



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4090/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Intermin Resources Limited**

1.3. Property details

Property: Mining Lease 26/499
Local Government Area: Shire of Kalgoorlie
Colloquial name: Teal Gold Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
35.4		Mechanical Removal	Mineral Production and Associated Activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 January 2011

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
GHD (2010) undertook a Flora and Vegetation Survey over the Teal Gold Project area (includes application area) on the 24 and 27 September 2009. The vegetation of the application area is broadly mapped as Beard Vegetation Association 468: Medium Woodland; salmon gum and goldfields blackbutt (GIS Database).	Intermin Resources Limited have applied for an area permit to clear up to 35.4 hectares of native vegetation. The proposed clearing is for the purposes of constructing a new pit, waste rock dump, office, laydown area, turkeys nest dam and haul road (Intermin Resources Limited, 2010a; 2010b).	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).	The clearing application is located approximately 10 kilometres North northwest of Kalgoorlie (Intermin Resources Limited, 2010a). The vegetation condition was derived from a description by GHD (2010). Vegetation was altered due to obvious signs of disturbance such as historic and current tracks, (including exploration) and grazing (GHD, 2010). A total of six introduced weed species were recorded within the project area: <i>Carrichtera annua</i> (Ward's Weed); <i>Cucumis myriocarpus</i> (Prickly Paddy Melon); <i>Malva parviflora</i> (Marshmallow); <i>Medicago minima</i> (Bur Medick); <i>Oligocarpus calenulaceus</i> and; <i>Salvia verbenaca</i> (Wild Sage). None of these species identified within the flora survey are listed as declared weeds by the Western Australian Department of Agriculture and Food (WA) (GHD, 2010).
GHD (2010) describe the vegetation of the application area as:			
1. LW1 Low woodland of <i>Eucalyptus oleosa</i> with scattered <i>Casuarina pauper</i> over <i>Euromophila interstans</i> subsp. <i>Interstans</i> , <i>Santalum acumintum</i> , <i>Erimophila scoparia</i> , <i>Senna artemisioides</i> subsp. <i>fifolia</i> , <i>Cratystylis conocephala</i> , <i>Halgania andromedifolia</i> , <i>Eremophila glabra</i> and <i>Scaevola spinescens</i> over <i>Maireana sedifolia</i> and <i>Erimophila parviflora</i> subsp. <i>Auricampa</i> ;			
2. OW1 Open mixed woodland of <i>Eucalyptus salmonophloia</i> , <i>W.salubris</i> and <i>E.Oleosa</i> with occasional <i>E.celastroides</i> subsp. <i>celastroides</i> and <i>Casuarina pauper</i> over <i>Eremophila scoparia</i> , <i>Senna artemisioides</i> subsp. <i>Fififolia</i> , <i>Eremophila glabra</i> and <i>Scaevola spinescens</i> over <i>Maireana sedifolia</i> and;			
3. OW3 Open mixed woodland of <i>Eucalyptus lesouefi</i> , <i>E. Salubris</i> , <i>E. Oleosa</i> and occasional <i>Casuarina pauper</i> over <i>Eremophila glabra</i> and <i>Lycium australe</i> over <i>Maireana sedifolia</i> .			

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 is located within the Eastern Goldfields subregion of the Coolgardie (C003) Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Cowan (2001) describes the vegetation of the Eastern Goldfields subregion as mallees, acacia thickets and shrub-heaths on sandplains; Eucalyptus woodlands occurring around saltlakes; salt lake supporting dwarf shrublands of samphire and woodlands and Dodonaea shrubland occurring on basic granitoides of the Fraser Range. Eucalyptus woodlands have been identified by Cowan (2001) as having a high species and ecosystem diversity within the Eastern Goldfields subregion.

The vegetation within the application area consists of Beard vegetation association 468 which is considered common and widespread through the Coolgardie region, with approximately 98% remaining of the pre-European vegetation (GIS Database).

Five vegetation associations were identified within the project area, containing a total of 110 taxa from 30 families. Of these 104 taxa were native species. Three vegetation associations were identified within the application area itself (GHD, 2010) and the vegetation within the survey area is considered to be moderately diverse and is not restricted to the application area (GHD, 2010).

No Declared Rare Flora species, Threatened Ecological Communities or Priority Ecological Communities were identified within the application area (GHD, 2010; GIS Database), however an individual Priority 1 Flora species *Eremophila praecox* was identified within the application area (GHD, 2010). The species observed (within the footprint of the proposed waste dump) is known from seven records and its distribution ranges from just north of Kalgoorlie to near Coolgardie (GHD, 2010). However, GHD (2010) consulted with the Department of Environment and Conservation (DEC) in regards to the identification of this specimen, and while advised it is likely to be *E. Praecox*, the identification could not be confirmed given it was not flowering at the time of the survey.

A reconnaissance fauna survey of the Teal Gold Project area was undertaken by GHD on 27 September 2010, however GHD (2010) note that many cryptic and nocturnal species would not have been identified during the survey. A total of 19 bird species, 4 mammal species, and three reptile species were recorded (GHD, 2010). No amphibian species were observed (GHD, 2010). A search was undertaken by GHD (2010) of the Western Australian Museum and the DEC's Naturemap online databases for fauna that may occur within a 20 kilometre radius of the application area. The search identified 4 amphibian, 168 avian, 20 mammalian and 44 reptilian species which may occur within the application area (GHD, 2010) however the application area does not comprise of any significant fauna habitat features (GHD, 2010) and the fauna habitats present within the application area were identified as common and widespread (GHD, 2010).

The vegetation in the application area was recorded as 'completely degraded' to 'excellent' (Keighery, 1994) condition due to obvious signs of disturbance in the form of drilling tracks, firebreaks and grazing (GHD, 2010). There were six weed species found during the flora survey that was undertaken on the 24 and 27 September 2009, however none of these weed species are listed by the Western Australian Department of Agriculture and Food as Declared Plants (GHD, 2010). While Intermin Resources Ltd (2010a) have noted that the majority of the survey area is largely weed free the potential impacts to biodiversity through further weed invasion as a result of the proposed clearing may be minimised by the implementation of a weed control condition.

Given that the vegetation and habitat types within the area applied to be cleared are well represented locally and regionally it is not likely that the area to be cleared comprises a high level of biological diversity in a regional context.

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

Methodology

Cowan (2001)
GHD (2010)
Intermin Resources Ltd (2010a)
GIS Database:
- IBRA Australia
- IBRA WA (Regions - Sub Regions)
- Threatened Ecological Communities

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

Comments

Proposal is not likely to be at variance to this Principle

A reconnaissance fauna survey of the Teal Gold Project area was undertaken by GHD on 27 September 2010, however, GHD (2010) note that many cryptic and nocturnal species would not have been identified during the survey. A total of 19 bird species, 4 mammal species, and three reptile species were recorded (GHD, 2010). No amphibian species were observed (GHD, 2010). A search was undertaken by GHD (2010) of the Western

Australian Museum and the Department of Environment and Conservation's (DEC) Naturemap online databases for fauna that may occur within a 20 kilometre radius of the application area. The search identified 4 amphibian, 168 avian, 20 mammalian and 44 reptilian species which may occur within the application area (GHD, 2010). The following species of conservation significance could potentially utilise the application area (GHD, 2010):

Merops ornatus (Rainbow Bee-eater), Migratory and Marine *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999*; *Acanthiza iredalei iredalei* (Slender-billed Thornbill); Migratory *EPBC Act 1999*; *Ardea ibis* (Cattle Egret), Migratory *EPBC Act 1999*; *Coracina novaehollandiae* (Black-faced Cuckoo-shrike) Marine *EPBC Act 1999*; *Apus pacificus* (Fork-tailed Swift), Migratory *EPBC Act 1999*; *Ardea alba* (Great Egret), Migratory *EPBC Act 1999*; *Leipoa ocellata* (Malleefowl), Schedule 1 *Wildlife Conservation Act 1950*; *Mactrotis lagotis* (Bilby), Schedule 1 *Wildlife Conservation Act 1950*; *Myrmecobius fasciatus* (Numbat), Schedule 1 *Wildlife Conservation Act 1950*; *Morelia spilota imbricata* (Carpet Python), Schedule 4 *Wildlife Conservation Act 1950*; *Ardeotis australis* (Australian Bustard), DEC Priority 4; *Charadrius rubricollis* (Hooded Plover), DEC Priority 4; *Oreoica gutturalis* (Crested Bellbird) DEC Priority 4; *Oreoica gutturalis gutturalis* (Crested Bellbird-Southern); DEC Priority 4; *Hylacola Cuata whitlocki* (Shy Heathwren), DEC Priority 4; and *Pomatostomus superciliosus ashbyi* (White-browed Babbler), DEC Priority 4.

Four broad habitat types have been identified within the survey area by GHD (2010). These are: Mixed woodland over mixed shrubs; Mixed shrublands; Samphire/chenopad scrublands; and cleared areas.

The mixed woodland over mixed shrubs habitat is considered to provide medium habitat value as a result of good structural diversity with medium sized trees and a reasonable understory of shrubs (GHD, 2010). While the mixed shrublands are considered to support lower diversity than the mixed woodland habitat the vegetation is predominantly in 'very good' to 'excellent condition' (GHD, 2010) and also represents a medium level of habitat value. These habitat types are not considered to be exclusive to the survey area and are considered to be widespread within the region (GHD, 2010). Vegetation condition within the survey area varies from completely degraded to excellent with parts of the application area being in close locality to disturbed areas such as existing tracks and firebreaks.

For a number of conservation significant species the application area may form part of a larger home range or be subject to only seasonal visits (GHD, 2010). Several mobile species will be able to readily move quickly from the area upon clearing to adjacent vegetated areas (GHD, 2010). Bird species such as the Slender-billed Thornbill and Hooded Plover may utilise the salt lake system area (GHD, 2010) however, are unlikely to be impacted by the clearing given the application area itself is located approximately 2.5 kilometres to the east.

The Malleefowl is typically located in semi-arid to arid shrublands and low woodlands, particularly those dominated by mallee and/or acacias (Benshemesh, 2007). The survey area is considered to be at the north-eastern periphery of its range (GHD, 2010). While Malleefowl may potentially occur within the woodlands of the survey area it is considered unlikely given the level of previous disturbance (GHD, 2010). No evidence of this species presence was recorded during the reconnaissance survey (GHD, 2010).

According to Shepherd (2007) approximately 98.4% of the pre-European vegetation remains within the Coolgardie bioregion. Given the extent of native vegetation that remains relatively uncleared within surrounding areas of the survey area (GIS, Database) it is unlikely that the application area would function as a significant habitat corridor for fauna movement (GHD, 2010; GIS Database). Further, it is likely that equal or higher quality vegetation and fauna habitats would exist throughout the surrounding survey area.

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

Methodology Benshemesh (2007)
Department of Natural Resources and Environment (2002)
GHD (2010)
Shepherd et al. (2007)

(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 is no recorded Declared Rare Flora (DRF) within the application area (GIS Database).

GHD (2010) conducted a flora and vegetation survey over the application area on 24 and 27 September 2009. No (DRF) pursuant to the Wildlife Conservation (Rare Flora) Notice 2008, or Priority Flora listed with the Department of Environment and Conservation (DEC) was identified in the application area (GHD, 2010).

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

Methodology GHD (2010)
GIS Database

(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 (TEC's) within the application area (GIS Database). No vegetation communities described as a TEC were recorded during the botanical survey of the application area (GHD, 2010). The nearest known TEC (Mount Belches) is located approximately 59 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 GHD (2010)
GIS Database:
- Threatened Ecological Communities

(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 is located within the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Shepherd (2007) report that approximately 98.4% of the pre-European vegetation still exists in the Coolgardie Bioregion. The vegetation in the application area is broadly mapped as Beard Vegetation Association 468: Medium Woodland; salmon gum and goldfields blackbutt (GIS Database).

According to Shepherd (2007) approximately 100% of Beard Vegetation Association 468 remains at the state level and 100% at the bioregional level (Shepherd 2007). Therefore, the area proposed to be cleared does not represent a significant remnant of native vegetation within an area that has been extensively cleared.

While a small percentage of the vegetation types within the Coolgardie bioregion are adequately protected within conservation reserves, the bioregion remains largely uncleared. As a result, the conservation of vegetation associations within the bioregion is not likely to be impacted by this proposal.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion – Coolgardie	12,912,208	12,707,619	~98.4	Least Concern	10.87
Beard veg assoc. – State					
468	592,022	592,022	~100	Least Concern	4.28
Beard veg assoc. – Bioregion					
468	583,357	583,357	~100	Least Concern	4.28

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 not at variance to this Principle

According to available databases the vegetation proposed to be cleared is not associated with any watercourses, wetlands or wetland dependent vegetation (GIS Database) however an unnamed salt lake system is located approximately 2.5 kilometres west of the application area (GIS Database). A survey conducted by GHD (2010) on the 24 and 27 September 2009 did not identify any vegetation communities growing in association with an environment associated with a water course or wetland within the application area.

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

Methodology GHD (2010)
GIS Database
- Hydrology, 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 located within the Kambalda Soil-Landscape Zone (Tille, 2006). This zone is characterised by flat to undulating plains (with hills, ranges and some salt lakes and stony plains) on greenstone and granitic rocks of the Yilgarn Craton (Tille, 2006).

There are no permanent watercourses or wetlands within the application area (GIS Database) and poorly defined drainage lines within the application area are only likely to flow following major rainfall events (Intermin Resources Ltd, 2010a). It is therefore unlikely that the area will be subject to significant water erosion.

The application area has an annual average evaporation rate of approximately 10 times the annual average rainfall (Bureau of Meteorology, 2010; GIS Database). Based on this information, surface flow during normal rainfall events are likely to be shortlived and recharge to groundwater would be considered minimal. This would reduce the likelihood of salinity increasing as a result of the proposed clearing.

An unnamed salt lake system is located approximately 2.5 kilometres west of the application area (GIS Database). Given the distance to this salt lake system and considering that this buffer is reasonably vegetated, the proposed clearing is not likely to exacerbate land degradation issues such as waterlogging or sheetflow more than would be expected during normal and higher rainfall events.

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

Methodology Bureau of Meteorology (2010)
Intermin Resources Ltd (2010a)
Tille (2006)
GIS Database
- Hydrology, linear

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

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

There are no conservation areas within or in the vicinity of the application area (Intermin Resources Ltd, 2010a). The nearest conservation area is the Kalgoorlie Arboretum (Reserve No. 23840) approximately 8 kilometres south-east of the application area (GIS Database). Given the distance between the proposed clearing and the reserve, it is unlikely the proposed clearing will impact on the environmental values of this reserve.

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

Methodology Intermin Resources Ltd (2010a)
GIS Database:
- DEC Tenure (Category)

(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) (Intermin Resources Ltd, 2010a; GIS Database).

The local area receives an average rainfall of approximately 264 millimetres per year (Bureau of Meteorology, 2010; GHD, 2010). Given the area experiences a pan evaporation rate of approximately 2665 millimetres per year, approximately ten times the average annual rainfall (GHD, 2010) there is likely to be little surface water flow during normal seasonal rains.

The application area is characterised by a broad plain of little relief, a slight but gradual fall in elevation exists towards the salt lake system to the west (GHD, 2010) and therefore sheet flow is likely to occur in areas of subdued terrain following periods of heavy rainfall (GHD, 2010). However, as drainage lines within the application area are poorly defined and the application area is subject to lower than average rainfall (GHD, 2010), the proposed clearing is not likely to cause sedimentation or deteriorate the quality of surface water in the surrounding areas.

An unnamed salt lake system is located approximately 2.5 kilometres west of the application area (GIS

Database). Groundwater within the application area is considered to be saline as it has an estimated 100,000 milligrams per Litre Total Dissolved Solids (TDS) (Intermin Resources Ltd, 2010a). As the groundwater is already saline (GHD, 2010) and the groundwater at the application area is estimated to be at 40-50 metres below ground level (Intermin Resources Ltd, 2010a), clearing within the application area is unlikely to alter the existing groundwater quality.

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

Methodology GHD (2010)
Intermin Resources Ltd (2010a)
GIS Database
- 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

The application area is located in the Coolgardie bioregion and is characterised by hot summers and mild wet winters (ANRA, 2010).

Rainfall patterns are typically associated with cold fronts in winter and thunderstorms and rain bearing depressions occurring in summer (McKenzie and Hall cited in: GHD, 2010). Average annual rainfall for the application area is relatively low at 264 millimetres (GHD, 2010). The average annual evaporation rate of 2665 millimetres (GHD, 2010) is approximately ten times the average annual rainfall and any surface water resulting from normal rainfall events is likely to be relatively short lived.

There are no permanent watercourses within the application area (GHD, 2010). While drainage lines are present within the application area these are poorly defined and only likely to flow following major rainfall events (GHD, 2010).

The application area is within the Raeside-Ponton catchment area which covers 11,589,532 hectares (GIS Database). Given the application area is surrounded by intact tracts of native vegetation (GIS Database), and the area of proposed clearing (35.4 hectares) in relation to the total catchment area, the proposed clearing is not likely to 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 ANRA (2010)
GHD (2010)
GIS database
- Hydrography, catchments
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 13 December 2010 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received in relation to this application regarding native title rights and interests. A written response was provided on the matters raised.

There is one native title claim over the application area. This claim (WC98-027) 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 (ie. 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 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 Sites of Aboriginal Significance are damaged through the clearing process.

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

Methodology GIS Databases:
- Aboriginal Sites of Significance
- Native Title Determined
- Native Title Federal
- Native Title NNTT

4. References

- ANRA (2010) Australian Natural Resources Atlas, Natural Resource Topics- Rangelands Overview Coolgardie, Available online at <http://www.anra.gov.au/topics/rangelands/overview/wa/ibra-coo.html> Accessed 10 January 2011.
- Benshemesh, J (2007) National Recovery Plan for Malleefowl, Department for Environment and Heritage, South Australia.
- Bureau of Meteorology (2010) BOM Website - Climate Averages by Number, Averages for Coolgardie Post Office. Available online at http://webcache.googleusercontent.com/search?q=cache:MNZYy4O42_kJ:www.bom.gov.au/climate/averages/tables/cw_012038.shtml+http://www.bom.gov.au/climate/averages/tables/cw_012038.shtml&cd=1&hl=en&ct=clnk&gl=au 13 December 2010
- Cowan M. (2001) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 3 (C003 - Eastern Goldfields subregion) Department of Conservation and Land management, Western Australia.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- GHD (2010) Report for Teal Gold Project Biological Survey October 2010. Unpublished report for Intermin Resources Limited, Kalgoorlie, Western Australia.
- Intermin Resources Limited (2010a) Teal Gold Project: Kalgoorlie. Application for a Clearing Permit.
- Intermin Resources Limited (2010b) Email titled 'RE: CPS 4090 - Intermin Resources Ltd - Teal Gold Project' dated 6 January 2011, signed by Simon Coxhell, Intermin Resources Limited.
- 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.
- Tille. P. (2006) Soil-landscapes of Western Australia's Rangelands and Arid Interior. Technical Report 313. Department of Agriculture and Food, Western Australia. ISSN 1039-7205.

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.