



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6528/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Norton Gold Fields Limited

1.3. Property details

Property: Mining Lease 26/446
Mining Lease 26/447
Mining Lease 26/629
Mining Lease 26/833
Local Government Area: City of Kalgoorlie-Boulder
Colloquial name: Fort Scott Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 18 June 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. Five Beard vegetation associations have been mapped within the application area (Government of Western Australia, 2013; GIS Database):

- 9: Medium woodland; coral gum (*Eucalyptus torquata*) & goldfields blackbutt (*E. le soufii*)
- 125: Bare areas; salt lakes
- 468: Medium woodland; salmon gum & goldfields blackbutt
- 540: Succulent steppe with open low woodland; sheoak over saltbush
- 1294: Medium woodland; coral gum

A level one flora and vegetation survey was undertaken over a portion of the application area by Native Vegetation Solutions on 18 March 2014. Native Vegetation Solutions (2014) identified the following vegetation types within the survey area:

- 1) *Eucalyptus lesouefii*, *Eucalyptus oleosa* and *Eucalyptus griffithsii* over *Triodia scariosa*
Dominant species were *Eucalyptus lesouefii*, *E. oleosa*, *E. griffithsii* and *Triodia scariosa*.
- 2) *Eucalyptus lesouefii* over *Halgania andromedifolia*
Dominant species were *Eucalyptus lesouefii*, *Halgania andromedifolia* and *Scaevola spinescens*.
- 3) *Eucalyptus griffithsii* and *Eucalyptus oleosa* woodland
Dominant species were *Eucalyptus griffithsii*, *E. oleosa*, *Acacia hemiteles*, *Senna artemisioides* subsp. *filifolia*, *Austrostipa nitida* and *Eremophila scoparia*.
- 4) *Eucalyptus salmonophloia* woodland
Dominant species were *Eucalyptus salmonophloia*, *Senna artemisioides* subsp. *filifolia*, *Dodonaea lobulata*, *Acacia merrallii*, *Rhagodia drummondii* and *Maireana triptera*.
- 5) Transitional *Eucalyptus* woodland
Dominant species were *Eucalyptus transcontinentalis*, *E. salmonophloia*, *E. gracilis*, *E. salicola*, *Eremophila scoparia*, *Scaevola spinescens*, *Olearia muelleri* and *Eremophila caperata*.

Clearing Description

Fort Scott Project
Norton Gold Fields Limited (NGF) proposes to clear 50 hectares of native vegetation within a total boundary of approximately 1,696 hectares for the purpose of mineral production. The project is approximately four kilometres south-west of Kalgoorlie, in the City of Kalgoorlie-Boulder.

Vegetation Condition	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994)
	To
	Completely degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).
Comment	The vegetation condition was determined by botanists from Native Vegetation Solutions (2014). The flora and vegetation survey undertaken by Native Vegetation Solutions (2014) covered approximately 250 hectares of vegetation directly adjacent to the existing pit on Mining Lease 26/446. The vegetation types recorded within the survey area appear to be representative of the vegetation across the application area (GIS Database). This area is adjacent to a non-perennial salt lake and there is a noticeable change in vegetation around this area.

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

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

The application area occurs within the Eastern Goldfields subregion of the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Eastern Goldfields subregion can be described as gently undulating plains interrupted in the west with low hills and ridges and large playa lakes (CALM, 2002). The vegetation is of mallees, Acacia thickets and shrub-heaths on sand plains (CALM, 2002). Diverse Eucalyptus woodlands occur around salt lakes, on ranges and in valleys. Salt lakes support dwarf shrublands of samphire. Woodlands and Dodonaea shrubland occur on basic granitoides of the Fraser Range. The area is rich in endemic Acacias (CALM, 2002).

A level one flora and vegetation survey undertaken over a 250 hectare portion of the application area by Native Vegetation Solutions (2014) identified a total of 75 flora species from 19 families. Vegetation communities are predominantly Eucalypt woodlands over mixed shrublands on broad loamy plains and low rises (Native Vegetation Solutions, 2014). Although the flora diversity appears to be high, most of the vegetation is typical for the region and not considered unusually diverse (Native Vegetation Solutions, 2014).

There were no Threatened or Priority Ecological Communities or Threatened or Priority flora species identified within the application area (GIS Database; Native Vegetation Solutions, 2014)

Native Vegetation Solutions (2014) advise that the application area may represent suitable habitat for the weed species *Carrichtera annua* (Ward's Weed). Although no individuals of this species were identified within the survey area, the proposed clearing activities have the potential to introduce weed species into the local area. Weeds can potentially impact on biodiversity by out competing native species for resources and increasing the fire risk. The potential spread of introduced species as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

No detailed fauna surveys have been undertaken over the application area. A search of NatureMap (DPaW, 2015a) has identified 95 bird, 41 reptile 31 invertebrate, 16 mammal and 4 amphibian species records within 10 kilometres of the application area. The application area appears to be in an area of high fauna diversity, especially in bird species. The high number of bird species may be attributed to the presence of salt lakes in the local area which are likely to provide suitable habitat. With the exception of one small body of water, these salt lakes are outside of the application area and are not likely to be impacted by the proposed clearing. Given the vegetation within the application area is considered typical for the region (Native Vegetation Solutions, 2014), the application area is not likely to represent an area of relatively higher fauna diversity.

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

Methodology	CALM (2002) DPaW (2015a) Native Vegetation Solutions (2014) GIS Database: - IBRA WA (Regions - Sub Regions) - Threatened Ecological Communities Buffered - Threatened and Priority Flora
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(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 detailed fauna survey has not been undertaken over the application area, although observations for conservation significant fauna were made during the vegetation survey undertaken by Native Vegetation Solutions (2014). Native Vegetation Solutions did not record any conservation significant fauna species occurring within the application area (Native Vegetation Solutions, 2014).

Based on habitat type and previous distribution, the following species may potentially occur within the application area (DPaW, 2015a; Native Vegetation Solutions, 2014; GIS Database):

- Rainbow Bee-eater (*Merops ornatus*) – Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act), Migratory Species; Wildlife Conservation Act 1950 (WC Act 1950), Schedule 3
- Malleefowl (*Leipoa ocellata*) – EPBC Act, Vulnerable; WC Act, Schedule 1
- Carpet Python (*Morelia spilota* subsp. *imbricata*) – WC Act, Schedule 4

The Malleefowl occurs in semi-arid and arid zones of temperate Australia, where it occupies shrublands and low woodlands that are dominated by mallee vegetation (Department of the Environment (DotE, 2015a). The breeding habitat of the Malleefowl, within its home range, is characterised by light soil and an abundant leaf litter which is used in the construction of mounds (DotE, 2015a). Although the application is considered suitable habitat, Native Vegetation Solutions (2014) did not record any Malleefowl nesting mounds within the survey area. ATI Environmental (2006) has also undertaken a targeted Malleefowl search over M26/446 for Clearing Permit application CPS 2986/1 and also did not identify any Malleefowl nesting mounds. It is therefore not considered likely that the proposed clearing will significantly impact on Malleefowl.

The Carpet Python (specifically *Morelia spilota* subsp. *imbricata*) has been recorded in semi-arid coastal and inland habitats consisting of Banksia woodland, eucalypt woodlands and grasslands from Northampton to Kalgoorlie (DEC, 2012). Native Vegetation Solutions (2014) notes that Carpet Python may be in the area, however given the extensive distribution of this species, they are not likely to be reliant on the vegetation within the application for habitat.

Rainbow Bee-eaters are considered highly mobile and will likely move out of the application area on the commencement of clearing. Furthermore, they have an extensive distribution across Australia (DotE, 2015b).

Several records of the Critically Endangered fauna species *Ogyris subterrestris petrina* (Arid Bronze Azure) were identified within four kilometres of the application area (DPaW, 2015a). The Arid Bronze Azure is a species of butterfly which is only known from two localities in Western Australia; one in the Wheatbelt region around Barbalin Nature Reserve and the other in the goldfields region in a recreation reserve around Lake Douglas (Threatened Species Scientific Community, 2014). The goldfields population is reported to have become extinct in about 1993 (Threatened Species Scientific Community, 2014).

The butterfly is dependent on a specific species of ant called *Camponotus terebrans* (pale form) (Threatened Species Scientific Community, 2014). The preferred habitat for the pale *Camponotus terebrans* is known to be the root systems of smooth-barked Eucalypt species, including *E. salmonophloia*, *E. salubris* and *E. oleosa*, occurring on sandy soils (DPaW, 2015b). The application area contains a number of smooth-barked Eucalypts on sandy soils, therefore the application area is considered suitable habitat for *Camponotus terebrans*.

Camponotus terebrans (pale form) is easy to detect and is active all year round (DPaW, 2015b). The application area was opportunistically surveyed for the ants by both the proponent and DMP staff. There was no evidence of the ant species occurring within the survey area (pers. comm Norton Gold Fields, 2015). Therefore, it is considered unlikely that *Ogyris subterrestris petrina* occurs within the application area.

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

Methodology ATI Environmental (2006)
DEC (2012)
DotE (2015a)
DotE (2015b)
DPaW (2015a)
DPaW (2015b)
Native Vegetation Solutions (2014)
Threatened Species Scientific Community (2014)
GIS Database:
- Threatened and Priority Fauna

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

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

According to available datasets there are no known records of Threatened flora within the application area (GIS Database). The nearest record of Threatened Flora is located approximately 52 kilometres south-west of the application area (GIS Database).

The flora survey undertaken by Native Vegetation Solutions (2014) did not record any Threatened Flora species within the survey area. It is considered unlikely that Threatened flora exists within the areas of the application area not surveyed given the nearest record of Threatened flora is approximately 50 kilometres from the application area (GIS Database).

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

Methodology Native Vegetation Solutions (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**

According to available databases, there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest known TEC is located approximately 110 kilometres west of the application area.

Native Vegetation Solutions (2014) did not identify any TECs in their flora and vegetation survey. TECs are unlikely to be present in the areas of the application area not surveyed by Native Vegetation Solutions.

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

Methodology Native Vegetation Solutions (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 Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database) in which approximately 98% of pre-European vegetation remains (Government of Western Australia, 2013). This gives it a conservation status of 'Least Concern' according to the Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment, 2002).

The vegetation within the application area is recorded as Beard vegetation associations:

- 9: Medium woodland; coral gum (*Eucalyptus torquata*) & goldfields blackbutt (*E. le souffii*)
- 125: Bare areas, salt lakes
- 468: Medium woodland; salmon gum & goldfields blackbutt
- 540: Succulent steppe with open low woodland; sheoak over saltbush
- 1294: Medium woodland; coral gum

The percentage of pre-European vegetation extent remaining has been summarised in the table below. All Beard vegetation associations have a conservation status of 'Least Concern' at the state and bio-region level (Department of Natural Resources and Environment, 2002).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Land
IBRA Bioregion - Coolgardie	12,912,204	12,648,491	~98	Least Concern	15.53
Beard vegetation associations - State					
9	240,509	235,192	~98	Least Concern	7.97
125	3,485,786	3,146,091	~90	Least Concern	8.95
468	592,022	583,903	~98	Least Concern	22.95
540	202,424	200,159	~99	Least Concern	27.87
1294	6,295	6,047	~96	Least Concern	1.83
Beard vegetation associations - Bioregion					
9	240,442	235,101	~98	Least Concern	7.97
125	545,718	506,803	~93	Least Concern	6.39
468	583,358	575,361	~99	Least Concern	22.43
540	75,811	73,620	~97	Least Concern	0
1294	6,296	6,047	~96	Least Concern	1.83

* Government of Western Australia (2013)

** Department of Natural Resources and Environment (2002)

The application area does not form part of a significant remnant of native vegetation or within an area that has been extensively cleared.

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2013)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- 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 may be at variance to this Principle

The flora and vegetation survey undertaken by Native Vegetation Solutions (2014) did not record any watercourses or wetlands within the survey, nor riparian vegetation. Available databases show that there are two drainage lines and a small body of water located outside of the survey area but within the application area, specifically in the northwest region of the application area. The small water body appears to be in association with a large chain of salt lakes (GIS Database). Aerial imagery indicates that there may be riparian vegetation growing in association with the small water body, however it is unclear if there is riparian vegetation growing in association with the drainage lines.

Norton Gold Fields (2015) advises that the proposed clearing will be concentrated towards the south of the application area near the existing pit on M26/446. Given the clearing is proposed to be undertaken wholly within the survey area where riparian vegetation has not been recorded, it is considered unlikely that the proposed clearing will impact on watercourses or riparian vegetation. Potential impacts to watercourses may be minimised through the implementation of a watercourse management condition.

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

Methodology Native Vegetation Solutions (2014)
Norton Gold Fields (2015)
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 may be at variance to this Principle

The following soil types have been broadly mapped within the application area (Northcote et al, 1960-1968; GIS Database):

Mx43: Gently undulating valley plains and pediments; some outcrop of basic rock: chief soils are alkaline red earths with limestone or limestone nodules at shallow depth (< 24 in.) on gently sloping slightly concave plains with low gentle rises.

SV15: Salt lakes and their associated areas: common soils are gypseous and saline loams together with gypseous and saline soils on the lake beds. Associated are sandy red earths on lunettes; plains; eroded plains; and small areas of clay pans.

BB5: Rocky ranges and hills of greenstones--basic igneous rocks: chief soils seem to be shallow calcareous loamy soils and similar soils, with shallow brown and grey-brown calcareous earths below which weathered rock occurs at shallow depths. Associated soils are not described but may include alkaline red earths and narrow valleys.

Native Vegetation Solutions (2014) advises that while there is no extensive soil erosion within the survey area, the soils are subject to broad sheet flow and occasionally more concentrated flow, and have moderate vulnerability to soil erosion. Potential impacts from soil erosion may be minimised through the implementation of a staged clearing condition.

Groundwater salinity of the application area is mapped as approximately 35,000 milligrams per litre Total Dissolved Solids (TDS) (GIS Database), which is considered saline. Although the removal of deep rooted perennial vegetation has the potential to increase the risk of salinity, the scale of the proposed clearing is not likely to significantly alter salinity levels in the local area.

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

Methodology Native Vegetation Solutions (2014)
Northcote et al (1960-1968)
GIS Database:
- Soils, 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 may be at variance to this Principle

The proposed clearing is not located within a conservation reserve (GIS Database) however the application area is in very close proximity to Kurrawang Nature Reserve.

The vegetation within the application area may form part of a linkage to the conservation area. However there are still extensive areas of vegetation surrounding the conservation area, and the proposed clearing of 50 hectares within a total boundary of 1,696 hectares is not likely to significantly impact on Kurrawang Nature Reserve.

The proposed clearing does have the potential to introduce weeds into the area. The potential impacts from the spread of weeds may be minimised through the implementation of a weed management condition.

Based on the above, the proposed clearing may 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

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database).

The soils within the application area have been identified as being vulnerable to soil erosion (Native Vegetation Solutions, 2014); consequently any overland surface flow may lead to sedimentation in drainage lines and water bodies. However the application is characterised as having a gentle relief, with a slight but gradual fall in elevation towards the salt lake system to the west (GIS Database). Furthermore the application area receives an average annual rainfall of 267.2 millimetres (BoM, 2015a) and an annual evaporation rate of approximately 2400 millimetres (BoM, 2015b) so surface water resulting from normal rainfall events is likely to be short lived. Therefore the proposed clearing is unlikely to significantly impact on surface water quality.

The groundwater salinity of the application area is mapped as approximately 35,000 milligrams per litre TDS (GIS Database), which is considered saline. The proposed clearing is not likely to significantly affect groundwater salinity levels.

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

Methodology BoM (2015a)
BoM (2015b)
Native Vegetation Solutions (2014)
GIS Database:
- Groundwater Salinity, Statewide
- 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

The application area is located in the Coolgardie bioregion and is considered an arid to semi-arid environment with hot dry summers and mild winters (CALM, 2002).

Rainfall patterns are typically associated with winter but thunderstorms and rain bearing depressions may occur in summer (Native Vegetation Solutions, 2014). Average annual rainfall for the application area is 267.2 millimetres (BoM, 2015a). The average annual evaporation rate of approximately 2400 millimetres (BoM, 2015b) is approximately nine 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 (GIS Database). While drainage lines are present within the application area these are considered minor and only likely to flow following major rainfall events.

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

Methodology BoM (2015a)
BoM (2015b)
CALM (2002)
GIS Database:
- Hydrography, Linear

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

Comments

There are two Native Title Claims (WC2013/009 and WC2014/002) over the area under application (GIS Database). These claims have been filed in Federal Court of Australia. 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*.

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 Regulation, the Department of Water, and the Department of Parks and Wildlife, 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 13 April 2015 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Filed in the Federal Court

4. References

- ATI Environmental (2006) Fauna Assessment, Proposed Clearing Around the Janet Ivy Site, Version 1. Unpublished Report prepared for Placer Dome Pty Ltd. Perth, Western Australia.
- BoM (2015a) Climate Statistics for Australian Locations. A Search for Climate Statistics for Kalgoorlie, Australian Government Bureau of Meteorology, <http://www.bom.gov.au>.
- BoM (2015b) Evaporation: Average Monthly & Annual Evaporation, Australian Government Bureau of Meteorology, <http://www.bom.gov.au>.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia.
- DEC (2012) Fauna Profiles: Carpet Python. Department of Environment and Conservation, Perth.
- 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.
- DotE (2015a). *Leipoa ocellata* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>.
- DotE (2015b). *Merops ornatus* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat>.
- DPaW (2015a) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. <http://naturemap.dec.wa.gov.au/>. Accessed April 2015.
- DPaW (2015b) Advice on Clearing Permit Application CPS 6528/1. Species and Communities Branch, Department of Parks and Wildlife. Kensington, Western Australia.
- 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.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Native Vegetation Solutions (2014) Level 1 Flora Survey – Fort Scott Project. Unpublished report prepared for Norton Gold Fields Limited.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Norton Gold Fields Limited (2014) – Fort Scott Mining Proposal, Paddington Gold Pty Ltd.
- Threatened Species Scientific Committee (2014). Commonwealth Conservation Advice on *Ogyris subterrestris petrina* (Arid bronze azure). Department of the Environment. Canberra, Australian Capital Territory <http://www.environment.gov.au>.

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	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
s.17	Section 17 of the <i>Environment Protection Act 1986</i> , 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 DPaW according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo *Calyptorhynchus 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.