



1. Application details

1.1. Permit application details

Permit application No.: 3083/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Roadstone Quarries Pty Ltd

1.3. Property details

Property: Mining Lease 70/75
Local Government Area: City Of Cockburn & Town Of Kwinana

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
18		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
<p>Beard Vegetation Associations have been mapped at a scale of 1:250,000 for the whole of Western Australia. One Beard Vegetation Association is located within the application area (Shepherd et al., 2001):</p> <p>Beard Vegetation Association 998: medium woodland; tuart.</p> <p>A vegetation assessment of an area that included the application area was conducted by Landform Research in November 2005. Landform Research (2006) gave the following description of vegetation occurring within the survey area:</p> <p>The most common and widespread types of upland vegetation in the broader survey area are Tuart Woodland and Open Woodland, Jarrah - Sheoak - <i>Banksia</i> Low Woodland and Low Open Forest and <i>Acacia rostellifera</i> and <i>Dryandra sessilis</i> heaths, shrublands and scrubs. Tuart is often over Balga (<i>Xanthorrhoea preissii</i>) and is an emergent in low woodlands and low open forests, especially in western and central parts of the broader survey area. Other species of shrubs forming less common to only occasional, often monospecific stands of heaths, shrublands and scrubs are <i>Hakea prostrata</i>, <i>Grevillea vestita</i> subsp. <i>vestita</i>, <i>Xanthorrhoea preissii</i>, <i>Melaleuca huegelii</i>, <i>Acacia saligna</i>, <i>Jacksonia furcellata</i>, <i>Acacia ?iteaphylla</i>, <i>Melaleuca nesophylla</i>, <i>Leptospermum laevigatum</i>, <i>Acacia longifolia</i>, <i>Ricinus communis</i>, <i>Nicotiana glauca</i>, <i>Schinus terebinthifolia</i> and <i>Ailanthus altissima</i>.</p>	<p>Roadstone Quarries (2009) has applied to clear up to 18 hectares of native vegetation. The proposed clearing is located within the Town of Kwinana in the Perth metropolitan area. The application area lies adjacent to other quarries and mining operations (GIS Database).</p> <p>The purpose of the proposed clearing is for the extraction of sand and limestone (Roadstone Quarries, 2009). The application area lies within an area that is designated for continued and future industrial uses and therefore, the site will be rehabilitated to a flat surface at approximately 8 metres Australian Height Datum (Landform Research, 2006). Disturbed vegetation and topsoil will be stockpiled for rehabilitation purposes (Landform Research, 2006).</p>	<p>Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).</p> <p>To</p> <p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).</p>	<p>The vegetation condition rating was derived from the vegetation assessment which was conducted by Landform Research in spring 2005.</p> <p>Landform Research (2006) describes the survey area as being weedy to very weedy and in a primarily degraded to completely degraded condition, however, a few stands have some vegetation assessed as good (Landform Research, 2006). Vegetation which was in the best condition with the least weeds was part of a heath on a ridge of outcropping limestone (Landform Research, 2006).</p>

3. Assessment of application against clearing principles

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

Comments **Proposal is not likely to be at variance to this Principle**
The application area is located within the Perth subregion of the Swan Coastal Plain Interim Biogeographic Regionalisation of Australia bioregion (GIS Database). The Perth subregion is composed of colluvial and

aeolian sands, alluvial river flats and coastal limestone (CALM, 2002). The Perth subregion generally consists of heath and / or Tuart woodlands on limestone, *Banksia* and Jarrah-*Banksia* woodlands on Quaternary marine dunes of various ages, Marri on colluvial and alluvials (CALM, 2002). The Perth subregion includes a complex set of seasonal wetlands (CALM, 2002). CALM (2002) reports that the Swan Coastal Plain is part of the South-west Botanical Province which has a very high degree of species diversity (CALM, 2002).

Landform Research conducted a vegetation assessment of the application area in spring 2005. This survey identified a total of 23 plant taxa (Landform Research, 2006). The most common families within the surveyed area were *Proteaceae* (5), *Myrtaceae* (3), *Papilionaceae* (2) and *Xanthorrhoeaceae* (2) (Landform Research, 2006). These results represent a very low diversity of plant species and possibly reflect the high levels of degradation within the survey area (Landform Research, 2006).

The majority of the survey area consists of exotic pasture species with isolated native plants occurring as trees, shrubs or ground covers (Landform Research, 2006). Landform Research (2006) report that there are extensive or dense populations of weedy grasses, Rose Geranium (*Pelargonium capitatum*), Bridal Creeper (*Asparagus asparagoides*) and Carnation Weed (*Euphorbia terracina*) within the survey area. The presence of these introduced flora species would lower the biodiversity value of the application area and therefore, care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Should a clearing permit be granted, it is recommended that a condition be imposed for the purposes of weed management.

The weed species Bridal Creeper is listed on the Declared Plant list produced by the Department of Agriculture and Food. Under the *Agriculture and Related Resources Protection Act 1976*, the land owners are required to control Declared plants on their property.

The assessing officer has conducted a search of Department of Environment and Conservation (DEC) databases for fauna that may potentially occur within a 20 kilometre radius of the application area. The search identified up to 1017 fauna species that could potentially occur within the survey area (DEC, 2009). The search indicated that the search area is fairly diverse in bird and reptile species, however, based on the disturbed nature of the application area and its location adjacent to other quarries, the application area is unlikely to have high fauna diversity.

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

Methodology CALM (2002)
DEC (2009)
Landform Research (2006)
GIS Database
- Interim Biogeographic Regionalisation of Australia

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

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

The assessing officer conducted a search of the Department of Environment and Conservation (DEC) databases for fauna that could potentially occur within a 20 kilometre radius of the application area. The search identified the following four fauna species of conservation significance that could potentially occur within the search area (DEC, 2009):

- Black-striped Snake (*Neelaps calonotos*) – Priority 3 on the DEC's Threatened and Priority fauna list;
- Quenda (*Isodon obesulus* subsp. *fusciventer*) – Priority 5 on the DEC's Threatened and Priority fauna list;
- A skink (*Lerista lineata*) – Priority 3 on the DEC's Threatened and Priority fauna list;
- Western False Pipistrelle (*Falsistrellus mackenziei*) – Priority 4 on the DEC's Threatened and Priority fauna list.

According to available databases, none of these species have previously been recorded within the application area or within 5 kilometres of the application area (DEC, 2009).

The application area is located within the Perth metropolitan region and the vegetation within the application area may therefore be important as part of an ecological linkage. However, the application area is reported as being in primarily degraded to completely degraded condition (Landform Research, 2006) and in addition is surrounded on all sides by quarries and mining operations. The majority of the survey area consists of exotic pasture species with isolated native plants occurring as trees, shrubs or ground covers (Landform Research, 2006). Landform Research (2006) report that there are extensive or dense populations of weedy grasses, Rose Geranium (*Pelargonium capitatum*), Bridal Creeper (*Asparagus asparagoides*) and Carnation Weed (*Euphorbia terracina*) within the survey area. Therefore, the vegetation within the application area is not likely to represent significant habitat for fauna species.

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

Methodology DEC (2009)
Landform Research (2006)

(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

Landform Research conducted a vegetation assessment in November 2005 for an area that included the application area. This survey was conducted in accordance with the Environmental Protection Authority Guidance Statement 51: Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (EPA, 2004).

In addition, Landform Research (2006) has conducted a desktop search for Rare or Priority flora that may occur within the broader Hope Valley - Wattleup area. This desktop search identified up to 12 Rare and Priority flora that could occur within the search area, however, the field survey did not find any flora of conservation significance within the application area (Landform Research, 2006).

The application area is highly degraded with many weed species. In addition, the application area lies adjacent to other quarries. Therefore, the application area is unlikely to represent important habitat for any Rare or Priority flora.

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

Methodology EPA (2004)
Landform Research (2006)

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

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

There are no Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) within the application area (GIS Database). The closest TEC is located approximately 2.5 kilometres south of the application area (GIS Database). At such a distance from the application area, these ecosystems are unlikely to be affected by the proposed clearing.

Landform Research (2006) reported that no TECs or PECs were identified during the vegetation assessment of the application area.

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

Methodology Landform Research (2006)
GIS Database
- Threatened Ecological Communities

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

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

The application area falls within the Swan Coastal Plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd et al., (2001) report that approximately 38.1% of the pre-European vegetation still exists in this bioregion, of which approximately 24.2% is located within conservation reserves (see table below). In addition there is approximately 41.2% of the vegetation remaining within the Perth IBRA subregion, of which 24.1% remains within conservation estate.

The vegetation within the application area is recorded as the following Beard Vegetation Association (Shepherd et al., 2001):

- Beard Vegetation Association 998: medium woodland; tuart.

According to Shepherd et al. (2001) approximately 41.6% of this vegetation association remains within the bioregion and subregion (see table below). This vegetation association is therefore considered to be depleted. This vegetation association is however, quite well represented within conservation estate with approximately 26.9% remaining in conservation reserves (Shepherd et al., 2001). Furthermore, the vegetation within the application area is highly degraded and therefore its conservation value would be diminished.

Based on the above, the vegetation within the application area is not a significant remnant of vegetation within 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 (and post clearing %)
IBRA Bioregion – Swan Coastal Plain	1,501,457	571,759	~38.1	Depleted	10.4 (24.2)
IBRA Subregion – Perth	1,117,991	460,919	~41.2	Depleted	11.5 (24.1)
Beard veg assoc. – State					
998	51,018	21,178	~41.5	Depleted	12.5 (26.9)
Beard veg assoc. – Bioregion					
998	50,860	21,178	~41.6	Depleted	12.5 (26.9)
Beard veg assoc. - subregion					
998	50,860	21,178	~41.6	Depleted	12.5 (26.9)

* Shepherd et al. (2001) updated 2005

** Department of Natural Resources and Environment (2002)

Options to select from: Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment 2002)	
Presumed extinct	Probably no longer present in the bioregion
Endangered*	<10% of pre-European extent remains
Vulnerable*	10-30% of pre-European extent exists
Depleted*	>30% and up to 50% of pre-European extent exists
Least concern	>50% pre-European extent exists and subject to little or no degradation over a majority of this area
* or a combination of depletion, loss of quality, current threats and rarity gives a comparable status	

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

Methodology Department of Natural Resources and the Environment (2002)
Shepherd et al. (2001)
GIS Database
- Interim Biogeographic Regionalisation of Australia

(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 likely to be at variance to this Principle

There are no permanent or ephemeral watercourses or wetlands within the area applied to clear (GIS Database). The closest wetland area is an area subject to inundation located approximately 1 kilometre south of the application area (GIS Database).

Based on the distance of the application area to any watercourses or wetlands, the proposed clearing of 18 hectares of native vegetation is unlikely to have an impact on any watercourses or wetlands.

Based on the above, the proposed clearing is not likely to be 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 is underlain by Tamala limestone which is widespread along the coastal area of Western Australia (Landform Research, 2006). The Tamala limestone is covered by shallow, yellow brown, calcareous loamy sands with common limestone outcrop (Landform Research, 2006). Based on the soils, the application area is likely to be susceptible to wind erosion once the vegetation cover is removed, however, the proponent has a number of dust control measures in place to reduce dust generation and wind erosion.

The application area is located in a dieback risk area, however, it is generally recognised that dieback is less

likely to impact on vegetation on limestone and Spearwood/Cottesloe Land systems (Podger and Vear, 1998 as cited in Landform Research, 2006), which the application area is located on. In spite of this, the proponent has a number of dieback management procedures in place (Landform Research, 2006). Furthermore, it is recommended that should a clearing permit be granted, a condition be imposed on the permit with regard to dieback management.

Based on the above, the proposed clearing may be at variance to this Principle. Should a permit be granted it is recommended that a condition be imposed requiring that the limestone mining activities commence within 3 months of clearing having been undertaken, to minimise the potential for erosion.

Methodology Landform Research (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 proposed clearing is not located within any conservation areas (GIS Database). The nearest Department of Environment and Conservation managed land is the Harry Waring Marsupial Reserve located approximately 2 kilometres north-east of the application area (GIS Database). The proposed clearing is unlikely to impact on the conservation values of this reserve.

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

Methodology GIS Database
- CALM Managed Land and Waters

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

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

The application area is located within a region that has a dry Mediterranean climate (Landform Research, 2006). The region has an average annual rainfall of approximately 754.5 millimetres of which more than 90% falls in the months from April to October (BoM, 2009). Evaporation in the region is high and exceeds rainfall in all but the four wettest months from May to September (Landform Research, 2006).

There are no permanent or ephemeral watercourses within the application area (GIS Database). There is little or no surface drainage due to the porosity and permeability of the limestone (Landform Research, 2006). Therefore, the proposed clearing is unlikely to have a significant impact upon surface water quality in the area.

The proposed clearing is not located within a Public Drinking Water Source Area (GIS Database). The water table beneath the application area lies at about 1.8 to 2.0 metres. Drainage of groundwater is to the west towards the ocean (Landform Research, 2006). It is unlikely that the 18 hectares of proposed clearing, particularly of degraded vegetation, will have a significant impact upon groundwater levels or quality.

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

Methodology BoM (2009)
Landform Research (2006)
GIS Database
- Hydrography, linear

(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 in a region of Mediterranean climate that has primarily winter rainfall and is dry for 5 to 6 months of the year (Landform Research, 2006). There are no watercourses or wetlands within the application area and there is little or no surface drainage due to the porosity and permeability of the limestone, with precipitation likely to permeate the soil or drain to the water table (Landform Research, 2006). The proposed clearing is approximately 1 kilometre from any wetland or watercourse (GIS Database).

The application area falls within the Bartram Road catchment area which covers approximately 13,154 hectares (GIS Database). Given the landform type and degraded nature of the vegetation to be cleared, the proposed clearing is unlikely to increase the incidence or intensity of flooding in the Bartram Road catchment area.

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

Methodology Landform Research (2006)
GIS Database
- Hydrography, linear

- Hydrographic catchments - catchments

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

Comments

There is one Native Title claim (WC98/058) over the area under application (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the tenement has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of 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*.

According to available databases there are no 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.

A public submission was received regarding offsets within the Town of Kwinana. However, as the vegetation association within the application area is not classed as vulnerable, and as the vegetation within the application area is highly degraded, an offset is not deemed necessary for this proposal.

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

4. Assessor's comments

Comment

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

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

5. References

- BoM (2009) Climate Statistics for Australian Locations: Kwinana BP Refinery. Bureau of Meteorology. Available online from: http://www.bom.gov.au/climate/averages/tables/cw_009064_All.shtml. Accessed 27 May 2009.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DEC (2009) NatureMap, Department of Environment and Conservation. Available online from: <http://naturemap.dec.wa.gov.au/Login.aspx?ReturnUrl=%2fnaturemap%2fdefault.aspx>. Accessed 14 May 2009.
- 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.
- EPA (2004) Guidance for the Assessment of Environmental Factors - terrestrial flora and vegetation surveys for Environmental Impact Assessment in Western Australia. Report by the EPA under the Environmental Protection Act 1986. No. 51 WA.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Landform Research (2006) Excavation - Rehabilitation Management Plan: M70/75 Moylan Road, Wattleup. Prepared for Cockburn Cement Limited and Roadstone Quarries, Western Australia.
- Roadstone Quarries (2009) Clearing Permit Application Supporting Documentation, April 2009.
- 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.

6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEC	Department of Environment and Conservation
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia

DEP	Department of Environment Protection (now DoE), Western Australia.
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia.
DoE	Department of Environment, Western Australia.
DMP	Department of Mines and Petroleum, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
IBRA	Interim Biogeographic Regionalisation for Australia.
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

Definitions:

{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005. Department of Conservation and Land Management, Como, Western Australia* } :-

- P1** **Priority One - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P2** **Priority Two - Poorly Known taxa:** taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
- P3** **Priority Three - Poorly Known taxa:** taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.
- P4** **Priority Four – Rare taxa:** taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.
- R** **Declared Rare Flora – Extant taxa (= Threatened Flora = Endangered + Vulnerable):** taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.
- X** **Declared Rare Flora - Presumed Extinct taxa:** taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

- Schedule 1** **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.
- Schedule 2** **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.
- Schedule 3** **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.
- Schedule 4** **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna. Department of Conservation and Land Management, Como, Western Australia* } :-

- P1** **Priority One: Taxa with few, poorly known populations on threatened lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P2** **Priority Two: Taxa with few, poorly known populations on conservation lands:** Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.
- P3** **Priority Three: Taxa with several, poorly known populations, some on conservation lands:** Taxa which

are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P4 **Priority Four: Taxa in need of monitoring:** Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.

P5 **Priority Five: Taxa in need of monitoring:** Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999*)

EX **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.

EX(W) **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

CR **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.

EN **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

VU **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

CD **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.