



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6225/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Birla Nifty Pty Ltd

1.3. Property details

Property: *Western Mining Corporation Limited (Throssell Range) Agreement Act 1985*, Mining Lease 271SA (AM 70/271)
Local Government Area: Shire of East Pilbara
Colloquial name: Nifty Copper Operation

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
180		Flooding	Mine Water Discharge

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 6 November 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 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).

134: Mosaic: Hummock grasslands, open low tree steppe; desert bloodwood and feathertop spinifex on sandhills / Hummock grasslands, shrub steppe; mixed shrubs over spinifex between sandhills.

Botanic Gardens and Parks Authority (BGPA) undertook a targeted survey of the proposed discharge area in July 2014 and identified two broad vegetation types. These are:

Sand Plains: *Triodia basedowii* hummock grasslands with scattered shrubs grading to shrublands of *Acacia* species, most commonly *A. stellaticeps*;

Sand Dunes: Vegetation gradient from the lower slope to the crest with *Triodia schinzii* on the crest, grading to *Triodia basedowii* on the lower slopes, with a variety of shrubs, herbs and grasses. Common species found include *Corymbia chippendalei*, *Acacia dictyophleba*, *Dicrastylis doranii*, *Aluta maisonneuvei* and *Grevillea stenobotrya*.

Clearing Description

Nifty Copper Operation Birla Nifty Pty Ltd (BNPL) proposes to clear up to 180 hectares of native vegetation within a total boundary of approximately 350 hectares for the purpose of mine dewatering. The project is located approximately 150 kilometres east of Nullagine, in the Shire of East Pilbara.

Vegetation Condition

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds nonaggressive (Keighery, 1994);

To

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

The vegetation condition is based on the flora and fauna surveys carried out by BGPA and Rapallo Group in July 2014.

A large proportion of the application area is in a Degraded condition as a result of water discharge which has occurred over native vegetation (BNPL, 2014).

Proposed clearing will occur via flooding, as a result of mine dewatering activities.

Discussions regarding the clearing permit application have been held with Department of State Development, Department of Environment Regulation, Department of Parks And Wildlife and Department of Water.

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The application areas fall within the southern section of the Mackay sub-region of the Great Sandy Desert Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). The vegetation within the southern section of this sub-region is characterised as having mainly tree steppe grading to shrub steppe; comprising open hummock grassland of *Triodia pungens* and *Triodia schinzii* with scattered trees of *Owenia*

reticulata and bloodwood (*Corymbia* spp.), and shrubs of *Acacia* spp., *Grevillea wickhamii* and *G. refracta*, on Quaternary red longitudinal sand dune fields overlying Jurassic and Cretaceous sandstones of the Canning and Armadale Basins. *Allocasuarina decaisneana* (Desert Oak) occurs in the south and east of the region. Gently undulating lateritised uplands support shrub steppe such as *Acacia pachycarpa* shrublands over *Triodia pungens* hummock grass. Calcrete and evaporite surfaces are associated with occluded palaeo-drainage systems that traverse the desert; these include extensive salt lake chains with samphire low shrublands, and *Melaleuca glomerata* - *M. Lasiandra* shrublands (CALM, 2002).

Targeted flora and fauna surveys were conducted by Botanic Gardens and Park Authority (BGPA) and Rapallo Group in July, 2014. This involved both desktop studies and targeted site surveys of the application areas (BGPA, 2014; Rapallo, 2014).

During the flora and vegetation survey *Goodenia hartiana*, a Priority 2 species was recorded near the mine site (BGPA, 2014). BGPA (2014) has identified one possible population of six *Goodenia hartiana* plants found approximately 100 metres outside the northern boundary of the application area. This population is in a slightly elevated position and is unlikely to be impacted by future dewatering activities (BGPA, 2014).

The flora and vegetation survey recorded two weed species, Kapok (*Aerva javanica*) and Buffel Grass (*Cenchrus ciliaris*) (BGPA, 2014). The presence of weeds has the potential to reduce the biodiversity of an area, and care should be taken to ensure that weeds are not spread as a result of the proposed clearing. Potential impacts may be minimised by the implementation of a weed management condition.

From a fauna perspective, three threatened fauna taxa listed as either 'Vulnerable' or 'Endangered' under State and Federal legislation have been recorded in the vicinity of the proposed clearing area (Rapallo, 2014). The flora and fauna surveys have shown that the areas applied for clearing do not appear to represent areas of outstanding biodiversity and contain commonly occurring vegetation communities that are well represented in the surrounding area (BNPL, 2014).

Advice has been sought from the Department of Environment Regulation (DER), Department of Parks And Wildlife (DPAW), Department of State Development (DSD), and Department of Water (DoW) in relation to the proposed mine dewatering. DSD, DoW and DPAW have advised that they are satisfied that impacts associated with the proposed clearing will be sufficiently mitigated by DER and DMP approval processes.

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

Methodology BGPA (2014)
BNPL (2014)
CALM (2002)
Rapallo (2014)
GIS Database:
- IBRA WA (Regions - Subregions)
- 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 targeted survey of the discharge areas was completed by Rapallo Group (2014) in the Nifty project area between 17 and 18 July 2014. Two main fauna habitats have been described for the application area: spinifex dominated open swale (this area has been recently burnt and disturbed by water discharge); and closed swale dominated by spinifex and small shrubs (Rapallo, 2014). Spinifex dominated open swale habitat is in poor condition, and has been disturbed by a recent fire event and flooding (Rapallo, 2014).

The habitats present within the application area are widespread and common in the region (BNPL, 2014). Given the availability of higher quality habitat outside of the application area, the vegetation proposed to be cleared is considered unlikely to comprise significant fauna habitat in a local or regional context.

Three species of conservation significant mammals have been identified to exist in the area: Mulgara (*Dasyercus cristicauda*), Bilby (*Macrotis lagotis*), and the Northern Marsupial Mole (*Notoryctes caurinus*) (Rapallo, 2014). One conservation significant reptile has been recorded at the Nifty Copper Operation, Woma Python (*Aspidites ramsayi*) and seven conservation significant bird species: Australian Bustard (*Ardeotis australis*), Rainbow Bee-eater (*Merops ornatus*), Great Egret (*Ardea modesta*), Wood Sandpiper (*Tringa glareole*), Marsh Sandpiper (*Tringa stagnatilis*), Common Sandpiper (*Actitis hypoleucos*) and Common Greenshank (*Tringa nebularia*).

The Mulgara and the Bilby are quite mobile so there is potential that they may forage within the application area (Rapallo, 2014). Rapallo (2014) reports that the application area occurs on habitat that could support Bilbies and Mulgara, though the vegetation is in a degraded state and it is considered unlikely that they will inhabit this area. No signs of Bilbies or Mulgara were observed in the survey area (Rapallo, 2014).

Marsupial Moles have been identified as being present within the region, with the most recent example being observed in 2004 during the construction of the Port Hedland to Telfer gas pipeline on the top of a gentle sandy rise 32 kilometres north-northeast of Nifty (BNPL, 2014). Marsupial Moles are typically found in mid to upper dune areas with sandier soils and it is considered unlikely that this species will be present within the application area as it is located within a low lying swale area (BNPL, 2014; Rapallo, 2014)

Although not recorded in the Department of Parks and Wildlife Threatened Fauna Database search for the area, the Woma Python is present in the region having been observed during the Nifty pipeline construction (Rapallo, 2014). However, given the land systems and habitat types within the application area are represented widely on a regional scale, it is unlikely that the proposed clearing would impact on the conservation status of the Woma Python (Rapallo, 2014).

The Australian Bustard inhabits a wide range of habitats which the birds can easily move between. Consequently, the proposed clearing is unlikely to significantly impact on the species (Rapallo, 2014).

The Rainbow Bee-eater, Great Egret, Wood Sandpiper, Marsh Sandpiper, Common Sandpiper and Common Greenshank are listed as migratory under the *Environmental Protection and Biodiversity Conservation Act 1999* and are likely to overfly and be occasional visitors, rather than using the habitats of the project area regularly (Rapallo, 2014). The proposed clearing is not likely to impact critical feeding or breeding habitat for any migratory species (BNPL, 2014; Rapallo, 2014).

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

Methodology BNPL (2014)
Rapallo (2014)

(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

A desktop review and survey was conducted between 1 and 2 July 2014 by BGPA (2014) to determine if any Threatened Flora occurs within the application areas. No records of Threatened Flora have been reported within the Great Sandy Desert (CALM, 2002; GIS Database) and none were recorded during the flora and vegetation survey (BGPA, 2014).

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

Methodology BGPA (2014)
CALM (2002)
GIS Database:
- Threatened and Priority Flora

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

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

No Threatened Ecological Communities (TECs) are known to occur within the Mackay subregion (CALM, 2002; GIS Database). In addition no TECs were identified during the survey in, or near, the area proposed for clearing (BNPL, 2014; GIS Database). The nearest known TEC is located approximately 200 kilometres north of the application area (GIS Database).

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

Methodology BNPL (2014)
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 Great Sandy Desert Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). The vegetation of the application area has been broadly mapped as Beard vegetation association 134: Mosaic: Hummock grasslands, open low tree steppe; desert bloodwood and feathertop spinifex on sandhills / Hummock grasslands, shrub steppe; mixed shrubs over spinifex between sandhills (GIS Database).

This vegetation association remains at approximately 99% of pre-European extent, at the state and bioregion levels (see table below). Therefore, the area proposed to be cleared does not represent a significant remnant

of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPAW Managed Lands
IBRA Bioregion - Great Sandy Desert	29,538,805	29,535,816	~99.99	Least Concern	4.97
Beard vegetation associations - State					
134	26,026,865	26,022,995	~99.99	Least Concern	3.34
Beard vegetation associations - Bioregion					
134	13,595,888	13,593,951	~99.99	Least Concern	4.97

* 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 Australia
- 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 at variance to this Principle**
According to available GIS Databases, there are no permanent wetlands or watercourses within the application area, or ephemeral drainage lines (GIS Database). BNPL (2014) has advised that no vegetation associated with a watercourse or wetland has been identified within the application area.

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

Methodology BNPL (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 may be at variance to this Principle**
BNPL (2014) has advised that there may be short term impacts associated with the proposed mine water discharge, due to increased soil salinity as a result of the evaporative concentration of salts. However, the proponent has advised that management and mitigation measures will be implemented that are expected to avoid any permanent impacts. These measures include: flow dissipation measures at discharge points to minimise erosion; routine monitoring of discharge water quality to ensure it meets ANZECC 2000 Guidelines, Short-Term trigger Values (up to 20 years) for Irrigation Water; confining vehicle movements to clearly defined tracks; and minimising vegetation removal (BNPL, 2014).

Revegetation in the nearby Lake Huge swale, where water of similar quality was discharged between 2002 and 2004, has been satisfactory and a similar recovery is expected in the proposed discharge area (BNPL, 2014).

In the long term, rehabilitation will minimise the potential erosion risks associated with the clearing (BNPL, 2014).

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

Methodology BNPL (2014)

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

Comments **Proposal is not likely to be at variance to this Principle**
There are no conservation areas within the vicinity of the application area (GIS Database). The nearest conservation area is the Karlamilyi National Park which is located approximately 75 kilometres south of the application area.

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

Methodology GIS Database:
- Clearing Regulations – Schedule One Areas
- 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 may be at variance to this Principle**
The application area is not located within a Public Drinking Water Source Area (GIS Database). There are no permanent water bodies, watercourses or ephemeral drainage lines within the application areas (GIS Database).

The groundwater salinity within the application area is between 1000 - 3000 milligrams per litre of Total Dissolved Solids (GIS Database). Groundwater and surface water quality is monitored via an ongoing program which was started in 1995.

The proposed mine water discharge is expected to result in increases in ground water levels at the discharge zone which may reach ground level, depending on the rate of discharge and permeability of swale soils. Surficial aquifers in alluvium or weathered shale at Nifty usually indicate rapid recharge in response to major wet season or rainfall events followed by a gradual return to long term levels during extended dry periods (BNPL, 2014). Water quality in near-neutral to alkaline mine water is similar to groundwater in alluvium or weathered shale at Nifty in terms of pH, salinity and dissolved metals (BNPL, 2014). A slight increase in salinity levels as a result of evaporative concentration of salts in standing water may result in surficial aquifers, but increased salinity in surficial aquifers are expected to dissipate within 12 months of ceasing discharge, especially if accompanied by high rainfall events (Martinick Bosch Sell, 2014).

The DoW has advised that the Birla Nifty groundwater licence will not need amending, however, an updated operating strategy that supports the licence with the intended change of water use and reference to the supporting approval will be required (DoW, 2014). DoW (2014) is satisfied that impacts associated with the proposed clearing will be sufficiently mitigated by DER and DMP approval processes.

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

Methodology BNPL (2014)
DoW (2014)
Martinick Bosch Sell (2014)
GIS Database:
- Groundwater Salinity, Statewide
- Hydrography, Linear
- Public Drinking Water Source Areas (PDWSA)

(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**
There are no natural waterways within the application area, although low-lying swathes are subject to occasional natural flooding from extreme cyclonic events (BNPL, 2014; GIS Database). The proposed clearing is for the purpose of mine dewatering activities via water discharge into the application area. This activity is likely to result in increases in standing water levels at the discharge zone (BNPL, 2014). The discharge area is located in a very large east-west trending dune swale and the discharge of mine water is not expected to affect future potential flooding in the area (BNPL, 2014).

There are no natural waterways in the application areas (GIS Database). This region has an average annual rainfall of approximately 335 millimetres (BoM, 2014), and the average annual evaporation rate is approximately 3,800 millimetres (GIS Database). Low lying swathes are subject to occasional natural flooding from extreme cyclonic events (BNPL, 2014). The proposed water discharge will cause additional localised flooding within the swale, however it is not expected to significantly exacerbate the incidence or intensity of natural flooding events.

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

Methodology BNPL (2014)
BoM (2014)
GIS Database:
- Evaporation Isopleths
- Hydrography linear

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

Comments

There are is one Native Title Claim (WC96/78) over the areas under application (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant groups. 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 areas (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.

In March 2014, the Nifty Copper Operation underground mine suffered a geotechnical failure. Birla Nifty Pty Ltd suspended underground mining, under instruction from the Department of Mines and Petroleum (DMP), however it was necessary to increase mine dewatering to reduce aquifer pressure and stabilise the mine. The DER was notified of an emergency requirement to discharge up to 100 Mega Litres of mine water (Section 72 Waste Discharge Notification) on the 28 March 2014. A meeting was held with DMP on 26 May 2014, where it was agreed that management of the discharge would be most appropriately addressed by a Clearing Permit from DMP and a Prescribed Premises License amendment from the DER (BNPL, 2014). The proponent has applied to DER for an amendment to the REFIRE Prescribed Premises license (BNPL, 2014). An *Addendum to an Operating Strategy* form is also to be submitted to the DoW once approval from the DER is granted stating the change in water use at the Nifty Copper Operations (BNPL, 2014).

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 clearing permit application was advertised on 25 August 2014 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received raising concerns about the proposed clearing.

Methodology BNPL (2014)
GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Registered with the NNTT

4. References

- BGPA (2014) Botanic Gardens and Parks Authority, Targeted Rare Flora Survey – Nifty Copper Operations, Western Australia.
- BNPL (2014) Birla Nifty Pty Ltd, Purpose Permit Application for Mine Dewatering Discharge, Western Australia.
- BOM (2014) Bureau of Meteorology Climate Statistics for Australian Locations, Summary Statistics for Nullagine, Western Australia. Commonwealth Government of Australia. Last Accessed 20/10/2014. Available online: http://www.bom.gov.au/climate/averages/tables/cw_004027.shtml
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. 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.
- DER (2014) Department of Environment Regulation advice regarding potential impacts and requirements for mine water discharge at Birla Nifty – Nifty Copper Operations Project. WA Department of Environment and Regulation, Perth.
- DoW (2014) Department of Water advice regarding potential impacts of mine water discharge at Birla Nifty – Nifty Copper Operations Project. WA Department of Water.
- Government of Western Australia (2013) 2013 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). 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.
- Martinick Bosch Sell (2014) Memorandum: Mine Water Discharge Options, Nifty Copper Operations, Western Australia 2014.
- Rapallo (2014) Rapallo Group, Targeted Conservation Significant Species Survey of the Birla Nifty Copper Operation Water Discharge Area, 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.