



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3902/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Robe River Mining Co Pty Ltd

1.3. Property details

Property: Iron Ore (Hamersley Range) Agreement Act 1963, Special Lease for Mining Operations 3116/4984, Document I 195323 L, Lot 9 on Deposited Plan 47815
Miscellaneous Licence 47/127
Local Government Area: Shire of Ashburton
Colloquial name: Weelumurra Rail Construction Camp

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
25		Mechanical Removal	Accommodation camp

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 for the whole of Western Australia and are useful to look at vegetation in a regional context. The following Beard vegetation associations have been mapped within the application area (GIS Database):

82: Hummock grasslands, low tree steppe; snappygum over *Triodia wiseana*;

565: Hummock grasslands, low tree steppe; bloodwood over soft spinifex.

A flora and vegetation survey of the application area was conducted by Biota Environmental Sciences during May 2010. The following eight vegetation communities were identified within the application area (Biota Environmental Sciences, 2010):

1. CdEIAPrAaTw: *Corymbia deserticola*, *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Acacia pruinocarpa*, *Acacia ancistrocarpa* shrubland over *Triodia wiseana* hummock grassland;

2. EIAPrTw: *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Acacia pruinocarpa* scattered tall shrubs over *Triodia wiseana* hummock grassland;

3. EITw: *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Triodia wiseana* hummock grassland;

4. EgAatAbTw: *Eucalyptus gamophylla* scattered low mallees over *Acacia atkinsiana*, *Acacia bivenosa* open shrubland over *Triodia wiseana* hummock grassland;

5. ChAbTe: *Corymbia hamersleyana* low open woodland over *Acacia bivenosa* scattered shrubland over *Triodia epactia* hummock grassland;

6. VEVYATw: *Ventilago viminalis* scattered tall shrubs over *Triodia wiseana* hummock grassland with *Cymbopogon ambiguous* scattered tussock grasses;

7. CfAPrTw: *Corymbia ferriticola* low open woodland over *Acacia pruinocarpa* scattered tall shrubs over *Triodia wiseana* scattered hummock grassland; and

8. ChGwAmoGOrTHT: *Corymbia hamersleyana* low open woodland over *Grevillea wickhamii*, *Acacia monticola*, *Gossypium robinsonii* tall open scrub over *Themeda triandra* open tussock grassland.

There were also areas mapped as 'Disturbed Areas' that had been cleared previously for a temporary accommodation village and infrastructure, including access tracks.

Clearing Description

Robe River Mining Co Pty Ltd has applied to clear up to 25 hectares within an application area of approximately 44.3 hectares (GIS Database). The application area is located approximately 50 kilometres north of Tom Price (GIS Database).

The proposed clearing is for the construction of a rail construction camp and village. Clearing will be by mechanical means.

Vegetation Condition	Pristine: No obvious signs of disturbance (Keighery, 1994). to Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).
Comment	The vegetation condition was assessed by botanists from Biota Environmental Sciences. The vegetation condition was described using a scale based on Trudgen (1988) and has been converted to the corresponding condition from the Keighery (1994) scale.

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 A flora and vegetation survey of the application area identified eight vegetation communities and 'disturbed areas' (Biota Environmental Sciences, 2010). The vegetation of the application area ranged from 'pristine' to 'degraded' (Biota Environmental Sciences, 2010). The majority of the area was 'pristine' with some areas that had been disturbed for a previous camp being 'degraded' (Biota Environmental Sciences, 2010). A total of 162 species of native flora from 80 genera and 36 families has been recorded within the Weelumurra Camp area (Biota Environmental Sciences, 2010). The dominant plant groups and the suite of species recorded were typical for stony hills, plains and creekline habitats located in this section of the Hamersley subregion (Biota Environmental Sciences, 2010). No Declared Rare or Priority Flora was recorded within the application area during the survey. The fauna habitats present are considered to be common and widespread throughout the Pilbara bioregion (Biota Environmental Sciences, 2010). Given the habitats present, it would not be expected that the application area comprises a higher level of faunal diversity than surrounding areas. Based on the above, the proposed clearing is not likely to be at variance to this Principle.
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Methodology Biota Environmental Science (2010)

(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 Two broad terrestrial fauna habitats have been identified within the application area (Biota Environmental Sciences, 2010): - <i>Eucalyptus</i> spp. and <i>Corymbia hamersleyana</i> over <i>Acacia</i> and <i>Grevillea</i> shrublands over hummock and tussock grasslands on stony plains with a loamy substrate; and - <i>Eucalyptus leucophloia</i> subsp. <i>leucophloia</i> and <i>Corymbia ferritcola</i> over <i>Acacia</i> spp. shrublands over <i>Triodia wiseana</i> on stony hills and a small breakaway in the southern section of the study area. These broad habitats are considered to be common and widespread throughout the Pilbara bioregion (Biota Environmental Sciences, 2010). Given the application is for an accommodation camp, it is not likely that the breakaway area will be disturbed. A desktop assessment identified five fauna species of conservation significance that could potentially occur within the application area (Biota Environmental Sciences, 2010). Whilst most of these species may forage or pass through the application area, it is not likely to represent core or significant habitat for any species of conservation significance. A search for short range endemic species revealed one species of mygalomorph spider from within the application area (Biota Environmental Sciences, 2010). Further identification is needed but the spider is from the family Nemesiidae and believed to be from the genus <i>Aname</i> (Biota Environmental Sciences, 2010). It has been noted that there are currently no known taxa or morphotypes that have been found to be restricted to an area the size of the proposed clearing (Biota Environmental Sciences, 2010). Based on the above, the proposed clearing is not likely to be at variance to this Principle.
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Methodology Biota Environmental Sciences (2010)

(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 Declared Rare Flora (DRF) within the application area (GIS Database). A flora survey was conducted over the application area by Biota Environmental Sciences on 12-13 May 2010. This survey did not record any DRF (Biota Environmental Sciences, 2010).
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Based on the above, the proposed clearing is not likely to be at variance to this Principle.

Methodology Biota Environmental Sciences (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**
According to available databases, the application area falls within the buffer zone of the Themeda Grasslands Threatened Ecological Community (TEC) (GIS Database). This TEC occurs on cracking clays and consists of grassland plains dominated by the perennial Themeda (kangaroo grass) and many annual herbs and grasses. A vegetation survey was conducted over the application area by Biota Environmental Sciences on 12-13 May 2010. This survey did not identify any vegetation communities described as the Themeda Grasslands TEC (Biota Environmental Sciences, 2010). The nearest known occurrence of this TEC is approximately one kilometre south-east of the application area (Biota Environmental Sciences, 2010).

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

Methodology Biota Environmental Sciences (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 Pilbara Biogeographic Regionalisation of Australia (IBRA) bioregion in which approximately 99.9% of the Pre-European vegetation remains (see table) (GIS Database, Shepherd, 2007).

The vegetation of the application area has been mapped as the following Beard vegetation associations (GIS Database):

82: Hummock grasslands, low tree steppe; snappygum over *Triodia wiseana*; and
565: Hummock grasslands, low tree steppe; bloodwood over soft spinifex.

According to Shepherd (2007) approximately 100% of these Beard vegetation associations remains at both a state and bioregional level. Therefore the area proposed to be cleared does not represent a significant remnant of native 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
IBRA Bioregion – Pilbara	17,804,187	17,794,646	~99.9	Least Concern	6.3
Beard veg assoc. – State					
82	2,565,901	2,565,901	~100	Least Concern	10.2
565	143,439	143,439	~100	Least Concern	N/A
Beard veg assoc. – Bioregion					
82	2,565,583	2,565,583	~100	Least Concern	10.2
565	108,957	108,957	~100	Least Concern	N/A

* Shepherd (2007)

** 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

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

Methodology Department of Natural Resources and Environment (2002)
Shepherd (2007)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- 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

There are several minor ephemeral watercourses within the application area (GIS Database). The vegetation units ChAbTe and ChGwAmoGOrTHt have been described as occurring on a broad drainage plain and minor flowlines dissecting stony plains respectively (Biota Environmental Sciences, 2010). Therefore, the proposed clearing will result in the disturbance of vegetation associated with a watercourse.

Some of the drainage lines in the north-west of the application area have been previously cleared and ripped (Biota Environmental Sciences, 2010). Several of the other watercourses have also been previously disturbed by access tracks and camp facilities (GIS Database).

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

Methodology Biota Environmental Sciences (2010)
GIS Database:
- Hydrology, linear
- McRae 50cm Orthomosaic - Landgate 2004

(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

According to available databases, the application area mapped as occurring on the Boolgeeda and Newman land systems (GIS Database). Both of these land systems are generally not prone to erosion (Van Vreeswyk et al., 2004). However, the stony slopes and plains landform of the Boolgeeda land system may be vulnerable to erosion if disturbed (DAFWA, 2006). The application area occurs on the stony lower plains landform, dissected by occasional narrow drainage channels (Biota Environmental Sciences, 2010).

The application area is relatively flat apart from the area of stony hill and breakaway in the south-east of the application area (Biota Environmental Sciences, 2010; GIS Database). Given the proposed clearing is for the purpose of constructing a camp, it is expected that vegetation on the slopes would not be largely cleared. The average annual evaporation rate is over eight times the average annual rainfall, so it is unlikely the proposed clearing will result in increased groundwater recharge causing raised saline water tables (GIS Database).

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

Methodology Biota Environmental Sciences (2010)
DAFWA (2006)
Van Vreeswyk et al. (2004)
GIS Database:
- Evaporation Isopleths
- Rainfall, Mean Annual
- Rangeland Land System Mapping
- Topographic Contours, Statewide

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

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

The application area is not located within any conservation areas (GIS Database). The nearest conservation area is Karijini National Park located approximately 27 kilometres east of the application area (GIS Database). At this distance the proposed clearing is not expected to impact on Karijini National Park.

The application area is located approximately 50 metres from the Hamersley Station proposed 2015 pastoral lease exclusion area (GIS Database). There is already a road and a rail line between the application area and the pastoral lease boundary (GIS Database). The proposed clearing would not be expected to cause any additional impacts on the conservation values of the proposed Hamersley Station 2015 exclusion area.

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

Methodology GIS Database:
- DEC proposed 2015 pastoral lease exclusions
- DEC Tenure
- McRae 50cm Orthomosaic - Landgate 2004

(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 the Millstream Water Reserve, a Public Drinking Water Source Area (PDWSA) gazetted under the *Country Areas Water Supply Act 1947* on 2 March 2001 (GIS Database). This PDWSA is defined as 'Priority 2 (P2)' under the Water Source Protection Classification System (Department of Water, 2010). Advice from the Department of Water indicates that the proposed clearing of 25 hectares for the purpose of an accommodation camp is unlikely to have an impact on the quantity or quality of groundwater (Department of Water, 2010).

There are no permanent watercourses or wetlands within the application area (GIS Database). There are a number of minor ephemeral watercourses within the application area (GIS Database). Several of these watercourses have been disturbed by previous activities (Biota Environmental Sciences, 2010). The proposed clearing is not expected to have a significant impact on surface water within the local area.

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

Methodology Biota Environmental Sciences (2010)
Department of Water (2010)
GIS Database:
- Hydrography, linear
- Public Drinking Water Sources Areas (PDWSAs)

(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 400 millimetres and an average annual evaporation rate of 3,400 millimetres there is likely to be little surface flow during normal seasonal rains (GIS Database). Whilst large rainfall events may result in the flooding of the area, the proposed clearing is not likely to lead to an increase in incidence or intensity of flooding.

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

Methodology GIS Database:
- Evaporation Isopleths
- Rainfall, Mean Annual

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

Comments
There is one native title claim over the area under application (GIS Database). This claim (WC97/89) has been registered with the National Native Title Tribunal on behalf of the claimant group (GIS Database). 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 no registered Aboriginal Sites of Significance within the application area (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment and Conservation and the Department of Water to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

The clearing permit application was advertised on 30 August 2010 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 Determined

4. References

- Biota Environmental Sciences (2010) Weelumurra Rail Construction Camp: Native Vegetation Clearing Permit Report. Unpublished report for Rio Tinto Iron Ore, May 2010.
- DAFWA (2006) Land degradation assessment report for clearing permit application CPS 1250/1. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia, dated 6 November 2006.
- 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.
- Department of Water (2010) Public Drinking Water Source Area (PDWSA) advice to assessing officer, Native Vegetation Assessment Branch, Department of Mines and Petroleum (DMP), 10 September 2010. Department of Water, Western Australia.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Shepherd, D.P. (2007) 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.
- Trudgen M.E. (1988) A Report on the Flora and Vegetation of the Port Kennedy Area. Unpublished report prepared for Bowman Bishaw and Associates, West Perth.
- Van Vreeswyk, A.M, Payne, A.L, Leighton, K.A & Hennig, P (2004) Technical Bulletin No. 92: An inventory and condition survey of the Pilbara region, Western Australia. Department of Agriculture, South Perth, 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.

