



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3895/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Hamersley Iron Pty Ltd**

1.3. Property details

Property: *Iron Ore (Hope Downs) Agreement Act 1992, Mining Lease 282SA (AM70/282)*
Local Government Area: Shire of East Pilbara
Colloquial name: Hope Downs Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
7.8		Mechanical Removal	Accommodation camp expansion and waste water treatment plant spray fields

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 at a 1:250,000 scale for the whole of Western Australia. One Beard vegetation association has been mapped within the application area (GIS Database; Shepherd, 2007):

18: Low woodland; mulga (*Acacia aneura*) (GIS Database; Shepherd, 2007).

The application area was surveyed by Biota Environmental Sciences staff between 27 September and 11 October 2005 (Biota Environmental Sciences, 2006a). The following vegetation types were identified within the application area.

Minor Flowlines

EIEgPIAmAteAbTpTaffb: *Eucalyptus leucophloia*, *Eucalyptus gamophylla* low open woodland over *Petalostylis labicheoides*, *Acacia monticola*, *Acacia tenuissima*, *Acacia bivenosa* open heath over *Triodia pungens* (*Triodia* aff. *basedowii*) hummock grassland;

Plains

CdEIEgTaffb: *Corymbia deserticola*, *Eucalyptus leucophloia* scattered low trees over *Eucalyptus gamophylla* low open mallee woodland over mixed shrubs over *Triodia* aff. *basedowii* hummock grassland;

AanAcaTpTaffb: *Acacia aneura*, *Acacia catenulata* Low open forest over *Triodia pungens*, *Triodia* aff. *basedowii* very open to open hummock grassland; and

EIAbTbr: *Eucalyptus leucophloia* low open woodland over *Acacia bivenosa* tall open shrubland over *Triodia brizoides* hummock grassland (Rio Tinto, 2010a; Rio Tinto, 2010b; Biota Environmental Sciences, 2006a).

Clearing Description The applicant has applied to clear up to 7.8 hectares of native vegetation within a 18.6 hectare area for the purpose of expanding the Hope Downs Village.

The proposed works will include:

- Maintaining and establishing Additional permanent/visitor rooms;
- Additional facilities i.e. laundry buildings, gym;
- Additional car parking area, lay down areas; and
- Extension of the waste water treatment plant and spray field areas (Hamersley Iron Pty Ltd, 2010).

Access to the site will be via the existing Hope Downs access road (Rio Tinto, 2010a; Rio Tinto, 2010b).

Vegetation Condition Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);

To
Pristine: No obvious signs of disturbance (Keighery, 1994).

Comment The application area is located in the Pilbara region, approximately 80 kilometres north-west of Newman (GIS Database). The vegetation condition was derived from a vegetation survey conducted by Biota Environmental Sciences (2006a).

3. Assessment of application against clearing principles

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

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

The application area occurs within the Hamersley (PIL3) sub-region of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This sub-region is characterised by sedimentary ranges and plateaux, dissected by gorges (CALM, 2002). At a broad scale, vegetation can be described as Mulga low woodlands over bunch grasses on fine textured soils in valley floors and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002).

Three broad habitat types were recorded as occurring within the application area;

1. Drainage Lines;
2. Scree Slopes and Stony Rises; and
3. Valley Floors and Plains (Biota Environmental Sciences, 2006b).

The broad fauna assemblages of the application area are very much intact and representative of a natural ecosystem. The fauna habitats that occur within the proposed impact footprint clearly also occur beyond the impact footprint (Biota Environmental Sciences, 2006b).

Whilst there are no TEC's recorded within the application area, one ecosystem that is classified as 'other ecosystems at risk' has been identified (CALM, 2002). 'Lower slope mulga' occurs within the application area and is represented by the vegetation type AanAcaTpTaffb (Biota Environmental Sciences, 2006a; CALM, 2002). This ecosystem has a status of endangered, with the processes threatening it described as 'changed fire regimes' (CALM, 2002).

One Priority Ecological Community (PEC), "Weeli Wolli Spring Community" (DEC, 2009) occurs approximately 17 kilometres north east of the application area (GIS Database). This PEC has a category ranking of Priority 1, which is defined as "ecological communities with apparently few, small occurrences, all or most not actively managed for conservation (e.g. within agricultural or pastoral lands, urban areas, active mineral leases) and for which current threats exist" (DEC, 2007). At this distance it is unlikely that the proposed clearing will significantly impact on the PEC.

Eight alien weed species were recorded within the application area (Biota Environmental Sciences, 2006a). These were: Buffel Grass (*Cenchrus ciliaris*), Birdwood Grass (*Cenchrus setigerus*), Whorled Pigeon Grass (*Setaria verticillata*), Mediterranean Turnip (*Brassica tournefortii*), Spiked Malvastrum (*Malvastrum americanum*), Beggars Ticks (*Bidens bipinnata*), Indian Weed (*Sigesbeckia orientalis*) and Common Sowthistle (*Sonchus oleraceus*) (Biota Environmental Sciences, 2006a). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This in turn can lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. None of these species are listed as 'Declared Plant' species under the *Agriculture and Related Resources Protection Act 1976* by the Department of Agriculture and Food. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

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

Methodology Biota Environmental Sciences (2006a)
Biota Environmental Sciences (2006b)
CALM (2002)
DEC (2007)
DEC (2009)
GIS Database:
- IBRA WA (regions - subregions)

(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**

According to Shepherd (2007) approximately 99.95% of the pre-European vegetation remains within the Pilbara bioregion. Given the extent of native vegetation remaining in the local area and bioregion, the vegetation to be cleared does not represent a significant ecological linkage.

In 2005, a fauna survey of the Hope Downs project area was undertaken by Biota Environmental Sciences (2006b). The field survey was conducted on 4-19 September 2005, with sampling methods including the use of Elliott traps, avifauna surveys, harp nets and opportunistic methods (Biota Environmental Sciences, 2006b).

Biota Environmental Sciences (2006b) recorded three broad habitat types as occurring within the application area:

1. Drainage Lines;
2. Scree Slopes and Stony Rises; and
3. Valley Floors and Plains (Biota Environmental Sciences, 2006b).

One ecosystem that is classified as 'other ecosystems at risk' has been identified as occurring on the 'plains' habitat type (Biota Environmental Sciences, 2006b; CALM, 2002). 'Lower slope mulga' occurs within the application area and is represented by the vegetation type AanAcaTpTaffb (Biota Environmental Sciences, 2006a; CALM, 2002). This vegetation occurred on stony and clayey plains throughout the study area, associated with the Platform Land System (Biota Environmental Sciences, 2006b). This ecosystem has a status of endangered, with the processes threatening it described as 'changed fire regimes' (CALM, 2002).

According to Biota Environmental Sciences (2006b) the lower slope mulga is not known to be core habitat for any species of conservation significance, nor any taxa confined to this vegetation type. The ground assemblages appear to be typical of that recorded from comparable substrates elsewhere in the bioregion (Biota Environmental Sciences, 2006b).

Fauna habitat within the application area has experienced historical disturbance from the existing camp and waste water treatment plant spray fields. The clearing of 7.8 hectares within an area which has suffered previous disturbance is unlikely to result in a loss of significant habitat for fauna indigenous to Western Australia.

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

Methodology Biota Environmental Sciences (2006a)
Biota Environmental Sciences (2006b)
CALM (2002)
Shepherd (2007)

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

Comments Proposal may be at variance to this Principle

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

A flora survey was conducted over the application area by staff from Biota Environmental Sciences between the 27 September - 11 October 2005 and the 14 - 17 February 2006 (Biota Environmental Sciences, 2006a). No DRF species were recorded within the application area (Biota Environmental Sciences, 2006a).

Lepidium catapycnon (DRF) is known to occur in the vicinity of Hope Downs (Biota Environmental Sciences, 2006a). This species was not recorded during the survey, however suitable habitat (skeletal soils, hillsides) is present throughout much of the study area and this species may occur (Biota Environmental Sciences, 2006a).

Potential impacts to DRF as a result of the proposed clearing may be minimised by the implementation of a flora management condition.

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

Methodology Biota Environmental Sciences (2006a)
GIS Database:
- Declared Rare 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

A search of available databases reveals that there are no Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest TEC is located approximately 76 kilometres south-east of the application area (Ethel Gorge). At this distance there is little likelihood of any impact to the TEC from the proposed clearing.

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

Methodology GIS Database:
- Threatened Ecological Sites Buffered

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

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

The application area falls within the Pilbara IBRA bioregion (GIS Database). Shepherd (2007) reports that approximately 99.95% of the pre-European vegetation remains in this bioregion.

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

18: Low woodland; mulga (*Acacia aneura*) (GIS Database; Shepherd, 2007).

According to Shepherd (2007) approximately 100% of these Beard Vegetation Associations remain within the Pilbara bioregion (see table below).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,804,188	17,794,647	~99.95%	Least Concern	~6.32%
IBRA Subregion - Hamersley	5,634,726	5,634,726	~100%	Least Concern	~12.88%
Beard vegetation associations - State					
18	19,892,305	19,890,195	~100%	Least Concern	~2.1%
Beard vegetation associations - Bioregion					
18	676,557	676,557	~100%	Least Concern	~16.8%

* Shepherd (2007)

** Department of Natural Resources and Environment (2002)

Historical clearing for the existing Hope Downs camp has taken place; however when a comparison is made with the Hamersley subregion and the vegetation units recorded within the study area, this amount of clearing is negligible (Rio Tinto, 2010a).

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

Methodology Department of Natural Resources and Environment (2002)
Rio Tinto (2010a)
Shepherd (2007)
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 GIS Databases, there are no permanent wetlands or watercourses within the application area, however there is one ephemeral watercourse within the application area (GIS Database).

Based on vegetation mapping conducted by Biota Environmental Sciences (2006a) one of the four vegetation associations found within the application area is associated with drainage areas. No major watercourses or wetlands were recorded in the survey area (Biota Environmental Sciences, 2006a).

The vegetation mapping unit EIEgPIAmAteAbTpTaffb represents a minor flowline which traverses through the study area, and which the existing camp intersects. The proposed camp extension is likely to further impact on this flowline (Rio Tinto, 2010a).

Similar flowlines are common in the surrounding region, which receive surface water flow from the hills to the north of the study area. The habitat within the study area would therefore not be considered to support a unique or restricted wetland habitat requiring special consideration (Rio Tinto, 2010a).

Based on the above, the proposed clearing is at variance to this Principle. However, the proposed clearing is not likely to significantly impact on the conservation of vegetation growing in association with permanent

watercourses or wetlands due to the absence of these within the application area. The proposed clearing of 7.8 hectares of native vegetation is unlikely to significantly impact on vegetation communities growing in association with these drainage channels. Should any watercourses be disturbed the proponent should liaise with the Department of Water to determine whether a Bed and Banks permit is necessary for the proposed works.

Methodology Biota Environmental Sciences (2006a)
Rio Tinto (2010a)
GIS Database:
- Hydrography, Linear

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

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

The application area has been surveyed by the Department of Agriculture and Food (Van Vreeswyk et al., 2004), and is comprised of the Platform Land System (GIS Database).

The Platform Land System is described as dissected slopes and raised plains supporting hard spinifex grasslands (Van Vreeswyk et al., 2004). The soils of this land system are not susceptible to erosion (Van Vreeswyk et al., 2004).

Based on the above, the proposed clearing is not likely to be at variance to this Principle. Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a rehabilitation condition.

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

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

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

The proposed clearing is not located within a conservation reserve (GIS Database). The nearest known conservation reserve is Karijini National Park, located approximately 38 kilometres west (GIS Database).

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

Methodology GIS Database:
- DEC Tenure

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

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

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

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

The groundwater salinity within the application area is approximately 500 - 1,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). This is considered to be potable water. Given the size of the area to be cleared (7.8 hectares) compared to the size of the Hamersley Groundwater Province (10,166,833 hectares) (GIS Database), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

The application area is located in a semi-desert-tropical region, with an average annual rainfall of approximately 310.2 millimetres recorded from the nearest weather station at Newman approximately 80 kilometres south-east of the application area (BoM, 2010; CALM, 2002). The size of the proposed clearing area within the above climate is unlikely to result in significant changes to surface water flows.

The existing spray field currently receives an increased nutrient load of Phosphorus and Nitrogen as a result of the increased demand placed on the existing treatment facility (Rio Tinto, 2010b). An increase in area to be irrigated would mean a smaller nutrient build up over time from a more adequate balance of irrigation and nutrient uptake from the vegetation in the study area, thus reducing excess nutrients from having the potential to affect surface and groundwater quality in the local area (Rio Tinto, 2010b).

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

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

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

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

The application area experiences a semi-desert, tropical climate with an average annual rainfall of 310.2 millimetres (CALM, 2002; BoM, 2010). Rainfall is usually experienced during summer months and can be either cyclonic or thunderstorm events (CALM, 2002). It is likely that during times of intense rainfall there may be some localised flooding in adjacent areas. Local flooding occurs seasonally within the Pilbara region as a result of cyclonic activity and sporadic thunderstorm events. The proposed clearing of 7.8 hectares is unlikely to significantly alter the intensity of flooding within the application area and surrounding areas.

The application area is located within the Upper Fortescue River catchment area (GIS Database). However, the size of the area to be cleared (7.8 hectares) in relation to the size of the Upper Fortescue River catchment area (2,975,192 hectares) (GIS Database) is not likely to increase the potential for flooding within the application area, local area or within the catchment (GIS Database).

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

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

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

Comments

There is one native title claim (WC05/003) over the area under application (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 (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

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

It is the proponent's responsibility to liaise with the Department of Environment and Conservation and the Department of Water, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

The Hope Downs Iron Ore Mine proposal was referred to the Environmental Protection Authority (EPA) in 2001. The EPA undertook a review and provided a report and recommendations in August 2001. The Minister for the Environment and Heritage determined on the 1 February 2002 that the proposal may be implemented subject to conditions and procedures under Ministerial Statement 000584.

The clearing permit application was advertised on 23 August 2010 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

Methodology GIS Database
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*, and the proposed clearing is at variance to Principle (f), may be at variance to Principle (c), is not likely to be at variance to Principles (a), (b), (d), (g), (h), (i) and (j) and is not at variance to Principle (e).

5. References

- Biota Environmental Sciences (2006a) Hope Downs Rail Corridor (Juna Downs Section) Vegetation and Flora Survey. Prepared for Pilbara Iron Pty Ltd. Unpublished report dated July 2006.
- Biota Environmental Sciences (2006b) Hope Downs Rail Corridor (Juna Downs Section) Fauna Survey. Prepared for Pilbara Iron Company Pty Ltd. Unpublished report dated July 2006.
- BoM (2010) BOM Website - Climate Averages by Number, Averages for NEWMAN. www.bom.gov.au/climate/averages/tables/cw_007151.shtml (Accessed 14 September 2010).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 3 (PIL3 - Hamersley subregion) Department of Conservation and Land Management, Western Australia.
- DEC (2007) Definitions, Categories and Criteria for Threatened and Priority Ecological Communities. www.dec.wa.gov.au/content/view/full/849/2017/ (Accessed 9 September 2010).
- DEC (2009) Priority Ecological Communities for Western Australia. Species and Communities Branch, Department of Environment and Conservation. www.dec.wa.gov.au (Accessed 9 September 2010).
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Hamersley Iron (2010) Application for a Clearing Permit (Purpose Permit): Hope Downs Village Camp Expansion and WWTP Spray Irrigation Field - AM70/282. Supporting documentation.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Rio Tinto (2010a) Statement Addressing the 10 Clearing Principles: Earthworks Project for the Hope Downs 1 Village - Stage 3 Camp Expansion. Rio Tinto, Western Australia.
- Rio Tinto (2010b) Statement Addressing the 10 Clearing Principles: Earthworks Project for the Hope Downs 1 Village - Waste Water Treatment Spray Irrigation Fields. Rio Tinto, 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.
- 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.