Government of **Western Australia**
Department of **Mines and Petroleum**

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3084/3
Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: *Iron Ore (Mount Newman) Agreement Act 1964*, Mineral Lease 244SA (AML 70/244)
Local Government Area: Shire of East Pilbara
Colloquial name: Ore Body 24 Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.81		Mechanical Removal	Road Construction

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 22 December 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard Vegetation Associations have been mapped for the whole of Western Australia. One Beard Vegetation Association is located within the application area (GIS Database): Beard Vegetation Association 82: Hummock grasslands, low tree steppe; Snappy Gum over *Triodia wiseana*. BHP Billiton (2009, 2011) describes the vegetation of the application area as consisting of the following vegetation types: 1) Open mixed *Acacia* shrubland with scattered *Senna* spp. over open *Triodia* hummock grassland. 2) Open Mulga (*Acacia aneura*) woodland over degraded grassland dominated by Buffel Grass (**Cenchrus ciliaris*). 3) Open low woodland of *Eucalyptus leucophloia* subsp. *leucophloia*, over mixed *Acacia* species, over *Triodia wiseana*/*Triodia pungens*. 4) Open, low woodland dominated by Mulga (*Acacia aneura* var. *aneura*) and *Corymbia hamersleyana*, over *Eucalyptus gamophylla* mallee, over mixed *Acacia* species, over Buffel grass (**Cenchrus ciliaris*) and other species of grass. 5) Low woodland of *Corymbia aspera* and *Corymbia hamersleyana*, over *Eucalyptus gamophylla* mallee, over mixed *Acacia* and	BHP Billiton Iron Ore Pty Ltd (BHP Billiton) has applied to clear up to 2.81 hectares of native vegetation within a total application area of approximately 14.2 hectares. The purpose of the clearing is for road construction. The proposed clearing is to construct a heavy vehicle bypass road to allow for a direct crossing of the Great Northern Highway. The vegetation will be cleared by machinery. The vegetative material and topsoil will be stockpiled and used in rehabilitation activities.	Degraded: Structure severely disturbed; regeneration to good condition requires intenstive management (Keighery, 1994). To: Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggresive (Keighery, 1994).	The vegetation condition was derived from descriptions by botanists from Ecologia Environment (2006) and BHP Billiton (2009). Clearing permit CPS 3084/1 was issued by the Department of Mines and Petroleum (DMP) on 4 July 2009, and authorised the clearing of up to 0.81 hectares of native vegetation within an application area of 7.2 hectares for the purpose of road contruction. On 11 August 2010, BHP Billiton requested that clearing permit CPS 3084/1 be amended to extend the duration of the permit from 1 September 2010 to 1 September 2012. Clearing permit amendment CPS 3084/2 was granted on 26 August 2010. On 27 October 2011, BHP Billiton requested that clearing permit CPS 3084/2 be amended to increase the amount of clearing authorised to 2.81 hectares and increase the size of the application area to 14.2 hectares. Given the scale and nature of the proposed amendment, it is considered unlikely that there will be any additional environmental impacts from those described

Senna species, over mixed tussock grasses and *Triodia pungens*.

during the assessment of clearing permit CPS 3084/2.

* Denotes weed species

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) Interim Biogeographic Regionalisation of Australia (IBRA) subregion (GIS Database). This subregion is generally described as Mulga low woodland over bunch grasses on fine textured soils in valley floors, and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002).

Part of the application area was surveyed by botanists from Ecologia Environment in January and April 2006 while the rest of the application area was surveyed by ecologists from BHP Billiton in September 2008. The vegetation types identified within the application area are well represented both in the immediate vicinity and throughout the eastern Pilbara (Ecologia Environment, 2006).

No Declared Rare Flora, Priority flora, floristic Threatened Ecological Communities (TEC) or Priority Ecological Communities were identified during the flora and vegetation surveys or have previously been recorded within the application area (Ecologia Environment, 2006; BHP Billiton, 2009; GIS Database). The application area is within the buffer of the TEC 'Ethel Gorge aquifer stygobiont community' (GIS Database). However, this TEC is located approximately 12 kilometres east of the application area and the proposed clearing activities will not be impacting the groundwater ecosystem (BHP Billiton, 2011; GIS Database).

Two introduced flora species were recorded within the application area. These weed species were Buffel Grass (*Cenchrus ciliaris*) and Kapok Bush (*Aerva javanica*) (Ecologia Environment, 2006; BHP Billiton, 2009). Care must be taken to ensure that the proposed clearing activities do not spread weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

A Level 1 assessment of fauna was undertaken over the eastern half of the application area as part of the field survey conducted by ecologists from BHP Billiton (2009). Twenty-nine species of fauna were recorded in the survey comprising two species of introduced mammals, 24 species of birds and three species of reptiles (BHP Billiton, 2009).

Sections of the application area are in degraded condition due to the presence of weeds, rabbits, cattle grazing and edge effects associated with the existing road that runs through the application area (Ecologia Environment, 2006; BHP Billiton, 2009). The vegetation within the application is not considered to be in good or better condition than similar vegetation in the locality (BHP Billiton, 2009). The application area is not likely to represent a high level of biological diveristy compared to surrounding vegetated areas.

Given the small area of proposed clearing this proposal is unlikely to have any significant impact on the biological diversity of the region.

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

Methodology

BHP Billiton (2009)
BHP Billiton (2011)
CALM (2002)
Ecologia Environment (2006)
GIS Database:
- IBRA WA (Regions – Sub Regions)
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

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

Comments

Proposal is not likely to be at variance to this Principle

A Level 1 assessment of fauna was undertaken over the eastern half of the application area as part of the field survey conducted by ecologists from BHP Billiton (2009). A vegetation survey was conducted over the other western half of the application area by botanists from Ecologia Environmental and the broad fauna habitats present were derived from this survey (Ecologia Environmental, 2006; BHP Billiton, 2011).

The *Triodia* hummock grassland within the application area would provide good habitat for ground-dwelling mammals and reptiles, particularly skinks, dragons and snakes (BHP Billiton, 2011). The upper storey of *Acacia* species, particularly Mulga (*Acacia aneura*), provides good habitat for a number of bird species, particularly thornbills, fairywrens and honeyeaters (BHP Billiton, 2011). The vegetation types associated with

these fauna habitats are well represented both in the immediate vicinity and throughout the eastern Pilbara (Ecologia Environment, 2006).

Twenty-nine species of fauna were recorded in the survey of the eastern section of the application area. The recorded fauna comprised of two species of introduced mammals, 24 species of birds and three species of reptiles (BHP Billiton, 2009). Five of the bird species recorded were listed as Migratory and/or Marine species under the *Environment Protection and Biodiversity Conservation Act 1999* at the time of the survey (BHP Billiton, 2009). All of these species are considered to be common and widespread in the Pilbara and the site does not provide significant breeding habitat for any of these species (BHP Billiton, 2009).

The application area is adjacent to an existing road and mine-related infrastrucure, and is unlikely to represent significant fauna habitat in comparison to less disturbed sites in the surrounding area (BHP Billiton, 2009). The small area of proposed clearing is unlikely to have any significant impact on fauna habitat at either a local or regional level.

The fauna habitat of the southern half of the application area has been degraded by cattle grazing, with animals attracted to the area by ponding water to the east of the application area as a result of outflow from the Waste Water Treatment Plant (BHP Billiton, 2009). In addition, a dense coverage of Buffel Grass has been noted and evidence of rabbits was recorded along the road verge (BHP Billiton, 2009).

The fauna habitats of the northern half of the application area contain generally intact vegetation with little evidence of weed infestation and only minimal degradation from cattle trampling and/or grazing (BHP Billiton, 2009). No restricted fauna habitat types were identified in the application area such as caves, rock crevices, or natural water sources (BHP Billiton, 2009).

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

Methodology BHP Billiton (2009)
BHP Billiton (2011)
Ecologia Environmental (2006)

(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 Declared Rare Flora (DRF) within the application area, although there are three known records of the DRF species *Lepidium catapycnon* within 10 kilometres of the application area (GIS Database).

Part of the application area was surveyed by botanists from Ecologia Environment in January and April 2006 while the rest of the application area was surveyed by ecologists from BHP Billiton in September 2008. No DRF were recorded within the application area during either survey (Ecologia Environment, 2006; BHP Billiton, 2009)

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

Methodology BHP Billiton (2009)
Ecologia Environment (2006)
GIS Database:
- Threatened and Priortiy 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**
The application area is within the buffer of the Threatened Ecological Communitiy (TEC) 'Ethel Gorge aquifer stygobiont community' (GIS Database). However, this TEC is located approximately 12 kilometres east of the application area and the proposed clearing activities will not be impacting the groundwater ecosystem (BHP Billiton, 2011; GIS Database).

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

Methodology BHP Billiton (2011)
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 clearing application area falls within the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA)

bioregion in which approximately 99.9% of the pre-European vegetation remains (see table) (Shepherd, 2009; GIS Database). This gives it a conservation status of 'Least Concern' according to the Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment, 2002).

The vegetation of the clearing application area has been mapped as Beard vegetation association 82 'Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*' (Shepherd, 2009; GIS Database). According to Shepherd (2009), approximately 100% of this vegetation association remains at a state and bioregional level. This vegetation association would be given a conservation status of 'Least Concern' at both a state and bioregional level (Department of Natural Resources and Environment, 2002).

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

	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	~99.9	Least Concern	6.3
Beard Veg Assoc. – State					
82	2,565,901	2,565,901	~100	Least Concern	10.2
Beard Veg Assoc. – Bioregion					
82	2,563,583	2,563,583	~100	Least Concern	10.2

* Shepherd (2009)
** 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 not likely to be at variance to this Principle**
There are no permanent watercourses or wetlands within the application area (GIS Database). A minor non-perennial watercourse has previously been mapped on the edge of the application area (GIS Database), however, onground surveys identified no ephemeral watercourses within the application area (BHP Billiton, 2011). None of the vegetation associations identified from the application area are associated with watercourses or wetlands (BHP Billiton, 2009, 2011).

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

Methodology BHP Billiton (2009)
BHP Billiton (2011)
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**
According to available datasets the application area intersects the Elimunna, McKay and Newman Land Systems (GIS Database).

The Elimunna Land System is characterised by stony plains on basalt supporting sparse acacia and cassia shrublands and patchy tussock grasslands (Van Vreeswyk et al., 2004). Some drainage floors of this land system are slightly susceptible to erosion but most of the system is inherently resistant (Van Vreeswyk et al., 2004).

The McKay Land System is characterised by hills, ridges, plateaux remnants and breakaways of meta sedimentary and sedimentary rocks supporting hard spinifex grasslands (Van Vreeswyk et al., 2004). The system is not prone to soil erosion (Van Vreeswyk et al., 2004).

The Newman Land System is characterised by rugged jaspilite plateaux, ridges and mountains supporting hard spinifex grasslands (Van Vreeswyk et al., 2004). Each of the landforms in the land system have a mantle of abundant pebbles of ironstone and other rocks, which translates to a low soil erosion risk (Van Vreeswyk et al., 2004).

Given the small size of the proposed activities (2.81 hectares) and the stability of the land systems, the clearing is not likely to result in appreciable land degradation.

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 proposed clearing is not located within a conservation reserve (GIS Database). The nearest conservation area is the ex-Roy Hill Station pastoral lease, a proposed DEC reserve, located approximately 65 kilometres north of the application area (GIS Database). A large proportion of the vegetation in the Pilbara bioregion remains uncleared, approximately 99.9% (Shepherd, 2009), so it is unlikely that the application area provides an important buffer or ecological linkage for the proposed reserve.

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

Methodology Shepherd (2009)
GIS Database:
- DEC Proposed 2015 Pastoral Lease Exclusions
- 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, a Public Drinking Water Source Area (PDWSA) (GIS Database). All activities conducted within the PDWSA should be in accordance with the Department of Water (DoW) Land Use Compatibility Tables (DoW, 2011). Advice received from the DoW on the regarding the proposed clearing in the Newman Water Reserve states "BHP Billiton is both the water service provider utilising this water source and the applicant for the clearing permit. If the clearing and associated activities lead to contamination of the water source then there is an expectation that BHP [Billiton] would be responsible for remediation of any potential water contamination" (DoW, 2011). The DoW is satisfied that the proposed clearing of 2.81 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 and BHP Billiton's construction environmental management plans (DoW, 2011).

The small area of the proposed clearing (2.81 hectares) is unlikely to cause deterioration in the quality of surface or ground water.

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

Methodology DoW (2011)
GIS Database:
- Public Drinking Water Source 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 is located within the Fortescue River Upper catchment area (GIS Database). Given the size of the area to be cleared (2.81 hectares) in relation to the size of the catchment area (2,975,192 hectares) (GIS Database), the proposed clearing is not likely to increase the potential of flooding on a local or catchment scale.

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

Methodology GIS Database:
- Hydrographic Catchments - Catchments

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

Comments

The clearing permit amendment was advertised on 7 November 2011 by DMP inviting submissions from the public. One submission was received in relation to the cumulative impacts of clearing in the Shire of East Pilbara. Cumulative impacts have been taken into account under Principle (e).

There is one Native Title claim (WC05/6) over the application area (GIS Database). This claim 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 (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 is one known 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 Aboriginal Sites of Significance are damaged through the clearing process.

The proponent is committed to the management and protection of Aboriginal heritage sites (BHP Billiton, 2005). BHP Billiton has a heritage protocol agreement with the Nyiyaparli people (traditional owners of the Newman area), and regularly consult with the Nyiyaparli people to undertake Aboriginal heritage surveys in and around Newman (BHP Billiton, 2009). BHP Billiton also 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).

The application area is located within the Newman Water Reserve, a Public Drinking Water Source Area (PDWSA) (GIS Database). The Department of Water (DoW) has advised that all activities conducted within the PDWSA should be compatible with the DoW's Land Use Compatibility Tables (DoW, 2011). The proponent is advised to seek further advice from the DoW to ensure compliance in this regard.

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 3084/1 was issued by the Department of Mines and Petroleum (DMP) on 4 July 2009, and authorised the clearing of up to 0.81 hectares of native vegetation within an application area of 7.2 hectares for the purpose of road contruction. On 11 August 2010, BHP Billiton requested that clearing permit CPS 3084/1 be amended to extend the duration of the permit from 1 September 2010 to 1 September 2012. Clearing permit amendment CPS 3084/2 was granted on 26 August 2010. On 27 October 2011, BHP Billiton requested that clearing permit CPS 3084/2 be amended to increase the amount of clearing authorised to 2.81 hectares and increase the size of the application area to 14.2 hectares. Given the scale and nature of the proposed amendment, it is considered unlikely that there will be any additional environmental impacts from those described during the assessment of clearing permit CPS 3084/2.

Methodology BHP Billiton (2005)
BHP Billiton (2009)
DOW (2011)
GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Registered with the NNTT
- Public Drinking Water Source Areas

4. References

BHP Billiton (2005) Aboriginal Heritage Induction Handbook. BHP Billiton Iron Ore Pty Ltd, Western Australia.

BHP Billiton (2009) Orebody 25 Access Road for Dyno Nobel Trucks: Application to Clear Native Vegetation (Purpose Permit) under the *Environmental Protection Act 1986*. BHP Billiton Iron Ore Pty Ltd, Western Australia.

BHP Billiton (2011) Documents Supporting Clearing Permit Amendment CPS 3084/3. BHP Billiton Iron Ore Pty Ltd, Western Australia.

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.

DoW (2011) Public Drinking Water Source Area (PDWSA) Advice. Advice to Assessing Officer, Native Vegetation Assessment Branch, Department of Mines and Petroleum. Department of Water, Western Australia.
Ecologia Environment (2006) Newman Ammonium Nitrate Storage Facility Phase 2 Conservation Significant Flora Survey.
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. (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., Leighton, K.A. and Hennig, P. (2004) Technical Bulletin - An Inventory and Condition Survey of the Pilbara Region, Western Australia, No. 92. Department of Agriculture, Government of Western Australia, Perth, 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.