



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6262/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Quarrytech Consulting Pty Ltd

1.3. Property details

Property: Mining Lease 47/1495
Local Government Area: Town of Port Hedland and the Shire of Roebourne
Colloquial name: Red Hill Sand Quarry

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
52.51		Mechanical Removal	Sand mining

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 23 October 2014

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	<p>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:</p> <p>589: Mosaic: Short bunch grassland - savannah/ grass plain (Pilbara)/ Hummock grasslands, grass steppe; soft spinifex.</p> <p>A flora, vegetation and fauna assessment was conducted over the application area in 2013 by MMWC Environmental Pty Ltd (MEC, 2014a). A total of four vegetation associations were recorded within the application area, including:</p> <p>AsaAstTeEe: High Shrubland of <i>Acacia sabulosa</i> over low open shrubland of <i>Acacia stellaticeps</i> over hummock grassland of <i>Triodia epactia</i> over very open tussock grassland of <i>Eragrostis eriopoda</i> on sand dune;</p> <p>AssAtAsTe: Scattered low shrubs of <i>Acacia sclerosperma</i> subsp. <i>Sclerosperma</i>, <i>Acacia trachycarpa</i> and <i>Acacia stellaticeps</i> over open hummock grassland of <i>Triodia epactia</i> on sand plain;</p> <p>Ex: Open tussock grassland of <i>Eragrostis xerophila</i> on clay plain; and</p> <p>EcrMgMIAtTe*Cc*Cs: Low open woodland of <i>Eucalyptus camaldulensis</i> subsp. <i>Refulgens</i> over high open shrubland of <i>Melaleuca glomerata</i>, <i>Melaleuca linophylla</i> and <i>Acacia trachycarpa</i> over very open hummock grassland of <i>*Cenchrus ciliaris</i> and <i>*Cenchrus setiger</i> in river.</p>
Clearing Description	<p>Red Hill Sand Quarry.</p> <p>Quarrytech Consulting Pty Ltd (Quarrytech) proposes to clear up to 52.51 hectares within a total boundary of 92.19 hectares for the purpose of sand mining. The project is located approximately 77.5 kilometres south-west of Port Hedland, in the Town of Port Hedland and the Shire of Roebourne.</p>
Vegetation Condition	<p>Excellent: Vegetation structure intact; disturbance affective individual species, weeds non-aggressive (Keighery, 1994);</p> <p>To:</p> <p>Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).</p>
Comment	<p>Vegetation condition was based on the flora, vegetation and fauna assessment conducted by MEC (2014a) and converted to the Keighery scale by the assessing officer.</p>

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 is located within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) region and the Roebourne subregion (GIS Database). The Pilbara region represents a transitional zone between semi-arid and tropical climates (Kendrick, 2001). The Roebourne IBRA subregion comprises quaternary alluvial and older colluvial coastal and sub-coastal plains with a grass savannah of mixed bunch and hummock grasses (Kendrick, 2001).

The vegetation within the application area is mapped as belonging to Beard association 589 (GIS Database). A flora, vegetation and fauna assessment was conducted by MMWC Environmental Pty Ltd in 2014 (MEC, 2014a). A total of four vegetation associations were recorded within the application area, which ranged from Excellent to Degraded condition (Keighery, 1994; MEC, 2014a). None of the vegetation associations represented a Threatened Ecological Community (TEC) or Priority Ecological Community (PEC) (MEC, 2014a), which is consistent with available databases (GIS Database).

A total of 112 flora taxa comprising 31 families and 71 genera were recorded by MEC (2014a) within the application area and surrounds. The Priority 1 flora *Abutilon* sp. Pritzelianum (S. van Leeuwen 5095) was the only conservation significant flora species recorded within the application area (MEC, 2014a). A total of 108 individuals within two populations of this taxa were recorded within the survey area, approximately half of which (one population) occurs within the application area. This species has a moderate distribution within the Pilbara region, known from records near Karratha, Onslow and Carnarvon (DPaW, 2014; MEC, 2014a). Furthermore, MEC (2014b) advises that this species has been recorded in a number of locations in the surrounding region during previous surveys. Based on the local and regional distribution of *Abutilon* sp. Pritzelianum (S. van Leeuwen 5095), the proposed clearing is not expected to impact the conservation of this species.

Following a search of the Naturemap database using a 20 kilometre buffer surrounding the application area, records were returned for 60 avian, eight mammal, 27 reptile and two amphibian species (DPaW, 2014). Of these, seven species were Scheduled or Priority fauna under the *Wildlife Conservation Act 1950* (DPaW, 2014). Two conservation significant fauna were recorded during the flora, vegetation and fauna assessment conducted by MEC (2014a), including the Rainbow Bee-eater (*Merops ornatus*; Migratory), and Australian Bustard (*Ardeotis australis*; Priority 4). Based on a desktop and field assessment, a further three threatened species listed under the *Environment Protection and Biodiversity Conservation Act 1999* were considered to have a moderate likelihood of occurring within the application area, including the Northern Marsupial Mole (*Notoryctes caurinus*), Greater Bilby (*Macrotis lagotis*) and the Pilbara Olive Python (*Liasis olivaceous barroni*) (MEC, 2014a). However, the application area is not within the estimated distribution of the Northern Marsupial Mole, and no evidence of Greater Bilby or Pilbara Olive Python presence was recorded (MEC, 2014a; 2014b). While there is a moderate level of habitat diversity in the application area and surrounds that is likely to support a diverse fauna community (MEC, 2014a), the application area is not likely to support an area of high biodiversity in a local or regional context.

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

Methodology

DPaW (2014)
Keighery (1994)
Kendrick (2001)
MEC (2014a)
MEC (2014b)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation
- Threatened Ecological Sites Buffered

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

Comments

Proposal is not likely to be at variance to this Principle

The flora, vegetation and fauna assessment conducted by MEC (2014a) recorded four habitat types within the application area, including:

Sand plain with hummock grassland;
Clay plain with tussock grassland;
Sand dune; and
Riverine.

All habitat types were considered to be widespread within the surrounding landscape, with the exception of sand dune habitat (MEC, 2014a). Sand dune habitat is moderately restricted on a regional scale, and may support a different fauna community to surrounding habitat types (MEC, 2014a). While a field-based fauna survey has not been conducted within the application area to confirm its value to fauna, there is potential for sand dune habitat to be of increased significance on a local and regional scale.

Two conservation significant fauna, the Rainbow Bee-eater and Australian Bustard, were recorded during the flora, vegetation and fauna assessment (MEC, 2014a). The Rainbow Bee-eater was recorded within riverine habitat, which may serve as breeding habitat if the banks present a vertical face for nesting. However, following a review of aerial imagery, a more extensive area of suitable breeding habitat is likely to occur downriver of the proposed clearing, and therefore the application area is unlikely to represent critical habitat for this species. Furthermore, clearing of the river will only be conducted during dry periods (MEC, 2014b) and will therefore not overlap with the breeding period of this species which extends from August to January (DoE, 2014a).

The Australian Bustard has a widespread distribution and is highly mobile. Given the availability of suitable habitat outside the application area, the proposed clearing is not likely to impact this species on a local or regional scale.

MEC (2014a) has advised the application area represents suitable habitat for the Northern Marsupial Mole, Greater Bilby and the Pilbara Olive Python. The Northern Marsupial Mole is a small (30- 60 grams) almost entirely fossorial mammal most often found in sandy dune habitat supporting *Acacia* shrubland with spinifex (Benshemesh, 2004). The known distribution of this species is throughout the sandy deserts of inland Australia (Benshemesh, 2004). Records currently suggest that the western extent of their distribution follows the coast between Broome and Pardoo Station, east of Port Hedland, and south to Lake Disappointment (Benshemesh, 2004; DPaW, 2014). This species is rarely found on isolated sand dunes, as hard or rocky substrates are considered to provide a barrier to movement and the species has poor dispersal ability above ground (Benshemesh, 2004). The application area is separated by the western-most records for the Northern Marsupial Mole by a large rocky range, and based on aerial imagery the sand dune habitat of the proposed clearing and surrounds is up to 250 - 350 kilometres away from other suitable sand dune habitat (GIS Database). Therefore, it is unlikely that the proposed clearing represents critical habitat for this species.

The Pilbara Olive Python may occur within riverine habitat in the application area. However, given the absence of permanent water or rocky areas, the application area is unlikely to represent critical habitat for this species. Furthermore, the proposed clearing overlaps only a small portion of the Peawah River, and similar suitable habitat extends both north and south of the application area (MEC, 2014a; GIS Database). The proponent has advised that Eucalypt trees within Riverine habitat will not be cleared (MEC, 2014b), which will maintain a level of habitat continuity along the Peawah River. This will minimise the potential impact to the Pilbara Olive Python and other species which utilise Riverine habitat in the area.

The application area occurs within the western boundary of the Greater Bilby's currently known distribution (Pavey, 2006). During the flora, vegetation and fauna assessment, the application area was thoroughly searched for burrows and other evidence of the Greater Bilby (MEC, 2014a; 2014b). However, no evidence of Greater Bilby occupation was found, and this species is therefore unlikely to occur within the application area.

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

Methodology Benshemesh (2004)
DPaW (2014)
MEC (2014a)
MEC (2014b)
Pavey (2006)
GIS Database:
- Yule 1.4m Orthomosaic - Landgate 2002

(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 flora, vegetation and fauna assessment conducted by MEC (2014a). MEC (2014a) advise that the application area does not provide suitable habitat for any Threatened flora species which could occur in the surrounding region.

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

Methodology MEC (2014a)

(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). Similarly, the vegetation survey conducted by MEC (2014a) did not identify any of the vegetation recorded as being a TEC.

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

Methodology MEC (2014a)
GIS Database:
- Threatened Ecological Sites Buffered

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

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

The application area falls within the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, in which approximately 99.6% of the pre-European vegetation remains (see table) (Government of Western Australia, 2013; GIS Database).

The vegetation within the application area has been mapped as Beard vegetation association 589 (GIS Database). Over 90% of this Beard vegetation association remains at both a state and bioregional level (Government of Western Australia, 2013). Based on aerial imagery, the vegetation within the application area is neither a remnant itself nor does it form part of any remnants within the local area (GIS Database).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Lands
IBRA Bioregion - Pilbara	17,808,657	17,733,584	~99.6	Least Concern	8.4
Beard veg assoc. - State					
589	807,699	802,713	~99.4	Least Concern	1.6
Beard veg assoc. - Bioregion					
589	728,768	724,696	~99.4	Least Concern	1.8

* Government of Western Australia (2013)

** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2013)
GIS Database:
- Pre-European Vegetation
- Yule 1.4m Orthomosaic - Landgate 2002

(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 at variance to this Principle**

The vegetation association EcrMgMIAtTe*Cc*Cs occurs in association with a watercourse and is considered to be riparian in nature (MEC, 2014a). This vegetation association is within the proposed clearing, where sand mining is proposed within the Peawah River. However, the extent of this vegetation association within the application area is limited to approximately 7 hectares, which represents 22% of the area covered by this vegetation association within the survey area (MEC, 2014a). Furthermore, impacts to riparian vegetation will be minimised through commitments made by the proponent to avoid clearing bank vegetation and Eucalypt trees (MEC, 2014b). This vegetation assemblage is not restricted on a local scale (MEC, 2014a), and the proposed clearing is unlikely to impact the regional representation of this vegetation association. Impacts to riparian vegetation in and around the application area may be minimised by the implementation of a watercourse management condition.

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

Methodology MEC (2014a)
MEC (2014b)

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

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

The application area lies over the Mallina land system and the Gregory land system (GIS Database). The Mallina land system consists of sandy alluvial plains of soft (and occasionally hard) spinifex grasslands (Van Vreeswyk et al., 2004). Riverine habitat within the application area coincides with this land system, and this

area is highly susceptible to erosion if cleared (Van Vreeswyk et al., 2004). However, the proponent has advised that impacts to vegetation within this land system will be minimised by using an excavator three metres away from the river bank to remove vegetation on the river bed, removing the need to disturb the river bank (MEC, 2014b). Large Eucalypt trees in Riverine habitat will not be cleared (MEC, 2014b), which also reduces erosion risk within the Mallina land system.

The Gregory land system contains linear dunes and restricted sandplains supporting shrubby spinifex grasslands (Van Vreeswyk et al., 2004). This land system covers the remainder of the application area, which comprises sand dune, sand plain and clay plain landforms (MEC, 2014a). Sand dunes are particularly prone to erosion following disturbance, such as the proposed clearing (Van Vreeswyk et al., 2004). Erosion within the application area may be minimised by the implementation of a staged clearing condition.

A total of six introduced flora species were recorded within the application area, however none of these are a Declared Weed (MEC, 2014a). Buffel Grass (*Cenchrus ciliaris*) was the most common weed recorded, and occurred at densities of up to 10% of ground cover (MEC, 2014a). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area (DEC, 2011). Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

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

Methodology DEC (2011)
MEC (2014a)
MEC (2014b)
Van Vreeswyk et al. (2004)
GIS Database:
- Rangelands Land System Mapping

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

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

The application area does not lie within any conservation areas managed by the Department of Parks and Wildlife (GIS Database). The nearest conservation area is the Mungaroona Range Nature Reserve, which is located approximately 51.4 kilometres south of the application area (GIS Database). From this distance, the proposed clearing is not likely to impact the environmental values of the Mungaroona Range Nature Reserve.

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

Methodology GIS Database:
- DEC Tenure

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

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

The application area does not occur within a Public Drinking Water Source Area (PDWSA), however it is located within the proclaimed Pilbara 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.

The application area occurs over a 1.27 kilometre section of the Peawah River (GIS Database). This river experiences seasonal inundation, where some natural sedimentation is likely to occur. The clearing of native vegetation has the potential to destabilise soils and cause temporary sedimentation to watercourses. However, vegetation cleared within the river will be restricted to shrubs and smaller vegetation (MEC, 2014b). The vegetated river banks will not be disturbed, and Eucalypt trees will not be cleared (MEC, 2014b). Furthermore, all clearing activity will occur outside of the period of inundation, which will further reduce sedimentation of watercourses. A flora management condition is recommended to reflect the proponent's commitment to avoid Eucalypt trees within the application area. The proposed clearing is therefore unlikely to cause significant deterioration in the quality of surface water in or around the application area.

Groundwater salinity in the local area is 1,000 - 3,000 milligrams/Litre Total Dissolved Solids (TDS), which is considered brackish (GIS Database). The proposed clearing activity is not likely to cause deterioration of groundwater within the project area.

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

Methodology MEC (2014b)
GIS Database:
- Groundwater Salinity, Statewide
- Hydrography, linear

- Public Drinking Water Source Areas (PDWSAs)
- 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 Port Hedland is approximately 320 millimetres (BoM, 2014). The Pilbara region represents a transitional zone between semi-arid and tropical climates, and receives a majority of its rainfall during the summer months (Kendrick, 2001; CALM, 2002). The Peawah River is likely to receive some runoff from the surrounding area and serves to transport water downstream. In this landscape, some minor flooding may occur but is unlikely to be significant. The proposed clearing is unlikely to significantly alter the intensity of flooding within the application area or surrounding areas.

The application area is located within the Peawah River catchment area (GIS Database). However, given the size of the area to be cleared (52.51 hectares) in relation to the size of the catchment area (201,547 hectares), the proposed clearing is not likely to increase the potential for flooding in this region (GIS Database).

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

- Methodology**
- BoM (2014)
 - CALM (2002)
 - Kendrick (2001)
 - GIS Database:
 - Groundwater Salinity, Statewide
 - Hydrographic Catchments - Catchments

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

Comments

There is one native title claim over the application area (GIS Database). This claim (WC1999/003) has been registered with the Native Title Tribunal on behalf of the claimant group (GIS Database). However, the mining tenure has been granted in accordance with the future act regime of the Native Title Act 1993 and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the Native Title Act 1993.

There are no registered Sites of Aboriginal Significance located in the area applied to clear (GIS Database). It is the proponent's responsibility to comply with the Aboriginal Heritage Act 1972 and ensure that no Sites of Aboriginal Significance are damaged through the clearing process.

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

The clearing permit application was advertised on 22 September 2014 by the Department of Mines and Petroleum inviting submissions from the public. There was one submission advising of no objections.

- Methodology**
- GIS Database:
 - Aboriginal Sites of Significance
 - Native Title Claims - Registered with the NNTT

4. References

- Benshemesh, J (2004) Recovery Plan for Marsupial Moles *Notoryctes typhlops* and *N. caurinus*. 2005-2010. Northern Territory Department of Infrastructure, Planning and Environment, Alice Springs.
- BoM (2014) Climate Statistics for Australian Locations. Climate Statistics for Australian Locations. A Search for Climate Statistics for Port Hedland, Australian Government Bureau of Meteorology, http://www.bom.gov.au/climate/averages/tables/cw_004032.shtml, viewed October 2014.
- CALM (2002) Bioregional Summary of the 2002 Biodiversity Audit for Western Australia. Department of Conservation and Land Management, Western Australia.
- DEC (2011) Invasive Plant Prioritisation, Department of Environment and Conversation, Perth.
- DoE (2014) *Merops ornatus* in Species Profile and Threats Database, Department of the Environment, Canberra. Available from: <http://www.environment.gov.au/sprat> (Accessed October 2014).
- DPaW (2014) NatureMap: Mapping Western Australia's Biodiversity. Department of Parks and Wildlife. <http://naturemap.dpaw.wa.gov.au/default.aspx> (Accessed October 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.
- 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.

- Kendrick, P and Stanley, F (2001) Pilbara 4 (PIL4 – Roebourne synopsis). In A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002 (eds J. E. May & N. L. McKenzie). Department of Conservation and Land Management, WA.
- Pavey, C (2006) National Recovery Plan for the Greater Bilby *Macrotis lagotis*. Northern Territory Department of Natural Resources, Environment and the Arts, Northern Territory.
- Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A., Hennig, P (2004) An inventory and condition survey of the Pilbara Region, Western Australia, Technical Bulletin No. 92 Department of Agriculture Western Australia, South Perth.

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	<p>Threatened species: Specially protected under the <i>Wildlife Conservation Act 1950</i>, 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).</p> <p>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 <i>Calyptorhynchus latirostris</i> is specially protected under the <i>Wildlife Conservation Act 1950</i> as a threatened species with a ranking of Endangered.</p> <p>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.</p>
X	<p>Presumed Extinct species: Specially protected under the <i>Wildlife Conservation Act 1950</i>, 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).</p>
IA	<p>Migratory birds protected under an international agreement: Specially protected under the <i>Wildlife Conservation Act 1950</i>, 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.</p>
S	<p>Other specially protected fauna: Specially protected under the <i>Wildlife Conservation Act 1950</i>, listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.</p>
P1	<p>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.</p>

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.