



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6467/1

Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: *Mineral Sands (Eneabba) Agreement Act 1975, Mining Lease 267SA (AM 70/267)*

Local Government Area: Shire of Carnamah

Colloquial name: Eneabba Mineral Sands Mine

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
8.1		Mechanical Removal	Site Remediation

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 16 April 2015

2. Background

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. One Beard vegetation association has been mapped within the application area:

379: Shrublands; scrub-heath on lateritic sandplain in the central Geraldton Sandplain Region.

A flora and vegetation survey was conducted over the application area in 2010 by Woodman Environmental Consulting (Woodman, 2010). Two vegetation communities were recorded within the application area, including:

FCT1a: Open Low Woodland to Open Low Scrub of *Eucalyptus pleurocarpa* and/or *Eucalyptus todtiana* over mixed shrubs dominated by *Banksia* spp. and *Hakea* spp. over sedges on grey to brown sands with very occasional laterite influence on lower to mid slopes; and

FCT6b: Shrublands and Heaths, with occasional Low Woodland of *Eucalyptus pleurocarpa*. Common species include *Allocasuarina microstachya*, *Melaleuca leuropoma*, *Melaleuca trichophylla*, and *Verticordia* spp. over sedges on grey-brown sands, sandy clays and or gravel on flats, swales and lower slopes.

Clearing Description Eneabba Mineral Sands Mine. Iluka Resources Limited (Iluka) proposes to clear up to 8.1 hectares within a total boundary of approximately 8.1 hectares for the purpose of site remediation. The project is located approximately 5 kilometres south of Eneabba, in the Shire of Carnamah.

Vegetation Condition Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994);

to:

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment Vegetation condition was determined by the assessing officer following a review of flora survey information, photographs of the application area, and aerial imagery (Iluka, 2015a; GIS Database).

Approximately 42.5% (3.44 hectares) of the application area has been degraded by access tracks, fencing, fire breaks and windblown sand material.

The proposed clearing is adjacent to a mineral sands pit that contains material with an elevated radiation level. Sand from the pit has been dispersed via wind to the vegetation within the application area, and elevated radiation levels have triggered the requirement for radiation management. Remediation of this area will contribute to the progressive rehabilitation of the site. The proposed clearing will be rehabilitated following remediation activities.

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 Geraldton Sandplains Interim Biogeographic Regionalisation of Australia (IBRA) region and the Lesueur Sandplain subregion (GIS Database). The Lesueur Sandplain has a Mediterranean climate, and contains shrub-heaths rich in endemic species (Desmond and Chant, 2001).

The application area consists of a patch of remnant vegetation adjacent to a sand mining pit and surrounded by access roads (Iluka, 2015a; GIS Database). Approximately 42.5% of the application area contains either completely or partially degraded vegetation (Iluka, 2015a). The vegetation within the application area is mapped as belonging to Beard vegetation association 379 (GIS Database). Vegetation mapping was also conducted by Woodman Environmental Consulting in 2010, who recorded two vegetation associations within the application area that range from Very Good to Completely Degraded condition (Keighery, 1994; Woodman, 2010). None of the vegetation associations represented a Threatened Ecological Community (TEC) or Priority Ecological Community (PEC), which is consistent with available databases (GIS Database).

A targeted survey for conservation significant flora was conducted within the application area by Woodman (2015). The survey recorded four Priority flora, including two Priority 3 species (*Grevillea biformis* subsp. *cymbiformis* and *Haemodorum loratum*) and two Priority 4 species (*Calytrix superba* and *Verticordia aurea*) (Woodman, 2015). The largest proportional impact will be to *Grevillea biformis* subsp. *cymbiformis*, whereby one of a known 29 plants in the local area (3.4%) will be cleared under the proposal (Iluka, 2015a). Impacts to other Priority flora is limited to <0.1% of the known local extent (Iluka, 2015b). The proposed clearing is not considered likely to impact the conservation of Priority flora on a local or regional scale.

Based on previous field surveys and desktop assessments, Iluka (2015a) estimate approximately 212 fauna species have the potential to occur within the Eneabba Mineral Sands Project area. Excluding waterbirds that are more likely to occur over nearby wetlands, a total of 17 conservation significant fauna have the potential to occur within the application area as residents, seasonal residents or vagrants (Iluka, 2015a). However, considering that the application area contains a high proportion of degraded habitat, is adjacent to an operational mine, and is fragmented from adjacent vegetation, the proposed clearing is not likely to comprise an area or high fauna diversity.

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

Methodology Desmond and Chant (2001)
Iluka (2015a)
Iluka (2015b)
Keighery (1994)
Woodman (2010)
Woodman (2015)
GIS Database:
- IBRA Australia
- Imagery
- Pre-European Vegetation
- Threatened and Priority Ecological Communities (TECPEC) - Buffers

(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**
Fauna habitat within the application area have been characterised by defining vegetation and substrate associations. Using this method, Bamford (2013) identified two habitat types within the application area, including:

VSA1: Low Heathland with occasional emergent *Eucalyptus tottiana*, sparse *Banksia* spp. and mixed shrubs on grey sandy flats; and

VSA3: Disturbed areas of exotic *Eucalyptus* spp., *Chamelaucium uncinatum* and *Chamaecytisus palmensis* over grassy weed species on sand.

A total of 17 conservation significant fauna have the potential to occur within the application area, including 2 reptiles, nine birds, two mammals and four invertebrates (Iluka, 2015a). Of these, the following species are most likely to use habitat resources within the application area for denning/shelter and feeding:

- Black-striped Snake (*Neelaps calonotos*; Priority 3)
- Carpet Python (*Morelia spilota imbricata*; Schedule 1)
- Carnaby's Cockatoo (*Calyptorhynchus latirostris*; Schedule 1)
- Rainbow Bee-eater (*Merops Ornatus*; Migratory)
- Rufus Fieldwren (*Calamanthus campestris*; Priority 4)
- Cricket species (*Hemisaga vepreculae*; Priority 3)

- Bee species (*Hylaeus globuliferus*; Priority 3)
- Graceful Sunmoth (*Synemon gratiosa*; Priority 4)

The vegetation types present within the application area present suitable foraging habitat for Carnaby's Cockatoo, which has been recorded foraging in similar habitat adjacent to the application area in previous years (Johnstone et al., 2013; Iluka, 2015b). However, there are numerous records of foraging Carnaby's Cockatoo activity outside the Eneabba Mineral Sands project footprint, signifying the availability of foraging habitat outside the application area (Johnstone et al., 2013). Additionally, following remediation the application area will be revegetated using species that provide foraging habitat for Carnaby's Cockatoo (Iluka, 2015b). The implementation of a rehabilitation condition is recommended to reflect this commitment.

While no primary nesting habitat for the Rainbow Bee-eater (banks or cuttings) occur within the application area, DPaW (2015a) advise that the species has been observed nesting on flat vehicle tyre tracks, and may therefore potentially use habitat within the application area during the nesting season from September to April. This is not likely to coincide with the proposed schedule for site remediation (Iluka, 2015b). Impacts to the Rainbow Bee-eater may be minimised by the implementation of a fauna management condition.

The habitat types within the application area are available in the surrounding region and are also represented in nearby reserves (Iluka, 2015a; GIS Database). The application area is adjacent to the existing Eneabba Mineral Sands Mine footprint, and is moderately fragmented from surrounding habitat by roads and previously cleared areas (GIS Database). Furthermore, approximately 42.5% of habitat within the application area is either cleared or highly disturbed (Iluka, 2015a). Vegetation within the application area is therefore unlikely to represent important habitat for fauna on a local or regional scale.

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

Methodology Bamford (2013)
 DPaW (2015a)
 Iluka (2015a)
 Iluka (2015b)
 Johnstone et al. (2013)
 GIS Database:
 - DPaW Tenure
 - Imagery

(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

No Threatened flora species were recorded within the application area during the targeted flora and vegetation survey conducted by Woodman (2015). The survey was conducted during suitable conditions for detecting Threatened flora species, and occurred during the flowering season of Threatened flora known to occur in the wider area (Woodman, 2015). Similarly, available databases show no records for Threatened flora within or surrounding the application area (GIS Database).

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

Methodology Woodman (2015)
 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). However, the southern-most point of the application area intersects a buffer for the Ferricrete floristic community (Rocky Springs type) TEC (GIS Database). The TEC is 4.96 kilometres south-west of the application area, and is not likely to be impacted by the proposed clearing.

Similarly, neither vegetation community recorded by Woodman (2010) represent a TEC.

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

Methodology Woodman (2010)
 GIS Database:
 - Threatened and Priority Ecological Communities (TECPEC) - Buffers

(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 likely to be at variance to this Principle

The application area falls within the Geraldton Sandplain Interim Biogeographic Regionalisation of Australia (IBRA) bioregion and Lesueur Sandplain subregion, in which approximately 44.9 and 43.0% of the pre-European vegetation remains, respectively (see table) (Government of Western Australia, 2013; GIS Database). The application area also occurs within the Shire of Carnamah (GIS Database), which is within the Intensive Land Use Zone of the south-west of Western Australia and has been extensively cleared for agriculture. Approximately 41.3% of pre-European vegetation remains within this local government area, which is classified as 'Depleted' according to the 'Biological Conservation Status of Ecological Vegetation Classes' (Department of Natural Resources and Environment, 2002).

The vegetation within the application area has been mapped as Beard vegetation association 379 (GIS Database). Less than 30% of this Beard vegetation association remains at both a state and bioregional level, and as such the vegetation community is considered to be 'Vulnerable' according to the 'Biological Conservation Status of Ecological Vegetation Classes' (Department of Natural Resources and Environment, 2002; Government of Western Australia, 2013).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Lands (and post clearing %)
IBRA Bioregion - Geraldton Sandplains	3,136,038	1,408,729	~44.9	Depleted	~18.2 (40.2)
IBRA Subregion - Lesueur Sandplain	1,171,775	504,203	~43.0	Depleted	~18.2 (41.8)
Local Government - Shire of Carnamah	287,235	118,548	~41.3	Depleted	~21.8 (42.1)
Beard veg assoc. - State					
379	547,737	130,482	~23.8	Vulnerable	~5.4 (22.1)
Beard veg assoc. - Bioregion					
379	546,507	130,245	~23.8	Vulnerable	~5.4 (22.1)
Beard veg assoc. - subregion					
379	370,030	112,061	~30.3	Vulnerable	~5.9 (19.1)

* Government of Western Australia (2013)

** Department of Natural Resources and Environment (2002)

There are two vegetation communities within the application area (Iluka, 2015a). A majority of the remnant native vegetation to be cleared is mapped as vegetation community FCT1a (3.43 hectares), which has a total mapped area of 2,540 hectares in the Northern Sandplains region (Iluka, 2015a). The proposed clearing will reduce FCT1a by 0.14% and FCT6b by 0.13% (Iluka, 2015a). A total of 3.44 hectares (42.5%) within the application area has been degraded by access tracks, fencing, fire breaks and windblown sand material from the adjacent pit (Iluka, 2015a).

The application area is alongside the footprint of the proponent's pre-existing Eneabba Mineral Sands Mine, which has caused a high level of habitat fragmentation on a local scale (GIS Database). Based on aerial imagery, the application area does not appear to function as an ecological linkage on a local or regional scale (GIS Database).

Given that the proposed clearing is adjacent to a previously disturbed area, is of varying quality and does not provide any important linkages between patches of native vegetation, it is unlikely to be a significant remnant on a local or regional scale.

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2013)
Iluka (2015a)
Woodman (2010)
GIS Database:

- Imagery
- 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 application area does not intersect any minor or major watercourses (GIS Database). The vegetation communities mapped within the application area do not occur in association with a watercourse (Woodman, 2010; Iluka, 2015a).

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

Methodology Iluka (2015a)
Woodman (2010)
GIS Database:
- Hydrography, linear

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

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

Available flora survey information and photographs of the proposed clearing indicate that the application area lies over grey to brown sands (Iluka, 2015a). Clearing of native vegetation over this soil type increases the potential for wind erosion, as well as dust dispersion over surrounding areas.

Vegetation within the application area has been degraded by the dispersion of Naturally Occurring Radioactive Material (NORM, sand) from the adjacent mining pit, and therefore clearing is proposed in order to remove the radioactive material and rehabilitate the application area (Iluka, 2015a). Following the removal of NORM, the application area will be stabilised with a cereal rye crop prior to the application of topsoil and rehabilitation of native vegetation (Iluka, 2015a). Land degradation as a result of the proposed clearing may be minimised by the implementation of a rehabilitation condition that reflects this commitment.

There are four species of dieback (*Phytophthora cinnamomi*, *Phytophthora citricola*, *Phytophthora megasperma* and *Phytophthora drechsleri*) that have been recorded in the Geraldton Sandplains bioregion region (Iluka, 2007). A total of 12 introduced flora species have been recorded within a 10 kilometre radius of the application area (DPaW, 2015b). Potential weed and dieback proliferation as a result of the proposed clearing may be minimised by the implementation of a dieback and weed management condition.

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

Methodology DPaW (2015b)
Iluka (2007)
Iluka (2015a)

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

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

The application area lies approximately 2.1 kilometres east of the South Eneabba Nature Reserve, which is a Class C Reserve managed by DPaW for the purpose of flora and fauna conservation (GIS Database). A channel of cleared land lies between the application area and the nature reserve (GIS Database), and therefore the proposed clearing is not connected nor does it provide any habitat linkages to the nature reserve.

Three of the four priority flora recorded within the application area are found in high numbers within the surrounding area (Woodman, 2015), and while only 29 individuals of the fourth priority flora (*Grevillea biformis* subsp. *cymbiformis*; Priority 3) have been recorded in the surrounding region, only one individual of this species was recorded in the application area. The proposed clearing is therefore also unlikely to be significant in maintaining gene flow between populations of flora found within the nature reserve.

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

Methodology Woodman (2015)
GIS Database:
- DPaW 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 does not occur within a Public Drinking Water Source Area (PDWSA), however it is located within the proclaimed Arrowsmith groundwater area under the *Rights in Water and Irrigation Act 1914* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water.

There are no watercourses within the application area (GIS Database). Groundwater salinity in the local area is 500 - 1,000 milligrams/Litre Total Dissolved Solids (TDS), which is classified as 'marginal' salinity (GIS Database). The proposed clearing activity is not likely to cause deterioration of groundwater quality within the project area.

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

Methodology GIS Database:
- Groundwater Salinity, Statewide
- Public Drinking Water Source Areas
- RIWI Act, Groundwater 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

Mean annual rainfall in Eneabba is approximately 491 millimetres (BoM, 2015). The Geraldton Sandplains bioregion experiences a Mediterranean climate, with higher rainfall in winter (Desmond and Chant, 2001; BoM, 2015). The application area is not within a low lying area in the landscape, and is unlikely to experience flooding following rainfall (GIS Database).

The application area is located within the Indoon Logue catchment area of the Moore-Hill Rivers Basin (GIS Database). Given the size of the area to be cleared (8.1 hectares) in relation to the size of the catchment area (137,412 hectares), the proposed clearing is unlikely to significantly alter the frequency or intensity of flooding within the application area or the surrounding region (GIS Database).

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

Methodology BoM (2015)
Desmond and Chant (2001)
GIS Database:
- Hydrographic Catchments - Catchments
- Topographic Contours, Statewide

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

Comments

There is one native title claim over the application area. This claim (WC2004/002) has been registered with the Native Title Tribunal on behalf of the claimant group (DAA, 2015). 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 Sites of Aboriginal Significance located in the area applied to clear (DAA, 2015). 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.

Activities on the Eneabba Mineral Sands Mine are subject to DER Licence No. L5646/1994/10. The proposed clearing activity does not contradict the conditions of this licence.

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

It is noted that the proposed clearing may impact on a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Federal) Department of the Environment for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of the Environment for further information regarding notification and referral responsibilities under the EPBC Act.

The clearing permit application was advertised on 23 February 2015 by the Department of Mines and Petroleum inviting submissions from the public. There were no submissions received.

Methodology DAA (2015)
GIS Database:
- Aboriginal Sites of Significance

4. References

- Bamford (2013) Iluka Resources Limited IPL North Project Area, Fauna Assessment., Unpublished report prepared by Bamford Consulting Ecologists for Iluka Resources Limited.
- BoM (2015) Climate Statistics for Australian Locations. Climate Statistics for Australian Locations. A Search for Climate Statistics for Eneabba, Australian Government Bureau of Meteorology, http://www.bom.gov.au/climate/averages/tables/cw_008225.shtml, viewed March 2015.
- DAA (2015) Aboriginal Heritage Inquiry System. Department of Aboriginal Affairs. <http://maps.dia.wa.gov.au/AHIS2/> (Accessed March 2015).
- Desmond, A. and Chant, A (2001) Geraldton Sandplain 3 (GS3 - Lesueur Sandplain subregion). In: A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002. Report published by CALM, Perth, Western Australia.
- DPaW (2015a) Advice provided to the assessing officer on 13 April 2015.
- DPaW (2015b) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. <http://naturemap.dpaw.wa.gov.au/default.aspx>, viewed March 2015.
- 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.
- 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.
- Iluka (2007) Midwest Operations Eneabba Rehabilitation Management Plan. Unpublished report prepared by Iluka Resources Limited.
- Iluka (2015a) Eneabba Mineral Sands Mine, Native Vegetation Clearing Proposal, Yellow Dam Radiation Remediation. Prepared by Iluka Resources Limited.
- Iluka (2015b) Further information provided to the assessing officer on 9 March 2015, 19 March 2015 and 26 March 2015.
- Johnstone, R.E, Johnstone, C and Kirkby, T (2013) Carnaby's Cockatoo Habitat Assessment IPL North Eneabba Region. Report prepared for Iluka 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.
- Woodman (2015) Conservation Significant Flora Search: Yellow Dam Clearing Areas. Unpublished report prepared by Woodman Environmental Consulting for Iluka Resources Limited.
- Woodman (2010) Spring 2009 re-assessment of FCT quadrats established at Eneabba between 2001 and 2007. Unpublished report prepared by Woodman Environmental Consulting for Iluka Resources Limited.

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 <i>the 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 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.