Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4523/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Metals X Limited**

1.3. Property details

Property: Miscellaneous Licence 69/12
Local Government Area: Shire of Ngaanyatjarraku
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
20		Mechanical Removal	Groundwater Exploration and Associated Works

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 6 October 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation associations have been mapped for the whole of Western Australia. One Beard vegetation association has been mapped within the application area (GIS Database). **236:** Hummock grasslands, shrub steppe; mulga and mallee (marble gum) over hard spinifex. No vegetation surveys have been undertaken over the application area, therefore, the vegetation communities have not been described or mapped for this area in any further detail than Beard vegetation mapping.	Metals X Limited has applied to clear up to 20 hectares of native vegetation within an application area totalling approximately 10,664 hectares for the purpose of groundwater exploration and associated works. The clearing will comprise of access tracks and drill pads for the bore holes. The application area is located approximately 610 kilometres north-east of Laverton. Vegetation will be cleared using a front-end loader or grader.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994). To: Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).	The vegetation condition has been inferred from orthophotos and historical land uses. Historical exploration activities and disturbances such as from feral camels may have degraded some parts of the application area to a 'very good' condition. Given the remoteness of the location and the limited mining activities in the area, it is likely that some of the application area is in '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 may be at variance to this Principle

The application area occurs within the Eastern subregion of the Great Victoria Desert Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Landforms in this subregion consist of salt lakes and major valley floors with lake derived dunes. Sand plains with extensive seif dunes run east west, with occasional outcropping (breakaways) and quartzite hills providing minor relief (CALM, 2002). Vegetation is primarily a tree steppe of *Eucalyptus gonglocarpa*, Mulga and *E. youngiana* over hummock grassland dominated by *Triodia basedowii* on the aeolian sands; *Acacia* dominates the colluvial soils with *Eremophila* and *Santalum* spp.; halophytes are confined to the edges of salt lakes and saline drainage systems (CALM, 2002).

The vegetation within the application area is broadly mapped as Beard vegetation association 236 (GIS Database). This vegetation association is common in the Great Victoria Desert bioregion and has over 99% of its pre-European vegetation extent remaining (Shepherd, 2009; GIS Database). No on-ground flora or vegetation surveys have been undertaken over the tenement containing the application area (Outback Ecology,

2008).

According to available databases there are no known records of Declared Rare Flora (DRF), Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) within the application area or within a 450 kilometre radius of the application area (GIS Database). No Priority flora species have been recorded within the application area but on-ground flora surveys have not been undertaken (Outback Ecology, 2008; GIS Database). Two Priority 1 flora species are known to occur in the Eastern IBRA subregion, *Dicrastylis* sp. Ilkurlka and *Micromyrtus helmsii* (DEC, 2011c). The level of floristic knowledge of the Great Victoria Desert is relatively low but recent surveys seem to confirm that it is an area of high floristic diversity, with an increasing number of known Priority species (DEC, 2011a). Potential impacts to Priority flora as a result of the proposed clearing may be minimised by the implementation of a flora management condition.

The presence and abundance of weeds in the application area is unknown. The presence of weed species would lower the biodiversity value of the application area. Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

A database and literature search by Outback Ecology (2008) produced a list of fauna species that potentially occur within the mining tenement containing the application area. Twenty-four mammal, 33 bird, 79 reptile, four amphibian and six introduced species potentially occur within the area (Outback Ecology, 2008). Due to the remote location and lack of studies there is limited information on the faunal assemblages expected in the Eastern subregion. However, this subregion is known to be rich in reptiles (Outback Ecology, 2008).

The deficiency in biological survey data from the area, particularly in regards to fauna, brings a level of uncertainty when assessing the level of biological diversity of the application area. However, the broad-scale vegetation association is common and widespread locally and the surrounding area is largely uncleared. Given the relatively small area proposed to be cleared (20 hectares), it is not likely that the proposed clearing will have any significant impact on biodiversity at a regional scale.

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

Methodology

CALM (2002)
DEC (2011a)
DEC (2011c)
Outback Ecology (2008)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions - Subregions)
- Pre-European Vegetation
- 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 may be at variance to this Principle

No targeted fauna surveys were undertaken within the application area. A fauna database and literature review was conducted by Outback Ecology (2008) and the fauna habitats within the application area and its surrounds were predicted using that information and aerial photographs.

The broad fauna habitats expected to occur over the mining lease containing the application area are:

- Drainage lines;
- Floodplains and playa;
- Sand dunes and ridges;
- Low mulga woodlands;
- Mallee shrublands;
- Hummock grasslands;
- Samphire and salt lakes; and
- Rocky outcrops (Outback Ecology, 2008).

There are large areas of intact vegetation outside the application area (GIS Database) and the Great Victoria Desert bioregion is largely uncleared, with approximately 99.96% of pre-European vegetation remaining (Shepherd, 2009; GIS Database). The broad habitat types predicted to occur within the application area are also likely to occur in the surrounding area.

Results from the desktop study conducted by Outback Ecology (2008) indicate a number of terrestrial vertebrate fauna of conservation significance may occur in the mining tenement containing the application area. Fauna species with the potential to occur over the application area are:

- Australian Bustard (*Ardeotis australis*);
- Black-footed Wallaby (*Petrogale lateralis* spp.);
- Crest-tailed Mulgara (*Dasycercus cristicauda*);
- Great Desert Skink (*Egernia kintorei*);
- Greater Bilby (*Macrotis lagotis*);
- Malleefowl (*Leipoa ocellata*);
- Northern Marsupial Mole (*Notoryctes caurinus*);
- Oriental Plover (*Charadrius veredus*);
- Princess Parrot (*Polytelis alexandrae*);
- Rainbow Bee-eater (*Merops ornatus*);
- Southern Marsupial Mole (*Notoryctes typhlops*); and
- Western Slender-billed Thornbill (*Acanthiza iredalei iredalei*).

Some of these species are considered highly mobile and/or have a wide distribution (Outback Ecology, 2008) so the clearing is unlikely to significantly impact on the species. Several of the species have specific habitat requirements that are not found within the application area, e.g. wetlands. Other species are known mostly from historical records (DEC, 2011c) and based on their current distribution the species are not expected to be in the application area or its surrounds. However, the Mulgara (*Dasycercus cristicauda*), Greater Bilby (*Macrotis lagotis*) and Great Desert Skink (*Egernia kintorei*) are ground-dwelling Threatened fauna with limited dispersal abilities and are more likely to be impacted on by any development. The habitat needed for the Mulgara is spinifex (*Triodia)* hummock grassland (Burbidge, 2004) and this vegetation type has been predicted to occur within the tenement (Outback Ecology, 2008). Bilbies live in a variety of habitats from open woodland to desert loamy sands (Burbidge, 2004). The entrance to their burrows is often against a spinifex hummock, termite mound or shrub (Burbidge, 2004) so the application area provides potential habitat for the Bilby. The Great Desert Skink occupies a range of vegetation types, with a major habitat being hummock grasslands with occasional trees such as *Acacia* and *Eucalyptus* species, and sandy plains. It is a communal species that digs complex burrow systems which can have five to ten entrances and be continuously occupied for up to seven years (Pavey, 2006; McAplin et al., 2011). All three species construct burrows that the animals live in during the day (Pavey, Cole and Woinarski, 2006; DEC, 2011b). Therefore any core habitat, such as burrows, could be considered significant and should be avoided.

The area proposed to be cleared is relatively small (20 hectares), spread over a large application area and there are large amounts of uncleared vegetation in the Great Victoria Desert bioregion. However, there is also very little biological knowledge of the region. Only limited fauna information is available for the Great Victoria Desert and Musgraves area due to a lack of fauna surveys being completed in the remote region (Outback Ecology, 2008). The conservation values of the application area in regards to fauna, in particular conservation significant species, are uncertain and cannot be fully understood until on-ground fauna surveys are conducted. Potential impacts to conservation significant fauna as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

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

Methodology

Burbidge (2004)
DEC (2011b)
DEC (2011c)
McAplin et al. (2011)
Outback Ecology (2008)
Pavey (2006)
Pavey, Cole and Woinarski (2006)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions - Subregions)
- Pre-European Vegetation
- Vines 1.3 m Orthomosaic - Landgate 2005

(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 databases there are no known records of Declared Rare Flora (DRF) within the application area (GIS Database). The nearest recorded DRF is located approximately 615 kilometres south-west of the application area (GIS Database).

There is a general lack of knowledge of flora and vegetation in the Great Victoria Desert bioregion with no systematic surveying on a regional scale (CALM, 2002; Outback Ecology, 2008). There was no additional surveying of the application area by the applicant and the desktop analysis supplied is based on the limited number of previous biological surveys that have been conducted in the region (Outback Ecology, 2008). This limited information makes it difficult to ascertain the significance of the vegetation in the application area to the continued existence of rare flora.

Based on the above, the proposed clearing may be at variance to this Principle. Potential impacts to DRF as a

result of the proposed clearing may be minimised by the implementation of a flora management condition.

Methodology CALM (2002)
Outback Ecology (2008)
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

A search of available databases revealed that there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest recorded TEC is located approximately 805 kilometres west of the application area (GIS Database). The proposed clearing is not likely to impact on any known TEC.

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 clearing application area falls within the Great Victoria Desert Interim Biogeographic Regionalisation for Australia (IBRA) bioregion in which approximately 99.96% of the pre-European vegetation remains (see table) (Shepherd, 2009; GIS Database). This gives it a conservation status of 'Least Concern' according to the Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment, 2002).

The vegetation of the clearing application area has been mapped as Beard vegetation association 236 'Hummock grasslands, shrub steppe; mulga and mallee (marble gum) over hard spinifex' (Shepherd, 2009; GIS Database). According to Shepherd (2009), over 99% of this vegetation association remains at a state and bioregional level (see table). This vegetation association would be given a conservation status of 'Least Concern' at both a state and bioregional level (Department of Natural Resources and Environment, 2002).

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

	Pre-European Area (ha)*	Current Extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Great Victoria Desert	21,794,207	21,785,242	~99.96	Least Concern	8.46
Beard Veg Assoc. – State					
236	1,626,899	1,617,443	~99.42	Least Concern	-
Beard Veg Assoc. – Bioregion					
236	1,619,192	1,612,408	~99.58	Least Concern	-

* Shepherd (2009)
** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions - 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 may be at variance to this Principle

According to available databases, there are no watercourses or wetlands within the application area (GIS Database).

Outback Ecology (2008) have predicted the broad vegetation types within Miscellaneous Licence 69/12 based on available aerial imagery. One of the broad vegetation types was 'Drainage Channel Vegetation' and this is associated with ephemeral drainage channels. Drainage channels tend to be areas of high localised diversity and annuals including Asteraceae may be found, as well as Myrtaceae, Cyperaceae, mallees and *Eucalyptus* species (Outback Ecology, 2008). Based on aerial photography of the locality, this vegetation type is likely to occur in areas adjacent to the application area and throughout the locality (Outback Ecology, 2008; GIS Database).

Based on the above, the proposed clearing may be at variance to this Principle. However, the vegetation type associated with drainage lines is common in the local and regional area, and the relatively small area of the proposed clearing is unlikely to have any significant impact on any watercourse that may occur within the application area.

Methodology

Outback Ecology (2008)
GIS Database:
- Hydrography, Linear
- Vines 1.3 m Orthomosaic - Landgate 2005

(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

Metals X Limited has applied to clear up to 20 hectares within an application area totalling approximately 10,664 hectares. Disturbance will be for access tracks and drill pads and the proposed clearing activities are not likely to result in large areas of disturbed or open land. Damage during access track construction will be minimised by avoiding sand dunes and stands of trees and scrub as much as possible (Metals X Limited, 2011). Given the relatively small size of the proposed activities, the clearing is not likely to result in appreciable land degradation.

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

Methodology

Metals X Limited (2011)

(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 Department of Environment and Conservation (DEC) managed conservation reserve (GIS Database). The nearest DEC conservation reserve is Neale Junction Nature Reserve, which is located approximately 220 kilometres south-west of the application area (GIS Database). A large proportion of the vegetation in the Great Victoria Desert bioregion remains uncleared, approximately 99.96% (Shepherd, 2009), so it is unlikely that the application area provides an important buffer or ecological linkage to the nature reserve.

The application area occurs within the Register of National Estate site Ranges of the Western Desert (GIS Database). The Ranges of the Western Desert cover approximately 8,016,568 hectares and are a system of ranges with many gorges and valleys. The site is considered significant due to its colourful and spectacular scenery, Aboriginal paintings in Walter James Range, and endemic and rare flora species (Australian Heritage Database, 2011). Despite the area being on the Register of National Estate for natural values, it is considered that the proposed clearing is low impact and of a relatively small scale and will not significantly impact on the environmental values of the area.

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

Methodology

Australian Heritage Database (2011)
Shepherd (2009)
GIS Database:
- DEC Tenure
- Register of National Estate

(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

There are no permanent watercourses or wetlands within the application area (GIS Database). The Eastern

subregion of the Great Victoria Desert has an arid climate with an average annual rainfall of 150-180 millimetres from both summer and winter rain (CALM, 2002), so any surface water within the application area is likely to remain for only short periods following rainfall events. The proposed clearing is not likely to cause deterioration in the quality of surface water in the local area.

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

The relatively small area of the proposed clearing is unlikely to cause deterioration in the quality of underground water.

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

Methodology CALM (2002)
GIS Database:
- Hydrography, Linear
- Public Drinking Water Source Areas (PDWSAs)

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

Comments

Proposal is not likely to be at variance to this Principle

The application area is located within the Warburton Basin catchment area (GIS Database). Given the size of the area to be cleared (20 hectares) in relation to the size of the catchment area (17,195,990 hectares) (GIS Database), the proposed clearing is not likely to increase the potential of flooding on a local or catchment scale.

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

Methodology GIS Database:
- Hydrographic Catchments - Catchments

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

Comments

There is one Native Title Claim (WC04/3) 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 clearing permit application was advertised on 1 August 2011 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Determined by the Federal Court

4. References

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DEC (2011b) NatureBase: Fauna Species Profile - Bilby. Department of Environment and Conservation, Western Australia. http://www.dec.wa.gov.au/content/view/3432/1999/1/2/ (Accessed 26 October 2011).

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McAplin, S., Duckett, P. and Stow, A. (2011) Lizards Cooperatively Tunnel to Construct a Long-Term Home for Family Members. Plos ONE 6(5): e19041. doi:10.1371/journal.pne.0019041.
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Pavey, C. (2006) Great Desert Skink (Tjakura) *Egernia kintorei*. Northern Territory Government, Department of Natural Resources, Environment and the Arts.
Pavey, C., Cole, J. and Woinarksi, J. (2006) Crest-tailed Mulgara (Ampurta) *Dasycercus cristicauda*. Northern Territory Government, Department of Natural Resources, Environment and the Arts.
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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.