Department of Industry and Resources

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2731/1
Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: *Iron Ore (Channar Joint Venture) Agreement Act 1987*, Mining Lease 265SA (AM 70/265)
Local Government Area: Shire Of Ashburton
Colloquial name: Channar Iron Ore Mine Access Track

1.4. Application

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

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
The area applied to clear has been mapped at a scale of 1:250,000 as: Beard Vegetation Association 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (Shepherd et al., 2001; GIS Database). Pilbara Flora conducted a Level 1 flora and vegetation survey of the application area in May 2008. Pilbara Flora (2008) identified eight vegetation units (associated with landforms) within the application area: 1. Acacia shrubland on stony ridgeline. 2. River Red Gum and Melaleuca broad creek. 3. Snakewood woodland on stony plains. 4. Snakewood woodland on stony slopes. 5. Mulga and Spinifex on stony hillsides. 6. Mulga and Spinifex on stony hillsides burnt. 7. Mulga woodland on stony hillside. 8. Mulga and Grevillea minor creekline.	This clearing permit application is for a purpose permit to clear up to 1ha of native vegetation within an area of approximately 5.9ha (GIS Database). The proposed clearing is located on Iron Ore (Channar Joint Venture) Agreement Act 1987, Mining Lease 265SA (AM 70/265), approximately 15km south-east of Paraburdoo (GIS Database). The purpose of the proposed clearing is to create an access track for the removal of boulders from the creekbed of a watercourse called Stony Creek (Pilbara Flora, 2008). These boulders have fallen into the creekbed due to mining activity and may be disrupting water flow in the creek, causing turbulence and scouring (Pilbara Flora, 2008). Vegetation clearing will be undertaken via mechanical means using a dozer and vegetation and topsoil will be stockpiled for rehabilitation purposes (Hamersley Iron, 2008).	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994). To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).	The vegetation condition rating was obtained from Pilbara Flora (2008). Apart from the section of the application area where the boulders were located there was minimal weed infestation. Therefore, Pilbara flora classified the overall condition as being in 'good' to 'excellent' condition.

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 is located within the Hamersley subregion of the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). This subregion is generally a mountainous area of Proterozoic sedimentary ranges and plateaux, dissected by gorges (basalt, shale and dolerite) (CALM, 2002). The Hamersley subregion consists primarily of 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).

A flora and vegetation survey was conducted over the application area by Pilbara Flora (2008). The survey identified a total of 77 taxa from 48 genera and 27 families (Pilbara Flora, 2008). Pilbara Flora (2008) identified *Mimosaceae*, *Poaceae*, *Caesalpiniaceae* and *Myoporaceae* as being the dominant families, which is typical for the southern Pilbara region. No Declared Rare Flora (DRF), Threatened Ecological Communities (TEC's) or Priority Ecological Communities (PEC's) were recorded during the survey (Pilbara Flora, 2008).

Pilbara Flora (2008) report that the proposed clearing area is relatively weed free apart from a few species in an upland creek and in Stony Creek where the boulders were located. The following species were recorded from the application area: Burr Grass (*Cenchrus echinatus*), Buffel Grass (*Cenchrus ciliaris*), Ruby Dock (*Acetosa vesicaria*) and Kapok Bush (*Aerva javanica*) (Pilbara Flora, 2008). The presence of these introduced weed species lowers the biodiversity value of the proposed clearing area. Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Should a clearing permit be granted, it is recommended that a condition be imposed for the purposes of weed management.

The assessor performed a search of the Western Australian Museum Fauna Database for fauna species that may occur within 50km of the application area. The search identified up to 16 mammals from 6 families, 43 reptiles from 8 families, 19 birds from 14 families and 2 amphibians from 2 families (Western Australian Museum, 2008). However, during the flora and vegetation survey no features such as caves, ledges, tree hollows, roosting sites, waterholes, gorges or pisolitic mesas were observed (Pilbara Flora, 2008). Therefore, it is not expected that the vegetation of the application area would provide significant habitat for any species.

The landforms, vegetation types and fauna habitats are well represented locally and within the Pilbara region generally (Pilbara Flora, 2008). Therefore, the proposed clearing of 1ha 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

CALM (2002)
Pilbara Flora (2008)
Western Australian Museum (2008)
GIS Database
- Interim Biogeographic Regionalisation for Australia

(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

The Department of Environment and Conservation (DEC) have performed a search of threatened fauna on behalf of Hamersley Iron for a 50km radius around Howie's Hole, which includes the area under application. DEC (2008) identified several fauna species of conservation significance that have the potential to occur within the search area. Those most likely to occur are as follows:

- Northern Quoll (*Dasyurus hallucatus*) – Endangered (*Environmental Protection and Biodiversity Conservation Act 1999*).
- Bush Stone-curlew (*Burhinus grallarius*) – Priority 4 on the DEC's Threatened and Priority Fauna list; and
- Western Pebble-mound Mouse (*Pseudomys chapmani*) – Priority 4 on the DEC's Threatened and Priority Fauna list.

The Bush Stone-curlew and Northern Quoll are considered to have some potential of inhabiting the River Red Gum (*Eucalyptus camaldulensis* var. *obtusa*) open woodland occurring along Stony Creek (Pilbara Flora, 2008). However, the River Red Gum open woodland is not considered ideal habitat for the Bush Stone-curlew due to a lack of grass and shrub strata (Pilbara Flora, 2008). The Northern Quoll is known to hide in hollow logs, rock crevices, caves and tree hollows during the day (Department of Environment, Water, Heritage and the Arts, 2005), however, due to the small to medium size of the River Red Gums they would not yet have developed the roosting hollows desired by Northern Quolls (Pilbara Flora, 2008). Therefore, the vegetation of the application area is not likely to represent significant habitat for either of these species.

Western Pebble-mound Mouse colonies generally occur on gentler slopes of rocky ranges where the ground is

covered by a stony mulch and vegetated by hard Spinifex, often with an overstorey of eucalypts and scattered shrubs (Van Dyck and Strahan, 2008). Mounds are often sited close to narrow ribbons of Acacia-dominated scrub that grow along incised drainage lines (Van Dyck and Strahan, 2008). These landscape types occur within the application area, however, a search by Pilbara Flora (2008) did not uncover any active mounds. Hence, the vegetation and landforms of the application area are unlikely to represent significant habitat for this species.

The vegetation, landforms and habitat types of the application area are well represented locally and within the Pilbara region generally. In addition the proposed clearing will have minimal impact on the River Red Gum open woodland as no trees will be cleared (Pilbara Flora, 2008). Therefore, it is unlikely that the proposed clearing will have a significant impact on the fauna habitats within the area.

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

Methodology DEC (2008)
Department of Environment, Water, Heritage and the Arts (2005)
Pilbara Flora (2008)
Van Dyck and Strahan (2008)

(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**
Pilbara Flora (2008) undertook a flora and vegetation survey of the proposed clearing area in accordance with Environmental Protection Authority (EPA) Guidance Statement 51: 'Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia' (EPA, 2004). The survey included a search of available databases and literature as well as a field survey performed in May 2008 (Pilbara Flora, 2008).

According to available databases, there are no known records of Declared Rare Flora (DRF) or Priority Flora species within the proposed clearing area (GIS Database). No DRF or Priority Flora were recorded during the flora and vegetation survey, however an undetermined *Eremophila* species was found during the survey (Pilbara Flora, 2008). Although this species does bear some resemblance to the Priority 1 species *Eremophila coacta* it is believed that the taxa is too dissimilar to be this species (Pilbara Flora, 2008). *E. coacta* has significant populations occurring in nearby areas and therefore, if the undetermined species is found to be a variation or subspecies of *E. coacta*, then the removal of six individuals would be unlikely to have an impact on the conservation status of this taxon (Pilbara Flora, 2008).

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

Methodology EPA (2004)
Pilbara Flora (2008)
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**
There are no known Threatened Ecological Communities (TEC's) within the area applied to clear (GIS Database). The nearest known Priority Ecological Community is the West Angelas Cracking-Clays located approximately 85kms north-east of the application area, whilst the nearest TEC is the Themeda grasslands located approximately 110km north of the application area (GIS Database).

Pilbara Flora (2008) report that no TECs were identified during the flora survey of the application area.

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

Methodology Pilbara Flora (2008)
GIS Database
- Threatened Ecological Communities

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

Comments **Proposal is not at variance to this Principle**
The area applied to clear is within the Interim Biogeographic Regionalisation for Australia (IBRA) Pilbara bioregion (GIS Database). According to Shepherd et al (2001) there is approximately 99.9% of the pre-European vegetation remaining in the Pilbara bioregion (see table below). The vegetation of the application area is classified as Beard Vegetation Association 82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana* (GIS Database). According to Shepherd et al., (2001) approximately 100% of this vegetation

association remains within the Bioregion (see table below).

Therefore the vegetation within the application area is not a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves
IBRA Bioregion – Pilbara	17,804,164	17,794,651	~99.9	Least Concern	6.3
Beard veg assoc. – State					
82	2,565,930	2,565,930	~100	Least Concern	10.2
Beard veg assoc. – Bioregion					
82	2,563,610	2,563,610	~100	Least Concern	10.2

* Shepherd et al. (2001) updated 2005
** 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
Shepherd et al. (2001)
GIS Database
- Interim Biogeographic Regionalisation for 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 at variance to this Principle

The proposed clearing area is located within a valley that flows into Stony Creek (Pilbara Flora, 2008). The application area is located in a semi-desert-tropical region (ANRA, 2007). This region has an average annual rainfall of approximately 300mm falling mainly during the summer months, and an average annual evaporation rate of approximately 2,500mm (ANRA, 2007). Based on the above, Stony Creek would be expected to be dry most of the year except following heavy rainfall which is usually associated with tropical cyclone events. In addition, as the average evaporation rate is significantly larger than the average rainfall, the presence of surface water resulting from significant rain events would be expected to be relatively short-lived.

The application area is located in rugged terrain with mountainous ranges interspersed with deep valleys and gorges (Pilbara Flora, 2008). Most mining within this region occurs on hilltops and at higher elevations and in one location, large boulders that have been displaced by mining activities have rolled down a hillside into a valley, partially blocking the creekbed of Stony Creek (Pilbara Flora, 2008). These boulders may be disrupting water flow in the creek, causing turbulence and scouring (Pilbara Flora, 2008). In turn, this turbulence is thought to be causing creekbed material to be transported downstream, creating a build up of alluvial debris in Howies Hole (Pilbara Flora, 2008). A clearing permit has been applied for to facilitate a plan to restore the creekbed by bulldozing the boulders into the toe of an adjacent hillside (Pilbara Flora, 2008). In addition a catchment berm is to be constructed to catch any further material falling down the hill into Stony Creek (Pilbara Flora, 2008).

Stony Creek is an ephemeral watercourse approximately 19km in length and 50 to 70m wide (Pilbara Flora, 2008). The watercourse has a sandy cobblestone creekbed and the primary vegetation type is River Red Gum open woodland (Pilbara Flora, 2008). Stony Creek is a tributary of Turee Creek, located approximately 4.5km south-west of the application area (Pilbara Flora, 2008).

The proposed access track will run for approximately 350m along Stony Creek and will constructed by pushing the top soil layers with a bulldozer to form a trafficable surface (Pilbara Flora, 2008). The creekbed consists of an assortment of alluvial debris, cobblestones, sands and silts. This material is shifted and relocated during creek flow and as such the proposed track disturbances will be left to be rehabilitated by creek flow which will occur following summer rainfall (Pilbara Flora, 2008).

Hamersley Iron (2008) have been granted a Bed and Banks permit by the Department of Water (DOW) to modify the creekbed of Stony Creek (DOW, 2008).

Based on the above, the proposed clearing is at variance to this Principle. However, the clearing of vegetation for the proposed access track is unlikely to have a significant impact on any watercourse as the area to be cleared (1ha) is minimal and no trees will be removed (Pilbara Flora, 2008). In addition the proposed activities

(surface pushing) are low impact and will rehabilitate during creek flows (Pilbara Flora, 2008).

Methodology ANRA (2007)
DOW (2008)
Hamersley Iron (2008)
Pilbara Flora (2008)

(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 mapped as occurring within the Newman Land System (GIS Database).

The Newman Land System consists of rugged jaspilite plateaux, ridges and mountains supporting hard Spinifex grasslands (Van Vreeswyk et al, 2004). Within the application area the landforms most likely to be found would be 'Lower Slopes' and 'Narrow Drainage Floors with Channels' (Van Vreeswyk et al, 2004). These land units both consist of mantles of abundant pebbles and ironstone and other rocks (Van Vreeswyk et al, 2004). This land system would have a low soil erosion risk as 99% of the system is mapped as having nil soil erosion risk, 0.5% as having minor soil erosion risk and 0.5% as having a moderate soil erosion risk (Van Vreeswyk et al, 2004).

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

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

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

Comments **Proposal is not likely to be at variance to this Principle**
The nearest conservation area is the Karajini National Park located approximately 25km north-east of the application area (GIS Database). Given the distance of the application area from any conservation areas, the removal of 1ha of native vegetation is not expected to have an impact on the environmental values of these conservation areas.

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

Methodology GIS Database
- CALM Managed Land and Waters

(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 underlain by the Channar aquifer, which is hosted within the fractured Joffre Member bedrock (Pilbara Flora, 2008). The Joffre Member consists of banded iron formation with minor shale bands and dolerite dykes, overlain by tertiary detritals (Pilbara Iron, 2008 as cited in Pilbara Flora, 2008). Recharge of the aquifer occurs through overland rainfall infiltration and direct connection with drainage lines in fractured rock systems (Pilbara Flora, 2008). The Stony Creek creekbed is likely to have a subsurface aquifer as is evident by the River Red Gum woodland (Pilbara Flora, 2008).

The clearing associated with the access track will not include any River Red Gum trees. Some minor silt release could occur from the bulldozed areas following rainfall, however, the volume of silt is likely to be minimal due to the small area involved and because the rocky terrain will help trap silt flow (Pilbara Flora, 2008). Therefore, it is unlikely that the 1ha of proposed clearing would have any significant impacts to surface or ground water quality or groundwater levels.

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

Methodology Pilbara Flora (2008)

(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 Ashburton River catchment area (GIS Database). Natural flooding can occasionally occur within this catchment area during the wet season (November to March), usually following significant rainfall associated with tropical cyclone events (BOM, 2008).

The clearing of 1ha of native vegetation, in comparison to the Ashburton River catchment area (7,877,700ha) (GIS Database), is not likely to cause or exacerbate the incidence or intensity of flooding.

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

Methodology BOM (2008)
GIS Database
- Hydrographic Catchments - Catchments

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

Comments

There is one native title claim (WC96/061) 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 tenement has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of that 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*.

According to available databases there are no Aboriginal Sites of Significance within the application area (GIS Database). The nearest Site of Significance is located approximately 500m north-west of 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.

There were no public submissions received during the public comments period.

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

4. Assessor's comments

Comment

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

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

5. References

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Western Australian Museum (2008) Faunabase - Western Australian Museum, Queensland Museum and Museum and Art Gallery of NT Collections Database. Available online from: http://museum.wa.gov.au/faunabase/prod.index.htm. Accessed 13 November 2008.

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.
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.