



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 6357/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: Sirius Gold Pty Ltd

### 1.3. Property details

Property: Miscellaneous Licence 28/51  
Local Government Area: Shire of Dundas  
Colloquial name: Nova Nickel Project

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
80		Mechanical Removal	Airstrip and associated infrastructure

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 31 December 2014

## 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. One Beard vegetation association has been mapped within the application area (GIS Database):  
487: Medium woodland; redwood & red mallee (*Eucalyptus oleosa*).

A level two field assessment of the application area was undertaken by botanists from Mattiske Consulting Pty Ltd, over four surveys from June 2013 to June 2014 (Mattiske, 2014). The following nine broad vegetation types were identified during the surveys as being within the application area (MBS, 2014):

**W1:** Woodland of mixed *Eucalyptus* including *Eucalyptus salubris*, *Eucalyptus celastroides*, *Eucalyptus calycogona* subsp. *calycogona*, *Eucalyptus oleosa* subsp. *oleosa* and *Eucalyptus lesouefii* over *Cratystylis conocephala*, *Exocarpos aphyllus*, *Diocirea ternata*, *Eremophila alternifolia*, *Eremophila interstans*, *Eremophila ionantha*, *Eremophila scoparia* and *Geijera linearifolia* over *Olearia muelleri*, *Atriplex vesicaria* and *Scaevola spinescens* over mixed shrubs, herbs and grasses on orange-brown sandy clay-loams on flats;

**W2:** Woodland of *Eucalyptus salubris* and *Eucalyptus oleosa* subsp. *oleosa* with patches of mixed *Eucalyptus* species over *Melaleuca quadrifaria*, *Acacia hemiteles*, *Cratystylis conocephala* over *Diocirea ternata*, *Eremophila ionantha*, *Atriplex vesicaria*, *Eremophila decipiens* subsp. *decipiens*, *Eremophila scoparia*, *Geijera linearifolia*, *Senna artemisioides* subsp. *filifolia* and *Exocarpos aphyllus* over *Vittadinia dissecta* var. *hirta*, *Olearia muelleri*, *Sclerolaena diacantha*, *Ptilotus holosericeus* and *Zygophyllum ovatum* over herbs and grasses on red-orange clayloams on flats and lower slopes;

**W3:** Woodland of *Eucalyptus oleosa* subsp. *oleosa* and *Eucalyptus lesouefii* with occasional *Eucalyptus celastroides* and *Eucalyptus salubris* over *Cratystylis conocephala* over *Olearia muelleri*, *Atriplex vesicaria* and *Santalum acuminatum* over *Rhagodia crassifolia*, *Zygophyllum apiculatum* and *Sclerolaena diacantha* over other mixed shrubs and herbs on orange-brown clay-loams on flats and slopes;

**W5:** Woodland of *Eucalyptus clelandii*, *Eucalyptus clelandii*, *Eucalyptus urna*, *Eucalyptus oleosa* subsp. *oleosa* and *Eucalyptus lesouefii* over *Melaleuca sheathiana* over *Olearia muelleri*, *Eremophila scoparia* and *Alyxia buxifolia* over *Zygophyllum glaucum* and *Maireana* species on range-brown sandy-loams on flats and lower slopes.

**W6:** Open woodland of mixed *Eucalyptus* species over *Eremophila dempsteri*, *Melaleuca halmaturorum* and *Melaleuca sheathiana* over *Cratystylis conocephala* and *Eremophila scoparia* over *Olearia muelleri* and mixed shrubs and herbs on orange clay-loams on flats and slopes;

**W8:** Low open woodland of *Eucalyptus oleosa* subsp. *oleosa*, *Eucalyptus spreta* and *Eucalyptus lesouefii* over *Melaleuca sheathiana*, *Eremophila ionantha*, *Acacia hemiteles*, *Eremophila scoparia*, *Cratystylis conocephala* and *Melaleuca halmaturorum* over mixed shrubs and herbs on orange-brown clay-loams and sandy-loams on lower to mid slopes;

**W18:** Open woodland of *Eucalyptus laevis*, *Eucalyptus moderata*, *Eucalyptus salubris* and *Eucalyptus spreta* over *Acacia hemiteles*, *Acacia merrallii*, *Cratystylis conocephala*, *Eremophila dempsteri*, *Eremophila ionantha*, *Eremophila scoparia*, *Melaleuca halmaturorum* and mixed Chenopod species over patches of *Triodia irritans* on orange to red-brown clay-loams and sandy-loams on flats;

**W20:** Open woodland of *Eucalyptus salubris* with local patches of *Eucalyptus calycogona* subsp. *calycogona*, *Eucalyptus spreta*, *Eucalyptus fraseri* subsp. *fraseri* and *Eucalyptus oleosa* subsp. *oleosa* over *Melaleuca sheathiana*, *Acacia hemiteles*, *Cratystylis conocephala*, *Eremophila scoparia* and *Olearia muelleri* over localised

patches of *Triodia irritans* on orange to red-brown clay-loams and sandy-loams on flats and lower slopes; and  
**G1:** Open hummock grassland of mixed *Triodia* sp. with emergent *Eucalyptus griffithsii*, *Eucalyptus oleosa* subsp. *oleosa*, *Eucalyptus rigidula* and *Eucalyptus kumarlensis* over *Acacia erinacea*, *Acacia burkitti* and *Acacia hermiteles* over *Cryptandra aridicola*, *Westringia rigida*, *Senna artemisioides* subsp. *filifolia*, *Eremophila decipiens* subsp. *decipiens*, *Alyxia buxifolia* and *Grevillea acuaria* over herbs on orange-red clay-loams and sandy-loams on flats and slopes (MBS, 2014).

<b>Clearing Description</b>	Nova Nickel Project  Sirius Gold Pty Ltd proposes to clear up to 80 hectares of native vegetation within a total boundary of approximately 256 hectares for the purpose of an airstrip and associated infrastructure. The project is located approximately 120 kilometres east of Norseman, in the Shire of Dundas.
<b>Vegetation Condition</b>	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994); To Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).
<b>Comment</b>	The vegetation condition was assessed by botanists from Mattiske Consulting Pty Ltd (2014).

### 3. Assessment of application against clearing principles

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

<b>Comments</b>	<p><b>Proposal may be at variance to this Principle</b></p> <p>The application area occurs within the Mardabilla (COO1) sub-region of the Coolgardie Bioregion of the Interim Biogeographic Regionalisation of Australia (IBRA) (GIS Database). The Coolgardie bioregion is characterised by granite strata of the Yilgarn Craton with Archaean greenstone intrusions in parallel belts. Drainage is occluded. Mallees and shrublands on sandplains are associated with lateritised uplands, playas and granite outcrops. Diverse woodlands are rich in endemic eucalypts, on low greenstone hills, valley alluvials and broad plains of calcareous earths. In the west, the shrublands are rich in endemic Proteaceae, in the east they are rich in endemic acacias. The climate is arid to semi-arid warm Mediterranean (CALM, 2002). The Mardabilla subregion is an Eocene marine limestone plain, on a granite basement in its western parts. Redbrown loams and aeolian sands over sheet and nodular kankar support <i>Eucalyptus</i> woodland over broomebush/greybush, bluebush and saltbush (CALM, 2002).</p> <p>A flora and vegetation survey of the application area identified nine vegetation types within the application area (Mattiske, 2014). A total of 51 families, 151 genera and 393 species were identified within the application area and surrounding vegetation (Mattiske, 2014). No Threatened flora species or Priority flora species were identified within the application area (MBS, 2014). Six priority flora species were recorded during the vegetation survey, however none were recorded within the application area, and therefore the proposed clearing will not impact them (Mattiske, 2014). Some of the proposed clearing will be pruning of vegetation adjacent to the proposed airstrip to allow compliance with safe take-off and landing requirements. Due to the height of vegetation, a large buffer has been identified as needed to be cleared. Given the vegetation within the buffer will be pruned over the life of the project rather than completely removed, a high success of rehabilitation post project is expected (MBS, 2014).</p> <p>No Threatened Ecological Communities or Priority Ecological Communities were identified within the application area (MBS, 2014; GIS Database).</p> <p>Ten introduced flora species were identified within the application area (Mattiske, 2014). The presence of weed species lowers the biodiversity value of the application area. Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.</p> <p>A search of the Department of Parks and Wildlife (DPAW) Naturemap identified that 3 frog, 40 reptile, 75 bird and 6 mammal species have the potential to occur within a 40 kilometre radius of the application area (DPAW, 2014). According to database records and published information, the application area may support 14 species protected under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> and the <i>Wildlife Conservation Act 1950</i> (MBS, 2014). A Level 1 survey was conducted in December 2012 by Terrestrial Ecosystems and followed up with a Level 2 fauna and habitat survey, conducted by Rapallo Group from 5 to 19 November 2013 (Rappallo, 2014). Three main habitats for fauna were identified during the site visit: Woodland, Woodland <i>Triodia</i> and Woodland Dominated Inundation Zones. The fauna habitat present is well represented throughout the region, and the application area is not likely to have a higher level of faunal diversity than surrounding areas (GIS Database).</p> <p>Based on the above, the proposed clearing may be at variance to this Principle.</p>
<b>Methodology</b>	CALM (2002) Mattiske (2014)

MBS (2014)  
Rapallo (2014)  
GIS Database:  
- IBRA WA (Regions - Sub Regions)  
- Pre-European Vegetation  
- 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 may be at variance to this Principle**

A search of the Department of Parks and Wildlife (DPAW) Naturemap identified that 3 frog, 40 reptile, 75 bird and 6 mammal species have the potential to occur within a 40 kilometre radius of the application area (DEC, 2014).

A Level 1 survey was conducted in December 2012 by Terrestrial Ecosystems. A Level 2 fauna and habitat survey was conducted by Rapallo Group from 5 to 19 November 2013. The following three fauna habitats were identified within the application area (Rapallo, 2014):

- **Woodland** – Open Eucalyptus woodland to 15 metres often over *Cratystylis conceptuala* dominated shrubland with scattered Santalum, Eremophila, Atriplex and Olearia;
- **Woodland Triodia** – Open Eucalyptus woodland over Triodia grassland with occasional Eremophila, Dodonaea, Exocarpos and Allocasuarina that can form groves; and
- **Woodland Dominated Inundation Zones** – Eucalyptus woodland such as gimlet over mixed low shrubland such as Eremophila, *Diocirea ternata*.

Similar habitats identified during the fauna survey of the application area have also been recorded in the surrounding area (Rapallo, 2014). While the application area may provide important fauna habitat, the surrounding area is largely vegetated with intact woodland (Rapallo, 2014; GIS Database) and also provides suitable fauna habitat.

There are records of Malleefowl being within the 40 kilometre search radius of the application area on DPAW's Naturemap website (DPAW, 2014). A targeted Malleefowl survey has been undertaken over part of the application area and an extinct Malleefowl mound was recorded as being present (Rapallo, 2014). Malleefowl (Schedule 1 - Fauna that is rare or likely to become extinct, *Wildlife Conservation (Specially Protected Fauna) Notice, 2012*) are largely confined to arid and semi-arid woodland that is dominated by Mallee eucalypts on sandy soils, with less than 430 millimetres of rainfall annually (DEC, 2012). Malleefowl are likely to forage throughout the Mallee woodlands and shrublands of the region, and potentially occur in the study area (Rapallo, 2014). Potential impacts to Malleefowl as a result of the proposed clearing may be minimised by the implementation of a fauna management condition.

Although some conservation significant species may pass through or forage within the application areas, abundant areas of similar habitat occur outside of the application area and hence these species are considered unlikely to be reliant on the habitat found within the application area (Rapallo, 2014). Rapallo (2014) has advised the following measures will be undertaken by Sirius Gold Pty Ltd to reduce impacts on fauna and habitats:

- Extinct and dormant Malleefowl mounds will be avoided where practical. A buffer of 10 metres will be maintained from mounds where possible;
- Utilising existing tracks or pipeline/power corridors for access wherever possible and locating tracks to avoid large trees and shrubs and their roots;
- Stockpiling vegetation and respreading where possible to provide habitat for fauna and to assist revegetation by providing a local seed source;
- Removing rubbish to an approved landfill area;
- Clearly delineating the clearing area with survey pegs and flagging tape to ensure only that required for a safe working area is cleared;
- Retaining trees (especially those with hollows) for bird, bat and reptile habitat where possible (Rapallo, 2014).

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

**Methodology** DEC (2012)  
DPAW (2014)  
Rapallo (2014)  
GIS Database:  
- Symons Hill 1.3M Orthomosaic

**(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**

A flora survey of the application area did not record any species of Threatened Flora (MBS, 2014).

The vegetation association recorded within the application area is well represented in surrounding areas (Mattiske, 2014; GIS Database), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of rare flora.

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

**Methodology** Mattiske (2014)  
MBS (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**

There are no known Threatened Ecological Communities (TEC's) located within a 100 kilometre radius of the application area (GIS Database).

Surveys of the application area did not identify any Threatened Ecological Communities (MBS, 2014).

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

**Methodology** 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 Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). The vegetation of the application area has been broadly mapped as Beard vegetation association 487: Medium woodland; redwood & red mallee (*Eucalyptus oleosa*) (GIS Database).

This vegetation association remains at approximately 100% of pre-European extent, at the state and bioregion levels (see table below). Therefore, the area proposed to be cleared does not represent a significant remnant of native vegetation within an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPAW Managed Lands
IBRA Bioregion - Coolgardie	12,912,204	12,648,491	~ 97.96	Least Concern	15.53
Beard vegetation association - State					
487	498,611	498,611	~ 100	Least Concern	22.36
Beard vegetation association - Bioregion					
487	498,179	498,179	~ 100	Least Concern	22.35

\* Government of Western Australia (2013)

\*\* Department of Natural Resources and Environment (2002)

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

**Methodology** Department of Natural Resources and Environment (2002)  
Government of Western Australia (2013)  
GIS Database:  
- IBRA WA (Regions - Sub Regions)  
- 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**

There are no permanent watercourses or wetlands within or in close proximity to the application area (GIS database).

There are no ephemeral watercourses within the application area (MBS, 2014; GIS Database).

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

**Methodology** MBS (2014)  
GIS Database:  
- Geodata, Lakes  
- 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**

Test results showed that the soil in the application area is associated with two soil groups according to the Department of Agriculture and Food Western Australia (DAFWA, 2006) categorisation:

- Alkaline red shallow loamy duplex. Red surface layer over alkaline subsoil. Texture contrast at less than 300 millimetre depth.
- Calcareous shallow loam which is calcareous throughout the profile (MBS, 2014).

Most of the application area contained significant amounts of coarse organic matter, particularly woody debris associated mainly with eucalypt species and partly decomposed leaf litter, especially beneath Melaleuca, Allocasuarina, Acacia and Verticordia shrub species. There was little evidence of the presence of sandy soil profiles within the project area (MBS, 2014).

MBS (2014) has advised that Sirius Gold Pty Ltd will undertake measures to minimise land degradation. Management strategies to achieve this include:

- Minimising the area requiring vegetation removal;
- Confining vehicle movements to defined roads and tracks;
- Conducting topsoil-stripping activities during periods of low winds;
- Stockpiling topsoil and vegetation for use in rehabilitation;
- Storing hydrocarbons and refuelling in bunded areas;
- Progressive rehabilitation of completed surfaces to minimise active areas exposed;
- Scarifying or deep ripping (as appropriate) compacted tracks and roads prior to seeding.

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

**Methodology** DAFWA (2006)  
MBS (2014)

**(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 the vicinity of the application area (GIS Database). The nearest conservation area is the Dundas Nature Reserve which is located approximately 57 kilometres southwest of the application area (GIS Database). A proposed nature reserve, the Lake Harris Nature Reserve is located approximately 50 kilometres northeast of the application area (MBS, 2014). The proposed clearing is unlikely to have any significant impact on these or any other conservation area.

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

**Methodology** MBS (2014)  
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 within a Public Drinking Water Source Area (GIS Database). There are no permanent watercourses within the application area so any surface water present is likely to occur as sheet flow or ephemeral drainage lines (GIS Database). The application area experiences an average annual rainfall of approximately 265.7 millimetres, falling mainly during the winter months (BoM, 2014). The proposed clearing is

not anticipated to cause deterioration in the water quality of surface water.

The depth to the water table is between 50 and 108 metres below ground level, the groundwater is hypersaline (ranging from 37,000 to 42,000 milligrams/Litre Total Dissolved Solids), and the proposed clearing of 80 hectares of native vegetation is unlikely to impact on groundwater levels or quality (MBS, 2014).

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

**Methodology** BOM (2014)  
MBS (2014)  
GIS Database:  
- Evaporation Isopleths  
- Hydrography, Linear  
- Public Drinking Water Source Areas

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

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

With an average annual rainfall of 265.7 millimetres and an average annual evaporation rate of 2,200 millimetres there is likely to be little surface flow during normal seasonal rains (BoM, 2014; GIS Database). Whilst large rainfall events may result in localised flooding, the proposed clearing is not likely to lead to an increase in incidence or intensity of flooding (MBS, 2014).

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

**Methodology** BoM (2014)  
MBS (2014)  
GIS Database:  
- Hydrographic Catchments - Catchments  
- Hydrography, Linear

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

**Comments**

There is one Native Title Claim (WC1999/002) over the area under application. This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

According to available databases, there are 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, 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  
- Native Title Claims - Filed at the Federal Court  
- Native Title Claims - Determined by the Federal Court

#### 4. References

- BoM (2014) Bureau of Meteorology Website - Climate Statistics for Australian Locations, Summary Statistics Balladonia. <http://www.bom.gov.au/> (Accessed 14 December 2014).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Coolgardie 1 (COO1 - Mardabilla subregion). Department of Conservation and Land Management, Western Australia.
- DAFWA (2006) Department of Agriculture and Food - Soil Landscapes of Western Australia's Rangelands and Arid Interior. WA Department of Agriculture and Food, Resource Management Technical Report 313.
- DEC (2012) Fauna Profiles: Malleefowl. Department of Environment and Conservation, Perth. [http://www.dpaw.wa.gov.au/images/documents/conservation-management/pests-diseases/malleefowl\\_2012.pdf](http://www.dpaw.wa.gov.au/images/documents/conservation-management/pests-diseases/malleefowl_2012.pdf) (Accessed 16 December 2014).
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Department of Parks and Wildlife (DPaW) (2014) NatureMap Department of Parks and Wildlife, <<http://naturemap.dec.wa.gov.au>> (Accessed 18 December 2014).
- 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.
- Mattiske Consulting Pty Ltd (Mattiske) (2014) Flora and Vegetation Survey of the Nova Project, Fraser Range. Unpublished report prepared for Sirius Gold Pty Ltd.
- MBS Environmental (MBS) (2014) Purpose Permit Application Nova Nickel Project Assessment of Clearing Principles L28/51. Unpublished report prepared for Sirius Gold Pty Ltd.
- Rapallo Environmental (Rapallo) (2014) Fauna Survey of the Nova Project Area. Unpublished report prepared for Sirius Gold Pty Ltd.

#### 5. Glossary

##### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia (now DPaW and DER)
<b>DER</b>	Department of Environment Regulation, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia
<b>DRF</b>	Declared Rare Flora
<b>DotE</b>	Department of the Environment, Australian Government
<b>DoW</b>	Department of Water, Western Australia
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia
<b>DSEWPaC</b>	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>s.17</b>	Section 17 of <i>the Environment Protection Act 1986</i> , Western Australia
<b>TEC</b>	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 *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.