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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5078/2
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Robe River Limited**

1.3. Property details

Property: *Iron Ore (Robe River) Agreement Act 1964*, Mineral Lease 248SA (AML 70/248)
Local Government Area: Shire of East Pilbara
Colloquial name: West Angelas Drilling Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
20		Mechanical Removal	Mineral Exploration

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 2 April 2015

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. Two Beard vegetation associations have been mapped within the application area:

18: Low woodland; mulga (*Acacia aneura*); and
82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*.

Rio Tinto Iron Ore (RTIO) has conducted a flora and vegetation survey over the application area and a slightly larger area to the east. The field survey was conducted by RTIO botanists on 18 March 2011. The survey identified the following seven vegetation units over the larger survey area (RTIO, 2011):

1. Hill Slope 1 (HS1): *Acacia pruinocarpa* high shrubland over *Acacia marramamba* open shrubland over *Eremophila fraseri* and *Ptilotus rotundifolius* low open shrubland over *Triodia pungens* hummock grassland.

2. Hill Slope 2 (HS2): *Acacia aneura*, *Acacia rhodophloia* open scrub over *Eremophila fraseri* open shrubland over *Eremophila exilis* low open shrubland over *Triodia pungens* hummock grassland.

3. Hill Slope 3 (HS3): *Eucalyptus leucophloia* low woodland over *Acacia pruinocarpa* high open shrubland over *Senna glutinosa*, *Senna glaucifolia* open shrubland over *Triodia pungens* hummock grassland.

4. Hill Slope 4 (HS4): *Eucalyptus leucophloia*, *Corymbia hamersleyana* low open woodland over *Acacia pruinocarpa* high open shrubland over *Acacia marramamba* open shrubland over *Triodia basedowii* and *Triodia pungens* hummock grassland.

5. Hill Slope 5 (HS5): *Eucalyptus leucophloia* low open forest over *Acacia maitlandii*, *Senna glutinosa*, *Eremophila latrobei* open shrubland over *Triodia pungens* hummock grassland over *Eriachne mucronata* open tussock grassland.

6. Hill Slope 6 (HS6): *Eucalyptus leucophloia*, *Corymbia deserticola* low open woodland over *Acacia pachyacra*, *Acacia aneura* high open shrubland over *Acacia dictyophleba*, *Acacia bivenosa*, *Acacia marramamba* open shrubland over *Ptilotus rotundifolius* low open shrubland over *Triodia pungens*, *Triodia basedowii* hummock grassland.

7. Drainage Line (DL1): *Eucalyptus xerothermica*, *Corymbia hamersleyana* low woodland over *Acacia pruinocarpa*, *Acacia pyrifolia*, *Acacia bivenosa* open scrub over *Indigofera brevidens* open shrubland over *Triodia pungens* hummock grassland over *Themeda triandra* tussock grassland.

A biological assessment over the northern portion of the amended application area was conducted by Eco Logical between 31 August and 7 September 2014 (Eco Logical, 2014). The survey consisted of a desktop and field survey to map the vegetation communities and fauna habitats that occur within the application area and a targeted search for conservation significant flora. Fauna species were recorded opportunistically during the survey. A total of four vegetation communities were recorded within the application area, including:

1. ElApEfTp - Mulga groves on plains: *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over *Acacia pruinocarpa*, *Acacia aneura* and *Acacia aptaneura* shrubland over *Eremophila forrestii* subsp. *forrestii* low open shrubland over *Triodia pungens* open hummock grassland.

2. ElAbSgTsTp - Spinifex with Acacias on hilltops and hillslopes: *Eucalyptus leucophloia* subsp. *leucophloia* low open woodland over *Acacia pruinocarpa* and *Acacia bivenosa* open shrubland over *Senna glutinosa* subsp. *glutinosa*, *Senna glutinosa* subsp. *pruinosa* and *Senna glutinosa* subsp. x *luerssenii* scattered shrubs over *Triodia* sp. Shovelanna Hill (S. van Leeuwen 3835) and *Triodia pungens* hummock grassland.

3. CfAiTp - Acacia shrubland in gullies: *Corymbia ferriticola* and *Eucalyptus leucophloia* subsp. *leucophloia* low open woodland over *Acacia incurvaneura* tall shrubland over *Triodia pungens* open hummock grassland.

4. ElSTpTm - Mixed Senna shrublands with hummock and tussock grasses in gullies: *Eucalyptus leucophloia* subsp. *leucophloia* scattered low trees over mixed Senna species scattered shrubs over *Triodia pungens* hummock grassland and *Themeda* sp. Mt Barricade (M.E. Trudgen 2471) scattered tussock grasses.

Clearing Description

West Angelas Project.
Robe River Limited (Robe River) proposed to clear up to 20 hectares of native vegetation within a total boundary of approximately 183 hectares, for the purpose of mineral exploration. The project is located approximately 91 kilometres east of Paraburdoo, in the Shire of East Pilbara.

Vegetation Condition

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

Comment

The overall condition of each vegetation unit within the previous application area was determined by RTIO using a scale based on Trudgen (1988). These condition ratings have been converted to the Keighery (1994) scale by the assessing officer.

The main signs of disturbance within the application area consist of existing exploration tracks (RTIO, 2011; Eco Logical, 2014).

The amended application area consists of an additional 178.31 hectare area located seven kilometres north of the previous version of the permit.

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 may be at variance to this Principle

The application area is located in the Hamersley subregion of the Pilbara IBRA region (GIS Database). During a flora survey of the amended application area, Eco Logical (2014) recorded 174 taxa from 33 families and 68 genera. A total of four vegetation communities have been recorded within the additional application area, comprising Eucalypt woodlands, Acacia shrublands and mixed shrublands (Eco Logical, 2014).

No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) were recorded within the application area (Eco Logical, 2014; GIS Database). However, one vegetation community, ElApEfTp - Mulga groves on plains, was identified by Kendrick (2001) as being an ecosystem at risk.

No Threatened flora were recorded or considered likely to occur within the application area (Eco Logical, 2014; GIS Database). However, a total of four Priority flora species have been recorded within the application area, including:

1. *Eremophila sp. Hamersley Range* (K. Walker KW 136) *(*Priority 1) - recorded at one location within the application area. During the survey conducted by Eco Logical (2014), a large number of individuals were recorded outside the application area. Furthermore, Rio Tinto hold a total of 258 records of this species over a range of 130 kilometres, including records from within Karijini National Park (Eco Logical, 2014).

2. *Eremophila forrestii* subsp. Pingandy (M.E. Trudgen 2662) (Priority 2) - recorded at seven locations within the application area. Available databases show this species to have a relatively localised distribution within the Shire of Ashburton and East Pilbara in the Pilbara IBRA bioregion (Western Australian Herbarium, 2015). However, Eco Logical (2014) advises that a flora database managed by Rio Tinto contains a total of 221 records of this species within 31 kilometres of the application area.

3. *Rhagodia* sp. Hamersley (M. Trudgen 17794) (Priority 3) - recorded at numerous locations across the application area. This species has a relatively broad distribution across the Pilbara and Gascoyne regions (Western Australian Herbarium, 2015). A large number of individuals were recorded outside the application area (Eco Logical, 2014), and will not be disturbed by the proposed clearing.

4. *Triodia sp. Mt Ella* (M.E. Trudgen 12739) (Priority 3) - recorded at five locations within the application area. This species is restricted to the Hamersley subregion in the Pilbara region (Western Australia Herbarium, 2015), however Rio Tinto are reported to have up to 370 records of this species, equating to approximately 9719 individuals across a 72 kilometre area (Eco Logical, 2014). A higher number of individuals were recorded outside the application area than within the application area by Eco Logical (2014).

Although not recorded, following the field survey *Rhodanthe ascendens* (Priority 1) was considered to potentially occur within the application area (Eco Logical, 2014). Few records are known for this species, however the distribution is relatively broad and crosses the Carnarvon and Pilbara regions (Western Australian Herbarium, 2015). Robe River (2015) has advised that disturbance to the flora species above will be minimised and avoided where possible via the strategic placement of drill pads and access tracks. With consideration to records of conservation significant flora outside the application area and clearing controls to be implemented by the proponent, the proposed clearing is not likely to impact the conservation of priority flora on either a local or regional scale.

One additional taxon, *Aristida* aff. *nitidula,* was recorded within the survey area. While this species has a large distribution, there are very few records of this species within the West Angelas area and therefore these individuals may be significant on a local scale (Eco Logical, 2014). The amended application area submitted by Robe River has avoided records of *Aristida* aff. *nitidula*.

A total of 26 fauna species, consisting of 20 birds, three mammals and three reptiles were opportunistically recorded during the biological assessment conducted by Eco Logical (2014). Based on a desktop assessment and field survey, a total of 12 conservation significant fauna have the potential to occur within the application area (Eco Logical, 2014). In the absence of a targeted fauna survey, the definite value of habitat within the application area to conservation significant fauna cannot be confirmed. One Priority fauna species, the Western Pebble-mound Mouse *Pseudomys chapmani* (Priority 4) was recorded within the application area. A total of 44 Western Pebble-mound Mouse mounds were recorded across the survey area, including 34 active mounds. The proponent has advised that based on the proposed disturbance footprint, approximately 16 of the Western Pebble-mouse Mounds may be cleared, however all mounds will be avoided unless it is unsafe to do so (i.e., steep terrain).

Other conservation significant fauna with the potential to occur include the Northern Quoll (*Dasyurus hallucatus*; Schedule 1), Pilbara Olive Python (*Liasis olivaceous barroni*; Schedule 1), Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia*; Schedule 1) and Ghost Bat (*Macroderma gigas*; Priority 4). These species are considered most likely to occur within rocky gorge and gully habitat (Eco Logical, 2014). Impacts to this habitat type within the application area may be minimised by the implementation of a clearing condition to restrict clearing within this habitat type for the purpose of access tracks only.

Based on the above, the application area has the potential to represent an area of moderate biodiversity. However, given the continuity of similar habitat outside the application area and the clearing controls to be implemented by the proponent, the proposed clearing is not likely to have a significant impact on the level of biodiversity in this area.

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

Methodology

Eco Logical (2014)
Kendrick (2001)
Robe River (2015)
Van Vreeswyk et al (2004)
Western Australian Herbarium (2015)
GIS Database:
- IBRA WA (Regions - Subregions)
- Threatened and Priority Flora
- 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

Three habitat types were recorded by Eco Logical (2014), including:

1. Low stony hills and hillslopes supporting open *Trioda* hummock grasslands, dissected by minor drainage lines;
2. Mixed open clay and alluvial plains supporting sparse mulga woodland and shrubland dissected by minor drainage lines; and
3. Rocky gullies and breakaways supporting open *Eucalyptus* woodland.

Following a desktop assessment and field survey, Eco Logical (2014) identified a total of 12 conservation significant fauna that had the potential to occur within the application area, including:

- Northern Quoll (*Dasyurus hallucatus;* Schedule 1)
- Pilbara Olive Python (*Liasis olivaceus barroni;* Schedule 1)
- Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia*; Schedule 1)
- Grey Falcon (*Falco hypoleucos*; Schedule 1)
- Fork-tailed Swift (*Apus pacificus*; Schedule 3)
- Oriental Plover (*Charadrius veredus*; Schedule 3)
- Peregrine Falcon (*Falco peregrinus*; Schedule 3)
- Rainbow Bee-eater (*Merops ornatus;* Schedule 3)
- Australia Bustard (*Ardeotis australis*; Priority 4)
- Bush Stone-curlew (*Burhinus grallarius*; Priority 4)

- Ghost Bat (Macroderma gigas; Priority 4)
- Western Pebble-mound Mouse (*Pseudomys chapmani*; Priority 4)

Active and inactive pebble mounds associated with the Western Pebble-mound Mouse were recorded during the survey (Eco Logical, 2014). The presence of other fauna could not be confirmed due to the cryptic nature of the species, the absence of targeted survey techniques, and because rocky gully and breakaway habitat was not accessible to the survey personnel (Eco Logical, 2014). A number of conservation significant species, including the Northern Quoll, Pilbara Olive Python, Pilbara Leaf-nosed Bat and Ghost Bat are known to utilise gorge/gully habitat. Furthermore, this habitat type is restricted within the Pilbara, and may therefore be considered to be of higher importance to fauna on a local scale. Impacts to rocky gully and breakaway habitat may be minimised by the implementation of a fauna management condition that restricts clearing within this habitat type to clearing for access tracks only.

Following a review of aerial imagery, other habitat types recorded within the application area were found to be widespread in the surrounding landscape (GIS Database). Low stony hills and hill slopes and mixed open clay and alluvial plains within the application area are therefore unlikely to represent critical fauna habitat.

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

Methodology Eco Logical (2014)
GIS Database:
- Governor 50cm Orthomosaic - Landgate 2004

(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 and survey reports, no Threatened flora species occur within the application area (Eco Logical, 2014; GIS Database).

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

Methodology Eco Logical (2014)
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**
A search of available databases indicates that the application area is not likely to occur within a Threatened Ecological Community (TEC) (GIS Database). No TECs were recorded during a field survey conducted by Eco Logical (2014). The nearest TEC occurs approximately 116 kilometres south-east of the application area (GIS Database).

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

Methodology Eco Logical (2014)
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 Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, in which approximately 99.6% of the pre-European vegetation remains (see table) (Government of Western Australia, 2013; GIS Database).

The vegetation within the application area has been mapped as Beard vegetation association 18 and 82 (GIS Database). Over 90% of these Beard vegetation associations remain at both a state and bioregional level (Government of Western Australia, 2013). Based on aerial imagery, the vegetation within the application area is neither a remnant itself nor does it form part of any remnants within the local area (GIS Database).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Lands
IBRA Bioregion – Pilbara	17,808,657	17,733,584	~99.6	Least Concern	8.4
Beard veg assoc					

- State					
18	19,892,305	19,843,727	~99.8	Least Concern	6.29
82	2,565,901	2,553,217	~99.5	Least Concern	10.51
Beard veg assoc. - Bioregion					
18	676,557	672,424	~99.39	Least Concern	17.16
82	2,563,583	2,550,899	~99.5	Least Concern	10.52

* 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:
- Pre-European Vegetation
- Governor 50cm Orthomosaic - Landgate 2004

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

Comments **Proposal is not likely to be at variance to this Principle**
According to available databases, a number of minor, non-perennial watercourses occur within the amended application area (GIS Database). However, none of the four vegetation communities recorded during the flora survey within the amended application area were found to occur in or in association with a watercourse or wetland (Eco Logical, 2014).

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

Methodology Eco Logical (2014)
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 amended application area occurs over the Newman and Boolgeeda land systems (GIS Database). Neither land system is considered to be susceptible to erosion (Van Vreeswyk et al., 2004).

No weed species were recorded within the additional area to the north of the original permit area (Eco Logical, 2014). A weed management condition exists on clearing permit CPS 5078/1 to reduce the potential for weeds to be spread during clearing activities.

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

Methodology Eco Logical (2014)
Van Vreeswyk et al. (2004)
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 amended application area borders the Karijini National Park, which is an A Class Nature Reserve managed by the Department of Parks and Wildlife (GIS Database). In their original application, the proponent advised that strict weed hygiene protocols would be implemented during the clearing of vegetation and subsequent earthworks in order to minimise the risk of introducing weeds into the national park (clearing permit decision report CPS 5078/1). While no weeds were recorded within the additional area under application, it is important that the proponent maintain strict weed hygiene protocols given the larger area to be cleared and the closer proximity to Karijini National Park.

Although the amended application area contains a large area of native vegetation and shares a border with the national park, the proposed clearing of 20 hectares within a total boundary of approximately 183 hectares is not likely to impact on fauna dispersal in or out of Karijini National Park, as tracks of habitat between drill pads and access tracks will remain undisturbed.

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

Methodology GIS Database:
- DEC Tenure

(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 a number of minor, non-perennial watercourses within the application area (GIS Database).

The previous version of the permit did not have a watercourse management condition as it was unlikely for the 1.3 hectares of proposed clearing to have an impact on drainage on a local or regional scale. However, the amended application area is substantially larger than the previous version of the permit, and disturbance over a larger area has the potential to impact drainage on a local scale. Impacts to surface water may be minimised by the implementation of a watercourse management condition.

According to available databases, groundwater salinity within the application area ranges between 500 - 1,000 milligrams/Litre Total Dissolved Solids (TDS) (GIS Database), which is considered to be a marginal level of salinity. The proposed clearing is not likely to alter groundwater salinity on a local or regional scale.

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

Methodology GIS Database:
- Groundwater Salinity, Statewide
- 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**
The application area is located within the Ashburton River catchment area (GIS Database). Given the size of the area to be cleared (20 hectares) in relation to the size of the catchment area (7,877,743 hectares) (GIS Database), the proposed clearing is not likely to increase the potential of flooding on a local or catchment scale.

The Pilbara region experiences seasonal rainfall, and some localised flooding is likely to occur following heavy downpours or cyclonic events (Kendrick, 2001). However, the clearing of 20 hectares within a total boundary of 183 hectares is not likely to increase the incidence or intensity of flooding on a local or regional scale.

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

Methodology Kendrick (2001)
GIS Database:
- Hydrographic Catchments - Catchments

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

Comments

There are two native title claims over the application area (GIS Database). These claims (WC10/11; WC10/16) have been registered with the 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 Site of Aboriginal Significance located in the area applied to clear (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Sites of Aboriginal Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, the Department of Parks and Wildlife 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 8 December 2014 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

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Government of Western Australia (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. WA Department of Environment and Conservation, Perth.

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Rio Tinto (2011) Flora and Vegetation Survey for Proposed Evaluation Drilling at Brockman Target: Native Vegetation Clearing Permit Supporting Report. Unpublished report prepared by Rio Tinto Iron Ore Pty Ltd.

Robe River (2015) Further information provided by Robe River Limited to the Assessing Officer on 17 December 2014 and 9 March 2015.

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.E, Payne, A.L., Leighton, K.A., and Hennig, P. (2004) An inventory and condition survey of the Pilbara region, Western Australia, Department of Agriculture Technical Bulletin No. 92, December 2004.

Western Australian Herbarium (2015) FloraBase - The Western Australian Flora. Department of Parks and Wildlife. http://florabase.dpaw.wa.gov.au/ (Accessed January 2015).

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
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
PEC	Priority Ecological Community, Western Australia
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:

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}:-

T **Threatened species:**
Specially protected under the *Wildlife Conservation Act 1950,* listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).

Threatened Fauna and Flora are further recognised by the Department according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo *Calyptorynchus latirostris* is specially protected under the *Wildlife Conservation Act 1950* as a threatened species with a ranking of Endangered.

Rankings:
CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild.
EN: Endangered - considered to be facing a very high risk of extinction in the wild.
VU: Vulnerable - considered to be facing a high risk of extinction in the wild.

X **Presumed Extinct species:**
Specially protected under the *Wildlife Conservation Act 1950,* listed under Schedule 2 of the Wildlife

Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).

IA **Migratory birds protected under an international agreement:**
Specially protected under the *Wildlife Conservation Act 1950,* listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice.
Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.

S **Other specially protected fauna:**
Specially protected under the *Wildlife Conservation Act 1950,* listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.

P1 **Priority One - Poorly-known species:**
Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.

P2 **Priority Two - Poorly-known species:**
Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.

P3 **Priority Three - Poorly-known species:**
Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.

P4 **Priority Four - Rare, Near Threatened and other species in need of monitoring:**
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

P5 **Priority Five - Conservation Dependent species:**
Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Principles for clearing native vegetation:

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
(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.
(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare 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.
(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.
(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
(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.
(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.
(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.