Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 997/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Apache Northwest Pty Ltd**

1.3. Property details

Property: Production Licence 6 (TL/6)
Local Government Area: Shire of Ashburton (Islands)
Colloquial name: Varanus Island Fire Risk Reduction and Maintenance

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
8.36		Mechanical Removal	Hazard reduction or fire control

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 2 June 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 scale of 1:250,000 for the whole of Western Australia. One Beard Vegetation Association is located within the application area (GIS Database):

Beard Vegetation Association 117: Hummock grasslands, grass steppe, soft Spinifex (*Triodia pungens*).

Semeniuk (1990) further described and mapped the vegetation of the island at a finer scale, distinguishing six vegetation assemblages. These are:

1) low (to 20 centimetres) open herbland of *Frankenia pauciflora* on exposed limestone, which is exposed to wind and sea spray and has poorly developed soil;
2) low (to 50 centimetres) open shrubland of *Scaevola spinescens*, *Rhagodia preissii*, and *Sarcostemma viminale* subsp. *australe* on limestone plains and ridges inland from the exposed coastal limestone;
3) low (to 50 centimetres) open shrubland of *Sarcostemma viminale* subsp. *australe*, *Capparis spinosa* and *Pittosporum phylliraeoides* on more sheltered and inland parts of undulating limestone terrain;
4) open grassland of *Spinifex longifolius* on white sands of coastal dunes;
5) closed mixed grassland/herbland of *Setaria dielsii* and *Amaranthus pallidiflorus* on the deeper orange sands of inland plains; and
6) low (to 50 centimetres) open shrubland of *Sarcostemma viminale* subsp. *australe* with mixed grassland on orange sand, particularly where it is shallow over limestone.

Since 1999, a total of 122 plant species have been recorded on Varanus Island and neighbouring Bridled Island. No Declared Rare Flora or Priority species have been found. The majority of plant species in the proposed clearing area are colonising or invasive species that readily inhabit previously disturbed areas.

Clearing Description

Apache Northwest Pty Ltd has applied to clear up to 8.36 hectares, which represents 34% of an area leased by Apache. All of the vegetation in the proposed clearing area has been previously removed or disturbed to establish and maintain access to oil and gas infrastructure and to reduce the risk of fire (Apache, 2005). The actual area of clearing in any one calendar year would be much less than 8.36 hectares because of the following: (1) the majority of the 4.28 hectare area covered by the gas plant and the 4.30 hectare area covered by the crude storage bund is unvegetated; (2) estimates of the gas plant and crude storage tank areas also include roads, pathways and the majority of infrastructure except storage tanks and control buildings; (3) natural variation in climatic conditions will influence the growth of vegetation; and (4) vegetation will only be disturbed or removed where necessary (Apache, 2005).

The clearing methods proposed are: (1) manual (hand) removal of vegetation; (2) mechanical removal of vegetation (e.g. bulldozer); (3) Chemical spraying of vegetation (e.g. underneath pipe racks and cable trays); (4) disturbance to vegetation such as by placement of above-ground piping for electrical and water services and associated foot traffic; and (5) incineration of cleared vegetation material (Apache, 2005). It is proposed that the majority of clearing will be conducted by hand removal of vegetation.

Vegetation Condition

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

According to Shepherd (2009), approximately 100% of Beard Vegetation Unit 117 remains intact. However, the scale of Beards mapping is broad and previous clearing on Varanus Island has not been captured in these reports.

Vegetation communities on Varanus Island are monitored in September of each year. Transects cover both disturbed and undisturbed areas (Apache 2005).

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

Varanus Island has an area of approximately 85 hectares and is the largest of the 34 islands, islets and rocks that make up the Lowendal group (Apache, 2005). Varanus Island is a C Class Nature Reserve (Lowendal Nature Reserve 33902), declared for the purpose of conservation of flora and fauna. It is vested in the Conservation Commission of Western Australia and managed by the Department of Environment and Conservation. Twenty-nine hectares are leased to Apache for the operation of oil and gas processing facilities. Petroleum activities have been operating on the island and in the surrounding waters since 1986 (Apache, 2005).

Semeniuk (1990) described and mapped the vegetation of the island, distinguishing six vegetation assemblages, along with mangroves and unvegetated areas on beaches and limestone outcrops. The proposed clearing area is mapped as artificially disturbed, because the vegetation within it has been previously removed or disturbed to establish and maintain access to oil and gas infrastructure. The proposed clearing area does not include any mangroves or former mangrove habitat. Despite the survey by Semeniuk (1990) and annual monitoring of disturbed and undisturbed vegetation, no flora of conservation significance has been found within the proposed clearing area (Apache, 2005).

Twelve weed species and six introduced mainland plant species have been recorded on Varanus Island. None of these are Declared Noxious Weeds. However, Apache implements an ongoing weed control program on the Island, which is undertaken by the environmental specialists, Astron Environmental Services Pty Ltd (Apache, 2006). This includes monitoring, searches, mapping and eradication and forms part of Varanus Island Vegetation Management Plan approved by DEC (Apache 2006). Strict quarantine procedures are also in place to ensure that the risk of further introductions of weeds or other foreign plant species is minimised (Apache 2006).

In their Vegetation Management Plan, Apache (2006) have committed to the following management controls prior to the removal or disturbance of vegetation:

- A survey of the area will be done to check for the presence of weeds; and
- If weed species are present, they are to be removed and the surrounding soil will be checked for the presence and if necessary, removal of seeds.

Astron (2001, 2002, 2004 as cited in Apache, 2005) considers several plant species found on Varanus Island to be significant for one or more of the following reasons:

- There are less than two or three remaining populations on Varanus Island and they occur within Apache's lease area. Therefore these plant species are significant in terms of local biodiversity and for maintaining original species composition on the island;
- The species are at the extreme limit of their known range;
- The species are not abundant on the island and are known to be difficult to regenerate;
- The species has not been fully identified taxonomically.

Despite this, no flora of conservation significance has been recorded as present within the area of clearing proposed under this application (Semeniuk, 1990). As the vegetation in the proposed clearing area has been disturbed or cleared previously, the majority of plant species it comprises are colonising or invasive species and perennial shrubs are isolated occurrences (Apache, 2005).

Varanus Island has high conservation value due to the number of seabirds and turtles that nest on it. However, these species occupy beaches and/or adjacent sand dunes; habitats that predominantly occur outside the proposed clearing area.

CALM considers the application to clear native vegetation for the routine maintenance of oil and gas infrastructure and fire-risk reduction on Apache's Varanus Island Lease as having a negligible impact on the biodiversity values of the island considering the confined nature of the clearing to existing infrastructure and pre-disturbed areas (CALM, 2006).

Given that the area of proposed clearing has been previously cleared and that large areas of undisturbed contiguous vegetation are abundant elsewhere on Varanus Island and surrounding islands in the Lowendal, Barrow and Montebello Island groups, it is unlikely that the vegetation on it is of high biodiversity significance.

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

Methodology Apache (2005)
Apache (2006)
CALM (2006)
Semeniuk (1990)

(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

Varanus Island has high conservation value due to the number of seabirds and turtles that nest on it. Approximately 87 bird species have been recorded on the Lowendal Islands and Varanus Island is an important breeding site for the Wedge-tailed Shearwater, which inhabits the shifting sand dunes behind the beaches (Apache, 2005). This species is listed under the Japan-Australia Migratory Bird agreement, for the protection of migratory birds and birds in danger of extinction, along with their environment. Other sea birds such as Rosette Terns, Crested Terns and Lesser Crested Terns perch and breed on the rocky shores of the Lowendal Islands (Apache, 2005). Many of the sandy beaches are important nesting sites for the Green Turtle (*Chelonia mydas*), the Flatback Turtle (*Natator depressus*), and the Hawksbill Turtle (*Eretmochelys imbricata*), all of which are listed as threatened (Vulnerable) under Schedule 1 (Fauna that is rare or is likely to become extinct) of the *Wildlife Conservation Act 1950*. About a dozen types of lizards have been observed on the Lowendal Islands (Apache, 2005).

Significant fauna of the island has been and continues to be monitored (including marine assemblages, seabirds, Wedge-tailed Shearwaters, and sea turtles) by Apache (Apache, 2005). While the oil and gas processing plant is immediately adjacent to Wedge-tailed Shearwater rookeries and sea turtle nesting beaches, the proposed clearing area is not likely to be used as a feeding, nesting or shelter resource for these species as they occupy more coastal habitats (beaches and adjacent dunes). In addition, Apache (2005) has management procedures in place to avoid disturbance of significant fauna in the nearby area. For example, the use of bright lights near beaches is to be avoided between November and March to avoid attracting turtles and hatchlings away from the water, and no disturbance is to be created within 10 metres from any existing Wedge-tailed Shearwater nesting burrow (Apache, 2005).

For other fauna species such as lizards, the vegetation in the proposed clearing area may provide some habitat. However, it is not likely to provide significant habitat for fauna given that it has been previously cleared, disturbed and/or degraded, and that large areas of undisturbed contiguous vegetation are abundant elsewhere on Varanus Island and surrounding islands in the Lowendal, Barrow and Montebello Island groups.

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

Methodology Apache (2005)

(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

Since 1999, a total of 122 species of plants have been recorded on Varanus Island and neighbouring Bridled Island in the Lowendal Island group (Apache, 2005). No declared rare plant species listed under the Schedules of the *Wildlife Conservation Act 1950*, or plants listed by DEC as priority flora are known from the island or have been found during flora and vegetation surveys or annual vegetation monitoring activities (Semeniuk, 2005).

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

Methodology Apache (2005)
Semeniuk (2005)

(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 within the area applied to clear or on Varanus Island (GIS database).

Semeniuk (1990) reports that no TECs were identified within the application area during the flora survey.

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

Methodology Semeniuk (1990)
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 Carnarvon Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2009) reports that approximately 99.61% of the pre-European vegetation still exists within the Carnarvon bioregion (see table below). The vegetation within the application area is recorded as the following Beard Vegetation Association (Shepherd, 2009):

Beard Vegetation Association 117: hummock grasslands, grass steppe, soft Spinifex.

According to Shepherd (2009) approximately 95% of this vegetation association still exists at the State level and approximately 59% of this vegetation association still exists within the Bioregion (see table below). This vegetation association is quite well represented within reserves at both the State level (approximately 12.9%) and the Bioregion level (approximately 27.14%).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Carnarvon	8,382,609	8,349,861	~99.61	Least Concern	~3.62
Beard vegetation associations - State					
117	919,161	871,010	~94.8	Least Concern	~12.9
Beard vegetation associations - Bioregion					
117	12,394	7,366	~59.44	Least Concern	~27.14

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

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)

(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

There are no defined watercourses or wetlands on Varanus Island (GIS database). In addition, none of the vegetation assemblages described and mapped by Semeniuk (1990) comprise riparian vegetation.

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

Methodology

Semeniuk (1990)
GIS Database
- Hyrography, 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

The proposed clearing (removal and disturbance) of vegetation will be undertaken only in areas that have been previously disturbed (Apache, 2005). Most of the clearing (over 96%) will involve hand removal of vegetation (Apache, 2005). This method is likely to minimise clearing-related land degradation, particularly soil erosion (Apache, 2005). Some small areas of clearing will involve (Apache, 2005):

- hand removal or spraying (3.4%);
- hand removal or bulldozing (0.1%); or
- laying of metal pipe on top of vegetation (0.1%).

Consequently, the potential area of clearing by bulldozing, a higher-impact method, is minimal. Apache (2005) stated that soil erosion by wind or water is unlikely as most of the proposed clearing is located in areas with shallow sandy soil and low relief, and the soils have been compacted from previous operations.

Given the low average annual rainfall (approximately 250 millimetres per annum) and high evaporation rate, it is unlikely that the proposed clearing of up to 8.36 hectares of previously disturbed low shrubland, herbland, and grassland vegetation will result in waterlogging or increased soil salinity.

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

Methodology Apache (2005)

(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

Varanus Island is a C Class Nature Reserve vested in the Conservation Commission of Western Australia and managed by the DEC (GIS Database). The proposed clearing area falls within a 29 hectare area currently leased to Apache for the operation of existing oil and gas processing facilities (Apache, 2005).

The DEC considers the application to clear native vegetation for the routine maintenance of oil and gas infrastructure and fire-risk reduction on Apache's Varanus Island Lease as having a negligible impact on the biodiversity values of the island considering the confined nature of the clearing to existing infrastructure and pre-disturbed areas (CALM, 2006).

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

Methodology CALM (2006)

(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 at variance to this Principle

There are no wetlands or watercourses on Varanus Island (GIS Database) and surface water only occurs very briefly as a result of major rainfall events.

The uppermost groundwater aquifer is located within the Pleistocene aged sands and is unconfined (Apache, 2005). The watertable level and groundwater flow patterns are subject to tidal influence, and groundwater quality is naturally saline (Apache, 2005). Investigations conducted in the mid-1990s found that the watertable over most of the Apache lease area lies at a mean elevation of 1.8 metres above sea level at low tide and 2.6 metres at high tide, corresponding to a daily height variation of 0.8 metres (Apache, 2005).

The amount of increased groundwater recharge that could potentially result from the proposed clearing of up to 8.36 hectares of previously disturbed low shrubland, herbland, and grassland vegetation is considered negligible and would not be detrimental to underground water quality.

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

Methodology Apache (2005)
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 at variance to this Principle

There are no wetlands or watercourses on Varanus Island (GIS Database) and any brief occurrence of surface water is limited to rainfall events. Given the sandy soils and rock outcrop, the coastal location, the low annual rainfall and the high evaporation rate, the Island is not prone to flooding (Apache, 2005). In addition, natural groundwater levels are unlikely to be altered as a result of the proposed vegetation clearing of up to 8.36 hectares of previously disturbed vegetation.

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

Methodology Apache (2005)
GIS Database
- Hydrography, linear

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

Comments

There are no Native Title Claims over the area under application (GIS Database).

According to available databases 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.

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

4. References

Apache Energy (2005) Varanus Island supporting documentation for a clearing permit (purpose permit): fire-risk reduction and maintenance activities. Unpublished report to the Department of Industry and Resources. Perth, Western Australia.

Apache Energy (2006) Varanus Island Vegetation Management Plan. Unpublished report to the Department of Conservation and Land Management. Perth, Western Australia.

CALM (2006) Clearing Assessment Unit's biodiversity advice for land clearing applications. Advice to Director General, Department of Environment and Conservation (DEC), 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.

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

Semeniuk V. (1990) Appendix 11 Monitoring of Terrestrial Vegetation, Lowendal Island Group for Harriet Oilfield development. Results of survey June 1990. In Harriet Field development Fifth Annual Environmental Report, June 2000. Unpublished report edited by LeProvost Environmental Consultants for Hadson. Reproduced in Apache (2005).

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

Definitions:

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

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

P2 **Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa

are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

VU **Vulnerable:** A native species which:

(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

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