Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4705/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Regan S Grant**

1.3. Property details

Property: Mining Lease 70/1285
Local Government Area: Shire of Lake Grace
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
8.5		Mechanical Removal	Gypsum Mining

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 19 January 2012

2. Background

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation associations have been mapped for the whole of Western Australia. The majority of the application area (~99%) is mapped as Beard vegetation association **125:** Bare areas; salt lakes. The remaining portion of the application area is mapped as Beard vegetation associations (GIS Database; Shepherd 2009): **511:** Medium woodland; salmon gum & morel; and **519:** Shrublands; mallee scrub, *Eucalyptus eremophila*. A flora survey of the application area was undertaken on 20, 21 and 29 October 2009 (Rick, 2010). Three 10 metre x 10 metre quadrats and nine sites were sampled to assist with vegetation mapping and the flora survey. The flora survey identified the following four vegetation types within the application area: **Ek** - *Euclayptus kondininensis* - Kodinin blackbutt woodland; **At** - Atriplex (Salt Bush) - scrub/ heath; **Te** - Tecticornia (Samphire) - scrub/ heath; and **Td** - Tecticornia (Samphire) - Scrub/ heath degraded.	Regan Scott Grant has applied to clear up to 8.5 hectares of native vegetation for the purpose of gypsum mining for use in the agricultural industry. Gypsum will be extracted using a 25 tonne excavator, stockpiled and loaded onto trucks. The proposed clearing is located at Lake Cobham approximately 55 kilometres from the town of Newdegate.	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994). To: Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).	The vegetation condition was assessed during a flora survey of the application area conducted by Rick (2010).

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 Western Mallee subregion of the Mallee Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Mallee bioregion is the south-eastern part of the Yilgarn Craton. The Western Mallee's main surface-types comprise clays and silts underlain by Kankar, exposed granite, sandplains and laterite pavements and salt lake systems on a granite basement. Mallee communities occur on a variety of surfaces; Eucalyptus woodlands occur mainly on fine textured soils, with

scrub-heath on sands and laterite (CALM, 2002).

The vegetation within the application area is broadly mapped as Beard vegetation associations 125, 511 and 519, although the majority of the application (99%) falls within Beard vegetation association 125 which has approximately 93% of its pre-European extent remaining (Shepherd, 2009; GIS Database). A survey was conducted by Rick (2010) which provides vegetation mapping of the application area. A total of 70 plant species were recorded during the flora and vegetation survey. A total of four vegetation associations were identified within the application area ranging from degraded to excellent condition (Rick, 2010; Keighery, 1994).

The *Eucalyptus kondininensis* woodland and Tecticornia scrub\heath vegetation associations recorded within the application area are extensive throughout the Lake Magenta salt lake chain. Atriplex scrub\heath covers smaller areas but is not rare (Rick, 2010). Large areas of salt lake vegetation are conserved in the Lake Magenta Nature Reserve (Rick, 2010).

No Declared Rare Flora, Threatened Ecological Communities or Priority Ecological Communities have been recorded within the application area, however, the Priority 1 flora species *Frankenia sp.* southern gypsum (M.N. Lyons 2864) was recorded at most sites and quadrats sampled on the lake bed (GIS Database; Rick, 2010). Rick (2010) identifies, however, that this species has also been recorded at 13 out of 25 (10 metre x 10 metre) quadrats sampled in the Lake Magenta Lake chain including Lake Burkett, Lake Lockhart and Lake Magenta. The proposed mining is unlikely to impact on the conservation status of this species. *Frankenia sp.* southern gypsum (M.N. Lyons 2864) was also identified within Lake Cobham regenerating following past mining operations (Rick, 2010).

Parts of the application area have been previously mined and are considered to be in degraded condition (GIS Database; Keighery, 1994; Rick, 2010). Several weed species were recorded during the survey conducted by Rick (2010) including: *Rostraria cristata, Bromus rubens, Parapholis incurve, Lolium rigidum, Trifolium arvense, T. Tomentosum, T. Campestre, Avena barbata and Spergularia rubra.* Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

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

Methodology

CALM (2002)
Keighery (1994)
Rick (2010)
Shepherd (2009)
GIS Database:
- Newdegate Orthomosaic - Landgate 2008
- Declared Rare and Priority Flora List
- IBRA WA (Regions - Subregions)
- Pre-European Vegetation
- Threatened Ecological Sites Buffered

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

Comments

Proposal is not likely to be at variance to this Principle

A threatened and priority fauna database search was undertaken by Grant (2011) within a 20 kilometre radius of the proposed clearing. This search identified records of seven (DEC - Schedule 1) conservation significant fauna species including the Woylie, Chuditch, Heath Mouse, Malleefowl, Carnaby's Black Cockatoo, Baudin's Cockatoo and the Western Bristlebird. These fauna records were all noted to be recorded from the Lake Magenta Nature Reserve (5 kilometres west) and the Dunn Rock Nature Reserve (10 kilometres east).

A flora survey undertaken by Rick (2010) identified 4 four vegetation types within the application area, however, 99% of the application area consists of salt bush and samphire species which are associated with the Lake Cobham salt lake. Tecticornia scrub\heath vegetation associations recorded within the application area are extensive throughout the Lake Magenta salt lake chain. Atriplex scrub\heath covers smaller areas but is not rare (Rick, 2010). Large areas of salt lake vegetation are conserved in the Lake Magenta Nature Reserve (Rick, 2010).

Parts of the application area have been previously mined and are considered to be in degraded condition (GIS Database; Keighery, 1994; Rick, 2010). Whilst there are records of conservation significant fauna species located within 5 kilometres of the application area, these are located within different vegetation types associated with the Eucalyptus mallee scrub/heath of the surrounding nature reserves (GIS Database; Shepherd, 2009). The application area is not likely to provide significant habitat for fauna.

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

Methodology

Grant (2011)

Keighery (1994)
Rick (2010)
Shepherd (2009)
GIS Database:
- Newdegate Orthomosaic - Landgate 2008
- 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

There are two populations of the DRF species *Eremophila verticillata* located adjacent to Lake Cobham, within 1 kilometre of the application area (GIS Database; Rick, 2010).

A flora survey of the application area did not identify *Eremophila verticillata* within the application area (Rick, 2010).

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

Methodology

Rick (2010)
GIS Database:
- Declared Rare and Priority Flora List

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

Comments

Proposal is not likely to be at variance to this Principle

There are no known Threatened Ecological Communities (TECs) within the application area and there are no TECs recorded within 10 kilometres of the proposed clearing (GIS Database).

A flora survey of the application area did not identify any TECs within the application area (Rick, 2010).

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

Methodology

Rick (2010)
GIS Database:
- Threatened Ecological Sites Buffered

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

Comments

Proposal is not at variance to this Principle

The application area occurs within the Western Mallee subregion of the Mallee Interim Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 35% of the pre-European vegetation remains (see table) (Shepherd, 2009; GIS Database).

The application area contains the following three Beard vegetation associations (GIS Database; Shepherd 2009):

125: Bare areas; salt lakes;
511: Medium woodland; salmon gum & morel; and
519: Shrublands; mallee scrub, *Eucalyptus eremophila*.

According to Shepherd (2009) Beard vegetation associations 125, 511 and 519 retain approximately 15%, 37% and 49% respectively of their pre-European extent at the subregional level. The majority of the application area (99%) consists of Beard vegetation association 125. At a subregional level this vegetation association has a conservation status of 'Vulnerable' according to the Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment, 2002).

At a bioregional and state level Beard vegetation association 125 is better represented retaining approximately 53% and 94% respectively of its pre-European extent (Shepherd, 2009). A review of aerial imagery for the local area (GIS Database) reveals an extensive chain of salt lake vegetation in the local area. Rick (2010) highlights that the Tecticornia scrub\heath vegetation associations recorded within the application area are extensive throughout the Lake Magenta salt lake chain. Atriplex scrub\heath covers smaller areas but is not rare (Rick, 2010). Large areas of salt lake vegetation are conserved in the Lake Magenta Nature Reserve (Rick, 2010).

Parts of the application area have been previously mined and are considered to be in degraded condition (GIS Database; Keighery, 1994; Rick, 2010). Considering the size of the area proposed for clearing (8.5 hectares) the vegetation under application is not considered to be significant as a remnant of native vegetation in an area that has been extensively cleared.

	Pre-European Area (ha)*	Current Extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves (and post clearing %)
IBRA Bioregion – Mallee	7,395,897	4,115,655	~56	Least Concern	18(30)
IBRA Subregion - Western Mallee	3,981,717	1,412,906	35	Depleted	10 (25)
Local Government - Kondinin	741,929	389,733	52	Least Concern	4(6)
Beard Veg Assoc. – State					
125	3,489,858	3,278,701	~94	Least Concern	7(5)
511	700,409	499,599	~71	Least Concern	14(19)
519	2,333,413	1,418,879	~61	Least Concern	10(17)
Beard Veg Assoc. – Bioregion					
125	166,779	88,420	~53	Least Concern	29(13)
511	139,593	51,998	~37	Depleted	11(18)
519	2,100,313	1,228,840	~59	Least Concern	11(18)
Beard Veg Assoc. – Subregion					
125	88,057	12,491	~15	Vulnerable	48(36)
511	139,593	51,998	~37	Depleted	11(18)
519	1,563,570	763,848	~49	Depleted	13(25)

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

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

Methodology
Department of Natural Resources and Environment (2002)
Rick (2010)
Shepherd (2009)
GIS Database:
- IBRA WA (Regions - Subregions)
- Newdegate Orthomosaic - Landgate 2008
- Pre-European Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments

Proposal is at variance to this Principle

The application area is located within Lake Cobham, which is mapped as a non-perennial lake and an area subject to inundation (GIS Database). A survey was conducted by Rick (2010) which provides vegetation mapping of the application area. A total of four vegetation associations were identified within the application area however the majority of the vegetation within the application area is associated with the Tecticornia scrub\heath and Atriplex scrub\heath of the Lake Magenta salt lake chain (Rick, 2010). The vegetation of the application area is considered to be growing in association with an environment associated with a wetland.

Based on the above, the proposed clearing is at variance to this Principle. However, the vegetation associations recorded within the application area are extensive throughout the Lake Magenta salt lake chain. Atriplex scrub\heath covers smaller areas but is not rare (Rick, 2010) and large areas of salt lake vegetation are conserved in the Lake Magenta Nature Reserve (Rick, 2010). Given the above there are unlikely to be any significant environmental issues associated with the proposed clearing.

Methodology
Rick (2010)
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 is not likely to be at variance to this Principle

There is one mapped soil type within the application area SV1: Saline valleys and salt lakes-salt-lake channels, mostly devoid of true soils, and their fringing areas (Northcote et al., 1960-68).

The application area is located within Lake Cobham which is a non perennial salt lake (GIS Database) and the vegetation to be cleared consists of predominantly salt tolerant species. The application area is flat with no change in topography and is also located in an area where the average annual evaporation rate (1900 millimetres) greatly exceeds the local annual rainfall (400 millimetres) (GIS Database). Given the above there is unlikely to be any significant surface water movements and the application area has a low risk of water erosion.

The application area is located within a salt lake and salinity levels are already high (greater than 35,000 milligrams per litre Total Dissolved Solids). The removal of 8.5 hectares of native vegetation in this area is unlikely to cause appreciable land degradation.

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

Methodology

Northcote et al. (1960-68)
GIS Database:
- Groundwater Salinity
- Soils, Statewide
- Rainfall, Mean Annual
- Evaporation Isopleths

(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

There are no conservation areas located within close proximity of the application area. The nearest DEC managed land is the Lake Magenta Nature Reserve (5 kilometres west) and the Dunn Rock Nature Reserve (10 kilometres east) (GIS Database).

Parts of the application area have been previously mined and are considered to be in degraded condition (GIS Database; Keighery, 1994; Rick, 2010).The vegetation associations recorded within the application area are extensive throughout the Lake Magenta salt lake chain and the application area is unlikely to form a significant ecological link to these conservation areas.

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

Methodology

Keighery (1994)
Rick (2010)
GIS Database:
- DEC Tenure
- Newdegate Orthomosaic - Landgate 2008

(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 Lake Cobham, which is mapped as a non-perennial lake and an area subject to inundation (GIS Database). The application area is not within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The average annual evaporation rate (1900 millimetres) in the local area greatly exceeds the local annual rainfall (400 millimetres) (GIS Database) and any surface water is likely to be short lived. Given the above the removal of 8.5 hectares of salt lake vegetation is unlikely to negatively impact on the quality of surface water.

Groundwater salinity levels are already high (greater than 35,000 miiligrams per litre Total Dissolved Solids) within the application area and the proposed clearing is unlikely to cause any appreciable deterioration in the quality of underground water.

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

Methodology

GIS Database:
- Evaporation Isopleths
- Groundwater Salinity
- Hydrography Linear
- Public Drinking Water Source Areas (PDWSAs)

- Soils, Statewide
- Rainfall, Mean Annual

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

Comments

Proposal is not likely to be at variance to this Principle

The application area is located within the Magenta Internal catchment area of the Albany Coast basin (GIS Database). Given the size of the area to be cleared (8.5 hectares) in relation to the size of the catchment area (36,745 hectares) (GIS Database), the proposed clearing is not likely to increase the potential of flooding on a local or catchment scale.

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

Methodology

GIS Database:
- Hydrographic Catchments - Catchments

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

There are two Native Title Claims (WC96/109 and WC98/70) over the area under application (GIS Database). These claims have been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are four 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 5 December 2011 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology

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

4. References

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, 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.

Grant (2011) Information for Clearing Permit Application Purpose Permit Grants Gypsum - Magenta. October 2011.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

Rick (2010) Lake Cobham - Proposed Gypsum Mine, Vegetation and Flora Survey 2010. Botanical Consultants report for Regan Grant by Anne (Coates) Rick.

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.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.

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

Definitions:

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

P1 **Priority One - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

P2 **Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

P3 **Priority Three - Poorly Known taxa**: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.

P4 **Priority Four – Rare taxa**: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

R **Declared Rare Flora – Extant taxa** *(= Threatened Flora = Endangered + Vulnerable)*: taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

X **Declared Rare Flora - Presumed Extinct taxa**: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

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

Schedule 1 **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.

Schedule 2 **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.

Schedule 3 **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.

Schedule 4 **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

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

P1 **Priority One: Taxa with few, poorly known populations on threatened lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P2 **Priority Two: Taxa with few, poorly known populations on conservation lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation

status before consideration can be given to declaration as threatened fauna.

P3 **Priority Three: Taxa with several, poorly known populations, some on conservation lands**: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

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

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

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

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

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

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

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

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

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