



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 4311/1  
 Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: **Norwest Energy NL**

### 1.3. Property details

Property: Exploration Permit 413  
 Local Government Area: Shire of Irwin  
 Colloquial name: Arrowsmith-2 Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.85		Mechanical Removal	Petroleum Exploration

### 1.5. Decision on application

Decision on Permit Application: Grant  
 Decision Date: 12 May 2011

## 2. Site Information

### 2.1. Existing environment and information

#### 2.1.1. Description of the native vegetation under application

**Vegetation Description** Beard vegetation associations have been mapped at a 1:250,000 scale for the whole of Western Australia. One Beard vegetation association has been mapped within the application area (GIS Database; Shepherd, 2009).

377: Mosaic: Shrublands; scrub-heath on limestone in the northern Swan Region / Sparse low woodland; illyarrie.

A flora and vegetation survey conducted by Ecologia (2011) on 18 April 2011 identified the following two vegetation units within the application area:

- *Eucalyptus erythrocorys* and *Banksia prionotes* open woodland over *Acacia spathulifolia* and *Banksia sessilis* var. *sessilis* open shrubland over *Ecdeiocolea monostachya* sparse rushland;
- *Acacia spathulifolia* open shrubland over *Ecdeiocolea monostachya* sparse rushland (Ecologia, 2011).

**Clearing Description** Norwest Energy NL is proposing to clear up to 2.85 hectares of native vegetation for the purpose of petroleum exploration.

Clearing will be conducted using shallow blade removal and all cleared vegetation and topsoil will be stockpiled along edge of cleared areas for site rehabilitation (Norwest Energy NL, 2011).

**Vegetation Condition** Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);  
 To  
 Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

**Comment** The application area is located within the Geraldton Sandplains region of Western Australia and is situated approximately 27 kilometres north-west of Eneabba.

## 3. Assessment of application against clearing principles

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

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

The application area occurs within the Lesueur Sandplains (GS2) subregion of the Geraldton Sandplain Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). This sub-region is comprised of coastal Aeolian and limestones, Jurassic siltstones and sandstones of the central Perth Basin (CALM, 2002).

There are extensive yellow sandplains in the south-eastern parts and shrub-heaths rich in endemics occur on a mosaic of lateritic mesas, sandplains, coastal sands and limestones (CALM, 2002).

The Lesueur Sandplains bioregion contains a high proportion of endemic plants with over 250 plants endemic to the subregion (CALM, 2002). The area is recognised Australia-wide and internationally as having particularly high floristic diversity, with an area of 10 square metres supporting up to 80 different species. The level of threat faced is similar to that of the Avon Wheatbelt, but the reserve system is more representative (CALM, 2002). The main threatening processes to the region are feral animals, grazing pressures, changing fire regimes, increasing land fragmentation, exotic weeds and changes to hydrology (ANRA, 2009).

A flora and vegetation survey of the application area was conducted by staff from Ecologia (2011) on 18 April 2011. A total of 63 flora taxa were recorded during this survey (Ecologia, 2011). Considering the application area is within a region where it is not uncommon to identify 80 different species within 10 square metres (CALM, 2002), it is considered that the 63 species found within the application area (2.85 hectares) does not represent greater biodiversity than the surrounding areas.

No Priority flora species were located within the application area during the flora and vegetation survey conducted by Ecologia (2011).

One weed species, *Centaurea melitensis*, was recorded within the application area during a flora survey conducted by Ecologia (2011). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This can in turn lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. This species is not listed as 'Declared Plant' species under the *Agriculture and Related Resources Protection Act 1976* by the Department of Agriculture and Food. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

The application area is located within a *Phytophthora cinnamomi* dieback risk area. The disease has previously been isolated from some areas within the Gas Field, with these areas displaying disease symptoms indicative of *Phytophthora cinnamomi* infestation (Glevan Consulting, 2004). The implementation of a dieback management condition may reduce the potential impact of dieback within the application area.

A desktop survey of the application area conducted by Ecologia (2011) identified one fauna habitat type, Scrub-heath, within the application area. This habitat type is consistent with the Beard vegetation association, 377, described within the application area. According to Shepherd (2009) approximately 99.45% of this vegetation association remains within the Geraldton Sandplains region. It is therefore considered unlikely that the application area contains a higher species biodiversity than that of the surrounding areas.

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

**Methodology** ANRA (2009)  
CALM (2002)  
Ecologia (2011)  
Glevan Consulting (2004)  
Shepherd (2009)  
GIS Database:  
- IBRA WA (regions – subregions)  
- Pre-European Vegetation

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

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

A desktop study of the application area conducted by Ecologia (2011) identified one fauna habitat within the application area:

- Scrub-heath: comprised of low proteaceous shrubs on sandy soils with sparse low woodland.

The application area occurs within Beard vegetation association 377 which is described as "Mosaic: Shrublands; scrub-heath on limestone in the northern Swan Region / Sparse low woodland; illyarrie" (GIS Database, Shepherd, 2009). According to Shepherd (2009) approximately 99.45% of this Beard vegetation association remains within Western Australia and approximately 75.17% of the pre-European vegetation is currently within Class I-IV IUCN Reserves. Given the small size of the application area (2.85 hectares) it is considered unlikely that the proposed clearing will impact on this fauna habitat.

A 50 kilometre radius was used by Ecologia (2011) to conduct database searches for conservation significant fauna within the application area. A reconnaissance survey was then undertaken by staff from Ecologia (2011) on 18 April 2011. From these two surveys, the following 10 conservation significant fauna species were identified as potentially occurring within the application area:

- Carnaby's Black-Cockatoo: Endangered, Schedule 1 – Likely to occur within the application area as an autumn-winter feeding visitor, however the amount of foraging habitat anticipated to be impacted will be

minimal;

- Fork-tailed Swift: Migratory, Schedule 3 – Aerial feeders and do not breed in Australia;
- Rainbow Bee-eater: Migratory, Schedule 3 – Breeding areas likely to be in local Arrowsmith River. Likely to use the application area for foraging;
- White-bellied Sea-Eagle: Migratory, Schedule 3 – Likely to occasionally forage within the application area;
- Black-striped Snake: Priority 3 – A suitable habitat was recorded within the application area, however similar habitat is present within the surrounding areas. No individuals were recorded during the reconnaissance survey (Ecologia, 2011);
- Australian Bustard: Priority 4 – Likely to occasionally forage within the application area in low numbers;
- Shy Heathwren (western): Priority 4 – May occasionally occur within the project area in small numbers;
- Rufous Fieldwren (western wheatbelt): Priority 4 – May occasionally occur within the application area;
- White-browed Babbler (western wheatbelt): Priority 4 – May occur as a resident in adjacent eucalypt woodland and occasionally utilise the application area for feeding; and
- Crested Bellbird (southern): Priority 4 – Likely this species occurs within the application area in low, dense heath (Ecologia, 2011).

Given the small size of the proposed clearing, the common nature of the habitat present and the lack of notable breeding habitats recorded within the application area, it is considered unlikely that the conservation status of any of these species will be impacted by the proposed clearing.

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

**Methodology** Ecologia (2011)  
Shepherd (2009)  
GIS Database:  
- Pre-European Vegetation

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

A targeted field survey of the application area was undertaken by Ecologia (2011) on 18 April 2011. No DRF were recorded during this survey (Ecologia, 2011).

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

**Methodology** Ecologia (2011)  
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**

According to available databases there are no Threatened Ecological Communities (TEC's) within the application area. The nearest TEC is located approximately 28.5 kilometres south-east of the application area (GIS Database). At this distance, there is little likelihood of any impact to the TEC as a result of the proposed clearing.

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

**Methodology** GIS Database:  
- Threatened Ecological Sites Buffered

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

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

The application area falls within the Geraldton Sandplains Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 44.99% of the pre-European vegetation remains in this bioregion.

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

377: Mosaic: Shrublands; scrub-heath on limestone in the northern Swan Region / Sparse low woodland; illyarrie.

According to Shepherd (2009) approximately 99.45% of this Beard vegetation association remains within the Geraldton Sandplains bioregion (see table on next page).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves (and post clearing %)
IBRA Bioregion - Geraldton Sandplains	3,136,025	1,410,755	~44.99	Depleted	~15.38 (~34.03)
IBRA Subregion - Leseur Sandplain	1,171,770	503,894	~43	Depleted	~17.89 (~41.25)
Local Government - Irwin	236,968	117,293	~49.5	Depleted	n/a
Beard vegetation associations - State					
377	63,100	62,755	~99.45	Least Concern	~75.17 (~75.57)
Beard vegetation associations - Bioregion					
377	63,100	62,755	~99.45	Least Concern	~75.17 (~75.57)
Beard vegetation associations - subregion					
377	63,100	62,755	~99.45	Least Concern	~75.17 (~75.57)

\* Shepherd (2009)

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

Whilst the sub-region has been extensively cleared, the proposed clearing of 2.85 hectares of native vegetation is unlikely to significantly reduce the extent of Beard vegetation association 377 below current levels. Therefore, the vegetation within the application area is not likely to be a significant remnant in an area that has been extensively cleared.

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

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

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

**Methodology** GIS Database:  
- Hydrography, linear

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

**Comments Proposal may be at variance to this Principle**

The application area lies within the Greenough Province Zone of the soil-landscape classification of Tille (2006). The majority of the Greenough zone consists of gently undulating plateau surfaces formed above laterite and overlying sedimentary rocks of the Perth Basin. Sandplains are extensive on the plateau surfaces with low dunes, relic drainage systems and alluvial surfaces in the northern region (Tille, 2006).

According to available databases, the following soil type is within the application area (GIS Database):

**CA27** – Sandy plains with occasional pockets of sand dunes, a few small swamps, and stream courses with the chief soils being leached sands, often with sandy clay substrate between 3 and 6 foot in depth.

Schoknecht (2002) describes this soil type as part of the Sandy duplexes supergroup. These soils have a

medium to high risk of wind erodibility and are prone to wind erosion in exposed situations if left bare of surface cover (Schoknecht, 2002). Given the short duration of this permit it is considered unlikely that the soils will be left bare for any extended period of time, therefore rendering it unlikely that the proposed clearing will cause appreciable land degradation.

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

**Methodology** Schoknecht (2002)  
Tille (2006)  
GIS Database:  
- Soils, Statewide

**(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**

According to available databases the application area is not within land managed by the Department of Environment and Conservation (DEC) for the purpose of conservation (GIS Database). The nearest known DEC conservation reserve is the Beekeepers Nature Reserve located approximately 2 kilometres west of the application area (GIS Database). Given the small size (2.85 hectares) of proposed clearing it is considered unlikely that this proposal will impact on the environmental values of this conservation area.

The application area occurs within the Register of National Estate, Arrowsmith Lake Area (GIS Database). Given the size of the application area (2.85 hectares) compared to the size of the Arrowsmith Lake Area (10,514 hectares) it is considered unlikely that the proposed clearing will impact on the environmental values of this area.

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

**Methodology** GIS Database:  
- Clearing Regulations – Environmentally Sensitive Areas  
- DEC Tenure  
- Register of National Estate(status)

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

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

According to available databases, the application area is not located within a Public Drinking Water Sources Area (PDWSA) (GIS Database). The nearest PDWSA is Eneabba Water Reserve which is located approximately 27 kilometres south east of the application area at its closest point (GIS Database). At this distance it is unlikely that the proposed clearing will impact on the water quality of the Eneabba Water Reserve.

The groundwater salinity within the application area is approximately 1,000 - 3,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database). Given the size of the area to be cleared (2.85 hectares) compared to the size of the Perth Groundwater Province (4,660,027 hectares) (GIS Database), the proposed clearing is not likely to cause salinity levels within the application area to alter significantly.

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

**Methodology** GIS Database:  
- Groundwater Provinces  
- Groundwater Salinity, Statewide  
- Public Drinking Water Source Area

**(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 not likely to be at variance to this Principle**

The application area experiences a Mediterranean climate with an average annual rainfall of approximately 498 millimetres recorded from the nearest weather station at Eneabba, approximately 27 kilometres south-east of the application area (CALM, 2002; BoM, 2011).

According to available databases there are no watercourses located within the application area (GIS Database). The majority of the soils within the application area are comprised of overlying yellow sand with limestone outcrop and yellow deep sands (Ecologia, 2011). The assessing officer notes that the sands within the application area are quite permeable and is unlikely to cause water to pool.

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

**Methodology** BoM (2011)  
CALM (2002)  
Ecologia (2011)  
GIS Database:  
- Hydrography, linear

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

### Comments

There is one Native Title Claim (WC04/2) over the area under application (GIS Database). This claim has been registered with the Native Title Tribunal on behalf of the claimant group. However, the petroleum 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 18 April 2011 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

**Methodology** GIS Database:  
- Aboriginal Sites of Significance  
- Native Title Claims – Registered with the NNTT

## 4. References

- ANRA (2009) Australian Natural Resources Atlas – Biodiversity Assessment – Geraldton Sandplains. <http://www.anra.gov.au/topics/vegetation/assessment/wa/ibra-gs-ecosystems-recovery.html> (Accessed 17 March 2011)
- BoM (2011) BoM Website - Climate Averages by Number, Averages for ENEABBA. [www.bom.gov.au/climate/averages/tables/cw\\_002038.shtml](http://www.bom.gov.au/climate/averages/tables/cw_002038.shtml) (Accessed 19 April 2011).
- CALM (Department of Conservation and Land Management) (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions.
- 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.
- Ecologia Level 1 Flora and Fauna Assessment Investigations for Arrowsmith-2. Prepared for Norwest Energy. Unpublished report dated May 2011.
- Glevan Consulting (2004) *Phytophthora cinnamomi* - Management recommendations - Woodada Gas Field. Unpublished report dated May 2004.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Norwest Energy NL (2011) Native Vegetation Clearing Permit – Arrowsmith-2 Project. Clearing Permit Application Supporting Documents. Western Australia.
- Schoknecht N. (2002) Soil Groups of Western Australia. A simple guide to the main soils of Western Australia. Resource Management Technical Report 246. Edition 3.
- Shepherd, D.P. (2009) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth.
- Tille, P. (2006) Soil-landscapes of Western Australia's Rangelands and Arid Interior. Department of Agriculture and Food. South Perth, Western Australia.

## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>CALM</b>	Department of Conservation and Land Management (now DEC), Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia
<b>DEH</b>	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
<b>DEP</b>	Department of Environment Protection (now DEC), Western Australia

<b>DIA</b>	Department of Indigenous Affairs
<b>DLI</b>	Department of Land Information, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia
<b>DoE</b>	Department of Environment (now DEC), Western Australia
<b>DoIR</b>	Department of Industry and Resources (now DMP), Western Australia
<b>DOLA</b>	Department of Land Administration, Western Australia
<b>DoW</b>	Department of Water
<b>EP Act</b>	Environmental Protection Act 1986, Western Australia
<b>EPBC Act</b>	Environmental Protection and Biodiversity Conservation Act 1999 (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>RIWI Act</b>	Rights in Water and Irrigation Act 1914, Western Australia
<b>s.17</b>	Section 17 of the Environment Protection Act 1986, Western Australia
<b>TEC</b>	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.