Government of **Western Australia**
Department of **Mines and Petroleum**

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5893/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Shark Bay Resources Pty Ltd**

1.3. Property details

Shark Bay Solar Salt Industry Agreement Act 1983, Mining Lease 260SA, (AM 70/260)
Special Lease 3116/9187 (Document I126361 L), Lease Extension J 124041, Lot 61 on Deposited Plan 220252
Special Lease 3116/9188 (Document I126360 L), Lease Extension J 124042, Lot 62 on Deposited Plan 220252
General Purpose Lease 09/2
Miscellaneous Licence 09/2

Local Government Area: Shire of Shark Bay
Colloquial name: Useless Loop Operations

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
106.07		Mechanical removal	Salt production and associated activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 13 February 2014

2. Background

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description Beard vegetation associations have been mapped for the whole of Western Australia. Three Beard vegetation associations have been mapped within the application area (GIS Database):

112: Hummock grasslands, shrub steppe; *Acacia ligulata* over *Triodia plurinervata*;

1100: Hummock grassland; dwarf shrub Steppe; mixed ericoid shrubs & spinifex; and

1423: Shrublands; scrub-heath in Shark Bay area, mainly *Acacia* spp.

The vegetation within Mining Lease 260SA and associated special leases 3116/9187 and 3116/9188 was mapped by Mattiske Consulting Pty Ltd (Mattiske) in 1996. This survey was amended in 2010 to reflect changes in taxonomic nomenclature and in the conservation status of plants and plant communities. The entire application area is not covered by this survey however the vegetation not mapped by the survey is likely to be the same as the vegetation associations already mapped within the application area. Based on vegetation mapping and vegetation associations identified within the Mattiske (1996) survey, the following vegetation associations are likely to occur within the application area:

Association 1: Closed to Open Tall Shrubland of *Melaleuca cardiophylla, Acacia bivenosa* and *Alyogyne huegelii* thickets in deep sand on midslopes of sand dunes on the western side of the Useless Inlet;

Association 3: Open Shrubland of *Acacia bivenosa*, *Acacia ligulata* on limestone plates above birridas;

Association 4: Shrubland of *Thryptomene baeckeacea* with scattered taller emergent shrubs dominated by *Acacia ligulata* on slopes of cream sand dunes;

Association 5: Closed to Low Shrubland of *Melaleuca huegelii* subsp. *pristicensis* thickets fringing inlets and birridas;

Association 7: Closed to Open Low Shrubland of *Thryptomene baeckeacea*, *Salsola kali*, *Rhagodia preissii* subsp. *obovata*, *Atriplex bunburyana* and *Acacia tetragonophylla* with occasional emergent *Acacia ligulata*, *Acacia rostellifera* and / or *Acacia sclerosperma* on mid to upper slopes of sand dunes of Useless Inlet;

Association 8: Low Shrubland of *Thryptomene baeckeacea* with *Plectrachne bromoides, Melaleuca cardiophylla* and emergent *Acacia ligulata* on the slopes of cream to red sand dunes;

Association 9: Low closed to open shrubland with occasional emergent *Acacia ligulata* over *Triodia plurinervata* and/or *Triodia bromoides* on red sand dunes, occasionally with limestone pebbles larger than 20 centimetres, on the lower to upper slopes above birridas;

Association 11: Low Closed Shrubland of *Melaleuca* sp. Shark Bay and *Triodia plurinervata* with mixed shrubs, on midslopes to upper slopes of sand dunes on Freycinet Reach with exposed limestone rocks outcropping;

Association 12: Closed to Open Low Heath dominated by *Melaleuca cardiophylla* with scattered emergent taller shrubs of *Acacia* species with large areas of mixed Asteraceae species, in creamy-yellow sand on upper slopes of dunes; and

Association 15: Halophytic Complex dominated by *Halosarcia* species.

Clearing Description

Shark Bay Resources Pty Ltd.
Useless Loop Operations. The proposal is to clear up to 106.7 hectares of native vegetation within an application area of 967 hectares for the purpose of salt production and associated activities. The project is located within the Yalgoo region of Western Australia at Useless Loop.

Vegetation Condition

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994);

To

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).

Comment

The vegetation condition has been inferred from orthophotos and historical land uses classified using the Keighery (1994) scale. The clearing proposed is to consolidate ten previously approved clearing permits. The application area for this permit includes 86.07 hectares of previously approved clearing and 20 hectares of additional clearing. The additional area of clearing is required for rehabilitation of historically excavated borrow pits. Small scale targeted clearing will be undertaken where borrow pits have naturally regenerated, to fill erosion gullies, batter down high sections and access and rip areas of compacted soil within the rehabilitation areas (MBS, 2013).

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 Edel (YAL1) subregion of the Yalgoo Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This bioregion is characterised by sand and alluvial plains, low ranges and lakes. Mulga or bowgada shrublands dominate in the east. Western parts include sand plains, heathlands and some *Eucalypt* shrublands (CALM, 2002).

The application area is located in the Shark Bay region which is an area of high biological diversity and has been listed on the World Heritage list. The Shark Bay salt operations have been excised from this area and, therefore, the application area is not within the Shark Bay World Heritage site.

Mattiske (1996) conducted vegetation mapping and a flora and vegetation survey within Mining Lease 260SA in 1996. Vegetation within the lease was mapped at a scale of 1:25 000. This survey was amended in 2010 to reflect changes in taxonomic nomenclature and in the conservation status of plants and plant communities. Based on the results of these surveys Mattiske (1996) identified 17 vegetation associations within the lease area. Whilst the majority of the application area on General Purpose Lease 09/2 and Miscellaneous Licence 09/02 was not mapped, based on the mapping conducted it is likely that the unmapped areas are consistent with those identified in the 1996 Mattiske survey. There are nine vegetation associations mapped within the application area (Mattiske, 1996).

According to available databases, no Threatened Ecological Communities or Priority Ecological Communities are located within the application area (GIS Database).

A total of 182 vascular plant species from 123 genera and 51 families were recorded within the larger survey area (Mattiske, 2010). Several introduced species were recorded during the survey. Potential impacts from weeds as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

According to Mattiske (2010), six priority flora species were recorded during the vegetation survey. However, the application area is located within or adjacent to areas which have been previously disturbed by the salt mining operations. Given the large amount of disturbance within the application area and the large areas of undisturbed habitat which remain outside the application area, the vegetation present is not likely to represent significant habitat for these species.

The application area covers the existing salt mining operations and associated infrastructure. In addition, 86.07 hectares of the proposed clearing has been previously approved for clearing and the remaining 20 hectares is required for rehabilitation of historically excavated borrow pits. Given, the level of existing disturbance, it is not likely that the application area supports a high level of faunal diversity.

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

Methodology
CALM (2002)
Mattiske (1996)
Mattiske (2010)
MBS (2013)
GIS Database:
- Shark Bay 1.4m Orthomosaic
- 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

No targeted fauna surveys were undertaken within the application area and the fauna habitats present within the application area have not been recorded.

Mattiske (1996) stated that the vegetation associations of the application area were common in the local area. As the vegetation and landforms within the application area are common throughout the local region, it would be considered likely that most fauna, dependant on mobility, would be able to relocate into adjacent suitable habitat if present within the application area upon the commencement of clearing. According to available data there are no records of conservation significant species within the application area (GIS Database). A search of the DEC's NatureMap database identified no conservation significant fauna species as occurring within a 20 kilometre radius of the application area (DEC, 2014).

The application area covers the existing salt mining operations and associated infrastructure. In addition, 86.07 hectares of the proposed clearing has been previously approved for clearing and the remaining 20 hectares is required for rehabilitation of historically excavated borrow pits (MBS, 2013). Given, the level of existing disturbance, it is not likely that the application area is necessary for the maintenance of a significant habitat for fauna.

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

Methodology
DEC (2014)
Mattiske (1996)
MBS (2013)
GIS Database:
- Shark Bay 1.4m Orthomosaic
- Threatened Fauna

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

Comments

Proposal is not likely to be at variance to this Principle

According to available databases, there are no records of Threatened Flora within the application area (GIS Database). A search of the DEC's NatureMap database identified no Threatened Flora species as occurring within a 20 kilometre radius of the application area (DEC, 2014).

No Threatened Flora was recorded during the vegetation survey undertaken in 1996 (Mattiske, 2010).

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

Methodology
DEC (2014)
Mattiske (2010)
GIS Database:
- Threatened and Priority Flora

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

Comments

Proposal is not likely to be at variance to this Principle

According to available databases, there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The buffer of the nearest recorded TEC is located approximately 400 kilometres south east of the application area (GIS Database).

According to Mattiske (2010), no TECs were identified in the application area.

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

Methodology Mattiske (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 falls within the Yalgoo Biogeographic Regionalisation of Australia (IBRA) bioregion in which over 98% of the pre-European vegetation remains (see table) (GIS Database, Government of Western Australia, 2013).

The vegetation of the application area has been mapped as Beard vegetation associations 112, 1100 and 1423 (GIS Database).

Over 80% of these Beard vegetation associations remains at both a state and bioregional level (Government of Western Australia, 2013). The vegetation within the application area is not a remnant or does not form part of any remnants within the local area (GIS Database).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves* (and post clearing %)
IBRA Bioregion – Yalgoo	5,057,326	4,924,606	~97.38	Least Concern	10.75 (10.9)
Beard veg assoc. – State					
112	25,152	24,205	~96.23	Least Concern	1.13 (1.13)
1100	31,549	29,885	~95	Least Concern	-
1423	27,780	27,748	~99.89	Least Concern	-
Beard veg assoc. – Bioregion					
112	5,050	4,194	~83.05	Least Concern	-
1100	31,549	29,885	~95	Least Concern	18.62 (23.22)
1423	27,780	27,748	~99.89	Least Concern	-
Beard veg assoc. – Subregion					
112	5,050	4,194	~83.05	Least Concern	-
1100	31,550	29,885	~94.73	Least Concern	18.62 (23.22)
1423	27,780	27,749	~99.89	Least Concern	-

* Government of Western Australia (2013)
** 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)
Government of Western Australia (2013)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Shark Bay 1.4m Orthomosaic

(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 natural watercourses or wetlands within the application area (GIS Database). The vegetation within the application area is not considered to be growing in association with any watercourse or wetland.

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

Methodology GIS Database:
- Hydrography, linear

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

Comments

Proposal is not likely to be at variance to this Principle

The application area is mapped as occurring on the Edel land system (GIS Database). The Edel land system is described as undulating sandy plains with occasional dunes, limestone rises and saline flats; low *Acacia* shrublands with some saltbush and heath communities. The land has small areas of outcropping limestone and saline plains with shallow sandy soils and no drainage features. Some areas are susceptible to wind erosion when locally over-used (Payne et al., 1987).

The application area covers the existing salt mining operations and infrastructure. In addition, 86.07 hectares of the proposed clearing has been previously approved for clearing and the remaining 20 hectares is required for rehabilitation of historically excavated borrow pits (MBS, 2013).

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

Methodology MBS (2013)
Payne et al. (1987)
GIS Database:
- Rangeland Land System Mapping

(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 application area is located adjacent to the A Class Shark Bay marine park (GIS Database). Shark Bay is an area of high biological diversity and has been listed on the World Heritage list. However the Useless Loop salt operations have been excised from this area. The application area is also adjacent to Carrarang Station, which is a DEC managed pastoral lease (GIS Database).

The application area covers the existing salt mining operations and infrastructure. In addition, 86.07 hectares of the proposed clearing has been previously approved for clearing and the remaining 20 hectares is required for rehabilitation of historically excavated borrow pits (MBS, 2013). Based on this, the proposal is unlikely to pose any increased environmental impacts upon the adjacent conservation areas over and above those of the existing approved salt mining operations.

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

Methodology MBS (2013)
GIS Database:
- DEC Tenure
- Shark Bay 1.4m Orthomosaic

(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 not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). There are no permanent watercourses or water bodies within the application area (GIS Database). Any surface water within the application area is likely to only remain for short periods following significant rainfall events as the annual evaporation rate greatly exceeds rainfall (BoM, 2014; GIS Database). The proposed clearing is not likely to cause deterioration in the quality of any surface water within or outside of the application area.

Groundwater salinities within the application area are in the range of 3,000-7,000 milligrams/Litre Total Dissolved Solids which is considered to be brackish to saline (GIS Database). Surface water associated with the salt mining operations is hyper saline. The proposed clearing is not likely to cause salinity levels in the local area to alter.

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

Methodology BoM (2014)
GIS Database:
- Groundwater Salinity, Statewide
- Hydrography, Linear
- Public Drinking Water Source Areas

(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

With an average annual rainfall of 224.5 millimetres and an average evaporation rate of approximately 2,600 millimetres there is likely to be little surface flow during normal seasonal rains (BoM, 2014; GIS Database). Given the likelihood of little surface flow, the proposed clearing is not likely to cause or increase the incidence or intensity of flooding.

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

Methodology

BoM (2014)
GIS Database:
- Evaporation Isopleths

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

Comments

There is one native title claim over the area under application: WC98/17 (GIS Database). This claim has 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.*

According to available databases, there are several 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 Regulation 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 2 December 2013 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

Methodology

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

4. References

BoM (2014) Climate Statistics for Australian Locations. A Search for Climate Statistics, Australian Government Bureau of Meteorology, viewed 10/02/2014, http://www.bom.gov.au/climate/averages/maps.shtml.

DEC (2014) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 10 February 2014, <http://naturemap.dec.wa.gov.au>.

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.

Government of Western Australia (2013) Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.

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

Mattiske (1996) Flora and Vegetation - Useless Loop Shark Bay. Unpublished report for John Consulting Services dated September 1996.

Mattiske (2010) Amendments of the Flora and Vegetation Survey of Useless Loop - Shark Bay. Unpublished report for Shark Bay Resources Pty Ltd dated August 2010.

MBS Environmental (2013) Supporting document for a clearing permit application, dated 16 March 2012.

Payne, A.L., Curry, P.J., & Spencer, G.F (1987) Technical Bulletin No. 73 An Inventory and condition survey of rangelands in the Carnarvon Basin, Western Australia. Department of Agriculture, Western Australia.

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.