



## 1. Application details

### 1.1. Permit application details

Permit application No.: 1012/1  
Permit type: Area Permit

### 1.2. Proponent details

Proponent's name: MR Phil and Craig Bywaters

### 1.3. Property details

Property: M70/1191  
Local Government Area: Shire Of Dalwallinu  
Colloquial name:

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
10		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
Beard vegetation association 676: Succulent steppe; samphire.  (Hopkins et al. 2001; Shepherd et al. 2001).	The proposal is for the clearing of 10 hectares of native vegetation within the Lake Goorly salt lake system, a lake in excess of 12,100 hectares within the northern wheatbelt region.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The lake and surrounding areas have historically been used for agricultural and mining purposes, and previous gypsum mining activity has resulted in disturbance and modification of sections of Lake Goorly near the area proposed to be cleared.

The proponent has advised that the site will be mined in 1 hectare stages, and that progressive rehabilitation will be carried out to ensure that the ecological values of the site are restored after the mining operation has been completed (C. Bywaters, landowner and proponent, pers. comm. 1st June 2006).

The project area is within the Avon Wheatbelt IBRA Region which is a non-permitted area as defined in the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*. Currently, an exemption exists on clearing of up to 10 hectares per financial year for clearing authorised under the *Mining Act 1978* within an authority area. This exemption does not apply in non-permitted areas, hence the proposal must be assessed in accordance with the provisions of the *Environmental Protection Act 1986*.

### 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 proposal is for the clearing of 10 hectares of native vegetation within the Lake Goorly salt lake system, a lake in excess of 12,100 hectares within the northern wheatbelt region. The vegetation present within the area is representative of a Samphire/Chenopod shrubland and is likely to comprise of species that are widespread, both locally and regionally. It is unlikely that the biodiversity at the site of this proposal would be considered outstanding, or of a higher diversity than in the Avon Wheatbelt bioregion, the Shire of Dalwallinu or the local area.

The lake and surrounding areas have historically been used for agricultural and mining purposes, and previous gypsum mining activity has resulted in disturbance and modification of sections of Lake Goorly near the area proposed to be cleared.

No Declared Rare or Priority flora species, or fauna of conservation significance are known to occur within the area under application (GIS Database).

The Department of Conservation and Land Management's (CALM) Merredin District advise that there are no significant conservation values in, or within close proximity to the site in question (CALM, 2006). In view of the above, the proposal is not likely to be at variance to this principle

**Methodology**

CALM (2006).

GIS Databases:

- Declared Rare and Priority Flora List - CALM 01/07/05.
- Pre-European Vegetation - DA 01/01.
- Threatened Fauna - CALM 30/9/05.

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

**Comments**

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

According to CALM's Threatened Fauna dataset, there are no known records of species of conservation significance within the area proposed to be cleared (GIS Database).

Based on its known range, the Hooded Plover (*Charadrius rubricollis*) could be a visitor to Lake Goorly, however, it has a tendency to nest on the shoreline of inland lakes (Garnett & Crowley, 2000) and would therefore be unaffected by the clearing of vegetation on the lake bed itself. Garnett & Crowley (2000) also advise that human disturbance does not appear problematic for this species, particularly in remote areas.

CALM (2006) advise that a desktop assessment has revealed that no known Threatened Fauna occur within the potential impact zone associated with this application. In addition, CALM's Merredin District advises that there are no significant conservation values in, or within close proximity to the site in question. In view of this advice and the relatively small size of the area that is intended to be cleared, the proposal is unlikely to be at variance to this principle.

**Methodology**

CALM (2006).

Garnett & Crowley (2000).

GIS databases:

- Threatened Fauna - CALM 30/9/05.

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

**Comments**

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

According to the available CALM datasets, no Priority or Declared Rare Flora (DRF) species are known to occur within the area under application (GIS Database).

CALM (2006) advise that a desktop assessment has revealed that no known Threatened Flora occur within the potential impact zone associated with this application. In addition, CALM's Merredin District advises that there are no significant conservation values in, or within close proximity to the site in question. In view of this advice, the proposal is not likely to be at variance to this principle.

**Methodology**

CALM (2006).

GIS Database:

- Declared Rare and Priority Flora List - CALM 01/07/05.

**(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 have been no known Threatened Ecological Communities (TECs) identified within the M70/1191 mining lease area (GIS Database). The nearest known TEC is approximately 85 km north-west of the area under application.

CALM (2006) advise that a desktop assessment has revealed that no known Threatened Ecological Communities occur within the potential impact zone associated with this application. In addition, CALM's Merredin District advises that there are no significant conservation values in, or within close proximity to the site in question. In view of this advice, the proposal is unlikely to be at variance to this principle.

**Methodology CALM (2006).**

GIS Databases:

- Threatened Ecological Community Database - CALM 12/4/05.

**(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 may be at variance to this Principle**

The application area falls within the Avon Wheatbelt IBRA Subregion (P1) and the Shire of Dalwallinu (GIS Database). Shepherd et al. (2001; 2001a) report that approximately 18.6% of the pre-European vegetation exists in the Avon Wheatbelt IBRA Subregion (P1), whilst approximately 12% of the pre-European vegetation remains in the Shire of Dalwallinu. Both these extents are below the 30% threshold identified by the EPA in Position Statement No. 2, below which species loss appears to accelerate exponentially at the ecosystem level (EPA, 2000).

The vegetation in the application area is recorded as Beard vegetation association 676: Succulent steppe; samphire. According to Shepherd et al. (2001a), approximately 19.5% of this vegetation type remains within the Avon Wheatbelt IBRA Subregion (P1), with 1.5% held in reserves. The benchmark of 15% representation in conservation reserves has not been met for Beard vegetation association 676 (JANIS Forests Criteria, 1997). The area proposed to clear is small and does not represent a significant remnant of native vegetation when compared to the scale of this vegetation type remaining in the Avon Wheatbelt IBRA Subregion (P1).

The proposal may be at variance to this principle when considered relative to the 30% threshold identified by the EPA in Position Statement No. 2. However, the proponent has advised that the site will be progressively rehabilitated to ensure that the ecological values of the site are restored after the mining operation has been completed (C. Bywaters, landowner and proponent, pers. comm. 1st June 2006). The proponent has demonstrated their commitment to restoring the vegetation in previously mined areas and these areas have been restored successfully (E. Bouwhuis, Environmental Officer, Minerals Branch, Department of Industry and Resources (DoIR) pers. comm. 12th June 2006). Based on the above commitment and demonstrated ability to successfully implement rehabilitation, vegetation loss resulting from mining activity is likely to be temporary.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% in reserves/CALM-managed land*
IBRA Subregion –					
Avon Wheatbelt (P1)	6,524,183***	1,212,881***	~18.6%	Vulnerable	~6.6%
Shire of Dalwallinu	595,418***	71,228***	~12.0%	Vulnerable	
Beard vegetation associations –					
Avon Wheatbelt (P1)					
- 676	124,385	24,202	~19.5%	Vulnerable	~1.5%

\* Shepherd et al. (2001)

\* Shepherd et al. (2001a)

\*\* Department of Natural Resources and Environment (2002)

\*\*\* Area within the Intensive Landuse Zone

**Methodology Department of Natural Resources and Environment (2002).**

EPA (2000).

Hopkins et al. (2001).

JANIS Forests Criteria (1997).

Shepherd et al. (2001).

GIS Databases:

- Interim Biogeographic Regionalisation of Australia - EA 18/10/00.

- Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00.

- Local Government Authorities - DLI 8/07/04

- Pre-European Vegetation - DA 01/01.

**(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 proposal is for the clearing of 10 hectares of native vegetation on Lake Goorly, an extensive salt lake system within the northern wheatbelt region. The vegetation present within the area is representative of a Samphire/Chenopod shrubland and contains a range of species that are likely to be widespread, both locally and regionally.

Lake Goorly is periodically inundated but largely dry for most months within an average year, however, the area proposed for disturbance is not subject to inundation or waterlogging as it is not situated within a salt lake depression (C. Bywaters, landowner and proponent, pers. comm. 1st June 2006). In consideration of the above, it would be considered that the vegetation to be cleared does not form a buffer for nearby wetlands.

Due to the small scale of the clearing proposed, there will no impact on the watertable. Furthermore, considering the lake system is dry for most of the year, no wetland or groundwater dependent ecological communities of conservation significance are likely to be affected as a result of the clearing associated with this proposal. The proponent has advised that mining activity will be restricted to the months during which dry conditions are experienced on the lake (C. Bywaters, landowner and proponent, pers. comm. 13th June 2006).

Although the proposal is likely to be at variance to this principle due to its location, the vegetation proposed to be cleared is typical of that associated with salt lake systems throughout the wheatbelt and is not considered to have significant environmental values. The proponent has advised that the site will be mined in 1 hectare stages, and that progressive rehabilitation will be carried out to ensure that the ecological values of the site are restored after the mining operation has been completed (C. Bywaters, landowner and proponent, pers. comm. 1st June 2006).

In order to rehabilitate the site, the topsoil and overburden material will be backfilled into those areas where gypsum has been extracted (C. Bywaters, landowner and proponent, pers. comm. 1st June 2006). These areas will then be ripped to facilitate germination of seed stored in the topsoil, as well as that seed that has blown in from outside the mined area.

Photographs supplied by the proponent demonstrate that previous post-mining rehabilitation on Lake Goorly has been successful in allowing Samphire vegetation to recolonise after gypsum mining. Furthermore, DoIR confirm that the commitments and rehabilitation prescriptions provided in the Low Impact Mining Operation (LIMO) document will become legally binding following the imposition on the LIMO document as a condition of the mining lease M70/1191, and the approval issued by DoIR (E. Bouwhuis, Environmental Officer, Minerals Branch, DoIR pers. comm. 7th June 2006).

**Methodology** GIS Database:  
- Hydrography, linear - DOE 01/02/04.  
- Lakes 250K - GA.

**(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 Department of Agriculture and Food (DAFWA) advise that the proposed gypsum mining operation is unlikely to cause land degradation in the form of on-site or off-site salinity, soil erosion or eutrophication (DAFWA, 2006). Depending upon final depth of the pit floor, the rehabilitated site is likely to resemble a clay pan rather than the pre-existing Samphire shrubland. It is concluded that the proposed clearing of 10 hectares for the extraction of gypsum is unlikely to be at variance with principle (g).

The proponent has advised that the site will be mined in 1 hectare stages, and that progressive rehabilitation will be carried out (C. Bywaters, landowner and proponent, pers. comm. 1st June 2006). In order to rehabilitate the site, the topsoil and overburden material will be backfilled into those areas where gypsum has been extracted. These areas will then be ripped to facilitate germination of seed stored in the topsoil, as well as that seed that has blown in from outside the mined area. Photographs supplied by the proponent demonstrate that previous post-mining rehabilitation on Lake Goorly has been successful in allowing Samphire vegetation to recolonise after gypsum mining.

**Methodology** DAFWA (2006).

**(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 Jibberding Nature Reserve, located approximately 7.9 km south-west of the area proposed to be cleared, is the nearest CALM managed conservation area to the proposal (GIS Database). It is not considered that the vegetation within the project area would provide a significant ecological linkage to this conservation area.

CALM (2006) advise that a desktop assessment has revealed that no Natural Diversity Recovery Catchments, or existing or proposed CALM nature reserves occur within the potential impact zone associated with this application. In addition, CALM's Merredin District advises that there are no significant conservation values which exist in, or within close proximity to the site in question. In view of the above, the proposal is not likely to be at variance to this principle.

**Methodology** CALM (2006).  
GIS Databases:  
- CALM Managed Lands and Water - CALM 1/07/05.

**(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 area to be cleared does not fall within a Public Drinking Water Source Area (GIS Database).

The area proposed to be cleared is located within the Lake Goorly salt lake system. This lake has a shallow water table and contains water that is highly saline and of poor quality (C. Bywaters, landowner and proponent, pers. comm. 1st June 2006). Groundwater salinities of the area typically range between 14,000mg/L to in excess of 35,000mg/L of Total Dissolved Solids (GIS Database). It is unlikely that the proposed clearing will decrease the quality of the already hypersaline underground water.

The proponent has advised that the bed of the salt lake contains many depressions within which water accumulates following significant rainfall events (C. Bywaters, landowner and proponent, pers. comm. 1st June 2006). The vegetation proposed to be cleared does not fall within such a depression, and considering that the lake is dry for the greater part of the year, the proposal is not likely to impact upon surface water quality.

Given the minimal risk of impact to either surface or groundwater associated with the clearing, it is considered unlikely that the proposal is at variance to this principle.

**Methodology** GIS Databases:  
- Groundwater Salinity, Statewide - 22/02/00.  
- Hydrography, linear - DOE 01/02/04.  
- Public Drinking Water Source Areas (PDWSAs) - DOE 07/02/06.

**(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 area proposed to be cleared is located within the northern wheatbelt region and experiences 300 mm of rainfall per year on average (C. Bywaters, landowner and proponent, pers. comm. 1st June 2006). It is only during and after heavy rainfall events that Lake Goorly is prone to inundation, however, as the area under application is not situated within a low-lying section of this lake system, it is not prone to holding water (C. Bywaters, landowner and proponent, pers. comm. 1st June 2006).

Based on the above information and the fact that the area proposed to be cleared is located within a broad salt lake system within which rainfall can be spread and distributed, it is unlikely that the clearing associated with this proposal will result in flooding or an incremental increase in peak flood height. As a consequence, it is not likely that the proposal is at variance to this principle.

**Methodology** GIS Database:  
- Hydrography, linear - DOE 01/02/04.  
- Lakes 250K - GA.

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

**Comments**  
There are no native title claims over the area under application. The mining tenement has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (ie. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

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

The proponent does not have a current EP Licence or works approval for this project, nor has an application for these approvals been made (DoE, 2006).

The proponent does not hold an inforce water licence for the project, nor has an application for this licence been

made (DoE, 2006).

The Shire of Dalwallinu have advised DoIR that they have no planning requirements with respect to the land under application, and that the Shire has no objection to the application (Shire of Dalwallinu, 2006).

The South West Aboriginal Land and Sea Council advise that this proposal was tabled before the Region 5 Future Acts Sub Committee on 4 April 2005, where they resolved that they had no objection or comments regarding the granting of the proposed application (South West Aboriginal Land & Sea Council, 2006).

#### Methodology

DoE (2006).

Shire of Dalwallinu (2006).

South West Aboriginal Land & Sea Council (2006).

GIS Databases:

- Aboriginal Sites of Significance - DIA 04/07/02.

- Native Title Claims - DLI 19/12/04.

## 4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Mineral Production	Mechanical Removal	10	Grant	<p>The clearing principles have been addressed and the proposed clearing is considered to not likely to be at variance to principles a, b, c, d, g, h, i or j. The proposal may be at variance to principle e, and is considered to be at variance with principle f.</p> <p>The impacts associated with the proposal can be adequately managed under the provisions of the <i>Mining Act 1978</i>, therefore the assessing officer recommends that the permit be granted.</p>

## 5. References

- CALM (2006) Land clearing proposal advice. Advice to Program Manager, Native Vegetation Assessment Branch, Department of Industry and Resources (DoIR). Department of Conservation and Land Management, Western Australia.
- DAFWA (2006) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food, 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.
- DoE (2006) Water allocation/licence advice. Department of Environment, Western Australia.
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority.
- Garnett S. and Crowley G. (2000) The Action Plan for Australian Birds 2000. Hooded Plover (Western) pp 238-239. Published report by the Department of Environment and Heritage Canberra.
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001a.) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia (updated 2005).
- Shire of Dalwallinu (2006) Shire Council submission with regard to application to Clear Native Vegetation - P & C Bywaters. Shire of Gingin. January 2006.
- South West Aboriginal Land & Sea Council (2006) Council submission with regard to application to Clear Native Vegetation - P & C Bywaters. South West Aboriginal Land & Sea Council. April 2006.

## 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.
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.
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.