloia</i> over <i>Triodia brizoides</i> on skeletal soils of the ranges (CALM, 2002).</p> <p>A consolidated flora and vegetation survey of the application area identified six different vegetation associations (Onshore Environmental, 2014). The vegetation condition ranged from 'excellent' to 'good' with the majority of the vegetation in a 'very good' condition (Keighery, 1994). None of the vegetation associations recorded were identified as a Threatened or Priority Ecological Community (ENV, 2012; Onshore Environmental, 2014). Species composition and vegetation communities are typical of the area and not considered to be unusually diverse (Onshore Environmental, 2014; GIS Database).</p> <p>ENV (2012) surveyed the application area and surrounding region between 8 to 19 April 2011, and 29 to 31 July 2011 with no Threatened or Priority Flora species identified. A search of the Department of Parks and Wildlife's Threatened and Priority Flora databases revealed no records of Threatened or Priority Flora species within a 5 kilometre radius of the application area (DPaW, 2014).</p> <p>There were four weed species identified within the application area; Bipinnate Beggartick (<i>Bidens bipinnata</i>), Buffel Grass (<i>Cenchrus ciliaris</i>), Spiked Malvastrum (<i>Malvastrum americanum</i>) and Whorled Pigeon Grass (<i>Setaria verticillata</i>) (BHP Billiton Iron Ore Pty Ltd, 2014). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.</p> <p>Based on the above, the proposed clearing is not likely to be at variance to this Principle.</p>
Methodology	BHP Billiton Iron Ore Pty Ltd (2014) CALM (2002) DPaW (2014) ENV (2012) Keighery (1994) Onshore Environmental (2014)

(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	<p>Proposal is not likely to be at variance to this Principle</p> <p>A Level 1 fauna survey was conducted over the application area between 17 and 21 May 2011 by ENV (2011) and biologic (2014) have consolidated regional fauna habitat mapping over the proponents' Pilbara tenure. Based on the results of these surveys there are three broad habitats within the application area:</p> <ul style="list-style-type: none">- Crest / Hill slope;- Minor Drainage Line; and- Sand Plain. <p>The landforms and habitat found within the application area are considered as being well represented in the local region (ENV, 2011; biologic, 2014). The application area does not contain habitats or faunal assemblages that are ecologically significant, however the Minor Drainage Line habitat is of moderate value as it has the potential to provide habitat for a number of conservation significant fauna (biologic, 2014). The fauna assemblage of the study area is considered common and typical of the region and is not specifically dependent on the habitats within the study area (ENV, 2011).</p> <p>The faunal survey recorded two fauna species of conservation significance within the application area (BHP</p>
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Billiton Iron Ore Pty Ltd, 2014; ENV, 2011):

- Rainbow Bee-eater (*Merops ornatus*); and
- Western Pebble-mound Mouse (*Pseudomys chapmani*).

Based on habitat types, the following conservation significant species are considered to potentially occur within the application area (BHP Billiton Iron Ore Pty Ltd, 2014; ENV, 2011):

- Australian Bustard (*Ardeotis Australis*) (DPaW - Priority 4);
- Bush Stone-curlew (*Burhinus grallarius*) (DPaW - Priority 4);
- Ghost Bat (*Macroderma gigas*) (DPaW - Priority 4); and
- Peregrine Falcon (*Falco peregrine*) (WC Act - Schedule 4).

The Rainbow Bee-eater is a transient species and the habitat within the application area is not likely to represent significant habitat for this species (ENV, 2011). An individual was recorded in the Sand Plain habitat during the ENV (2011) survey. There was no evidence of breeding recorded within the application area and there is suitable breeding and foraging habitat within the local and surrounding region (BHP Billiton Iron Ore Pty Ltd, 2014; ENV, 2011).

There were nine Western Pebble-mouse mounds surveyed within the application area (ENV, 2011). BHP Billiton Iron Ore Pty Ltd (2014) have stated that the mounds will be avoided where practicable, however the establishment of the Trial Pit will require the removal of one previously identified Western Pebble-Mound mouse within the application area. Similar habitat is common outside the application area and the proposed clearing is not likely to significantly impact this species (BHP Billiton Iron Ore Pty Ltd, 2014; ENV, 2011).

The Australian Bustard and Bush Stone-curlew are typically widespread and nomadic, and these species are unlikely to be reliant on the habitat within the application area given the availability of more suitable habitat in the local area (BHP Billiton Iron Ore Pty Ltd, 2014).

The Peregrine Falcon may forage within the Minor Drainage Line habitat of the application area; however this species is highly mobile with large home ranges and therefore able to easily move away from disturbance. This species may forage within the application area; however, no suitable nesting habitat occurs (BHP Billiton Iron Ore Pty Ltd, 2014).

Suitable roosting sites have been identified within 700 metres of the application area for the Ghost Bat; however no suitable roosting habitat has been identified within the application area. Therefore the Ghost Bat is unlikely to be dependent on the habitats present within the application area as there is widespread suitable foraging habitat in the surrounding region (BHP Billiton Iron Ore Pty Ltd, 2014).

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

Methodology BHP Billiton Iron Ore Pty Ltd (2014)
biologic (2014)
ENV (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

According to available databases, there are no known records of Threatened Flora within the application area (GIS Database). A search of the Department of Parks and Wildlife's Threatened and Priority Flora databases identified no Threatened Flora species as occurring within a 5 kilometre radius of the application area (DPaW, 2014).

Based on flora and vegetation survey conducted by ENV (2012), no Threatened Flora species were recorded within the application area (BHP Billiton Iron Ore Pty Ltd, 2014).

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

Methodology BHP Billiton Iron Ore Pty Ltd (2014)
DPaW (2014)
ENV (2012)
GIS Database
- Threatened and Priority Flora List

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

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

The application area is within the buffer of the Threatened Ecological Community (TEC) 'Ethel Gorge aquifer stygobiont community' (GIS Database). The TEC is subterranean and groundwater drawdown is listed as a threatening process for the Ethel Gorge stygofauna (CALM, 2002), however, the proposed clearing is not

expected to have an effect on groundwater levels.

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

Methodology CALM (2002)
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 falls within the Pilbara IBRA bioregion (GIS Database). The vegetation within the application area is recorded as:

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

Beard vegetation association 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database).

According to the Government of Western Australia (2013), Beard vegetation associations 18 and 82 retain approximately 99% of their pre-European extent. The local area has been extensively cleared, however the area proposed to be cleared is not a significant remnant of native vegetation.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,808,657	17,733,584	~99.58	Least Concern	6.34
Beard vegetation associations - State					
18	19,892,305	19,843,727	~99.76	Least Concern	2.13
82	2,565,901	2,553,217	~99.51	Least Concern	10.25
Beard vegetation associations - Bioregion					
18	676,557	672,424	~99.39	Least Concern	16.78
82	2,563,583	2,550,899	~99.51	Least Concern	10.26

* Government of Western Australia (2013)

** 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)
Government of Western Australia (2013)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation

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

Comments Proposal is at variance to this Principle

According to available databases few ephemeral drainage tracts transect the application area (GIS Database). These are minor drainage lines similar to those that are widespread throughout the surrounding area. Vegetation association 'ME TtEaEte ApyAtpPI EvCh' is associated with drainage lines in the application area (BHP Billiton Iron Ore Pty Ltd, 2014; Onshore Environmental, 2014).

This vegetation association can provide faunal habitat of a moderate range of microhabitats with logs, leaf litter, tree hollows and occasional soft soils present (ENV, 2012) and the proposed clearing is likely to have some impact to the riparian vegetation. Potential impacts to riparian vegetation may be minimised through the implementation of a vegetation management condition.

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

Methodology BHP Billiton Iron Ore Pty Ltd (2014)
ENV (2012)
Onshore Environmental (2014)
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 intercepts the Boolgeeda and Newman land systems.

The Boolgeeda land system is characterised by stony lower slopes and plains below hill systems supporting hard and soft spinifex grasslands and mulga shrublands. Vegetation is generally not prone to degradation and the system is not susceptible to erosion (Van Vreeswyk et al., 2004).

The Newman land system is characterised by rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands. The Newman land system has a nil to minor erosion potential, which is likely to be due to the surface mantle present which provides protection from erosional forces (Van Vreeswyk et al., 2004).

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

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

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

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

The application area is not located within any conservation area (GIS Database). The nearest conservation area is Karijini National Park, located approximately 123 kilometres west of the application area (GIS Database).

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

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

Methodology GIS Database:
- DEC Tenure

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

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

The application area is partly located within the Newman Water Reserve (GIS Database), a Public Drinking Water Source Area (PDWSA) gazetted under the *Country Areas Water Supply Act 1947* in August 1983. This PDWSA has been assigned as 'Priority 1 (P1)' under the Water Source Protection Classification (DoW, 2014). Clearing activities associated with mineral production are compatible with conditions in a P1 PDWSA and all activities associated with the clearing including infrastructure, laydown areas, refuelling and topsoil storage should be compatible with the Department of Water (DoW) Land Use Compatibility Tables (DoW, 2014). The DoW advises there are Water Quality Protection Notes and Guidelines for mining and mineral processing that should be followed to reduce the risk the associated activities pose to the Water Reserve (DoW, 2014). The DoW is satisfied that the proposed clearing of 30 hectares is unlikely to have a significant impact on the quality or quantity of groundwater, provided activities are carried out in accordance with DoW advice.

There are no permanent waterbodies or watercourses within the application area; however, there are few ephemeral drainage tracts that pass through the application area (GIS Database). Clearing of native vegetation in the vicinity of the drainage tracts may lead to increased erosion and, therefore, sedimentation of the drainage areas. Potential impacts from erosion as a result of the proposed clearing may be minimised by the implementation of a watercourse management condition.

According to available databases, groundwater salinity within the application area is between 500 and 1,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered fresh to marginal. 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 Salinity, Statewide
- Hydrography, linear
- 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 may be at variance to this Principle**

The application area experiences a semi-desert tropical climate, with an annual average rainfall of approximately 300 millimetres per year (CALM, 2002). Based on an average annual evaporation rate of 3,200 - 3,600 millimetres, any surface water resulting from rainfall events is likely to be relatively short lived (CALM, 2002).

Given the size of the area to be cleared (30 hectares) compared to the size of the Fortescue River catchment area (2,975,192 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate the incidence or intensity of flooding. Whilst large rainfall events may result in flooding of the area, the proposed clearing is not likely to lead to an increase in incidence or intensity of flooding (BHP Billiton Iron Ore Pty Ltd, 2014).

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

Methodology BHP Billiton Iron Ore Pty Ltd (2014)
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 (GIS Database). The claim WC2005/006 has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There is one registered Aboriginal Site of Significance within the application area (Site ID: 9080) (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 Regulation, Department of Parks and Wildlife and the Department of Water, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 1 September 2014 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Registered with the NNTT
- Native Title Claims - Filed at the Federal Court
- Native Title Claims - Determined by the Federal Court

4. References

- BHP Billiton Iron Ore Pty Ltd (2014) Orebody 32 Trial Pit - Native Vegetation Clearing Permit Application Supporting Document for Exploration Drilling. Internal Report, August 2014.
- biologic (2014) Consolidation of Regional fauna Habitat Mapping - BHP Billiton Iron Ore Pilbara Tenure. Internal Report for BHP Billiton Iron Ore Pty Ltd.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara3 (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.
- Department of Parks and Wildlife (DPaW) (2014) NatureMap Department of Parks and Wildlife, viewed 22 September 2014 <<http://naturemap.dec.wa.gov.au>>.
- Department of Water (DoW) (2014) Advice regarding CPS 6234/1, Internal document, September 2014.
- ENV (2011) Eastern Ridge Fauna Assessment. Internal Report for BHP Billiton Iron Ore Pty Ltd.
- ENV (2012) Eastern Ridge Flora and Vegetation Assessment. Internal Report for BHP Billiton Iron Ore Pty Ltd.
- Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.

- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Onshore Environmental (2014) Consolidation of Regional Vegetation Mapping - BHP Billiton Iron Ore Pilbara Tenure. Internal Report for BHP Billiton Iron Ore Pty Ltd.
- Van Vreeswyk, A.M.E., & Payne, A.L. & Leighton, K.A. & Hennig, P (2004) An inventory and condition survey of the Pilbara region, Western Australia. Department of Agriculture, Western Australia.

5. Glossary

Acronyms:

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

Definitions:

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

P1	Priority One - Poorly Known taxa: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2	Priority Two - Poorly Known taxa: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P3	Priority Three - Poorly Known taxa: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
P4	Priority Four – Rare taxa: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
R	Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable): taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
X	Declared Rare Flora - Presumed Extinct taxa: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

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

Schedule 1	Schedule 1 – Fauna that is rare or likely to become extinct: being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
Schedule 2	Schedule 2 – Fauna that is presumed to be extinct: being fauna that is presumed to be extinct, are

declared to be fauna that is need of special protection.

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

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

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

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

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