Government of Western Australia
Department of Mines, Industry Regulation and Safety

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 9172/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **GMA Garnet Pty Ltd**

1.3. Property details

Property: Mining Lease 70/204
Local Government Area: Shire of Northampton
Colloquial name: Lynton North Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
28.33		Mechanical Removal	Mineral Production and associated activites

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 18 March 2021

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The vegetation of the application area is broadly mapped as the following Beard vegetation associations:
17: Shrublands; *Acacia rostellifera* thicket; and
371: Low forest; *Acacia rostellifera* (GIS Database).

A flora and vegetation survey was conducted over the application area and surrounding areas on Mining Lease 70/204 by GHD during December, 2019. The following vegetation associations were recorded within the application area (GHD, 2020):

VT01 - *Acacia rostellifera* open woodland to woodland
Acacia rostellifera open woodland to woodland over *Rhagodia preissii* subsp. *obovata*, *Pimelea microcephala* subsp. *microcephala*, *Olearia* sp. Kennedy Range (G. Byrne 66) and *Stylobasium spathulatum* open shrubland over *Austrostipa elegantissima* and **Ehrharta longiflora* open grassland to grassland. Other common species include *Alyogyne hakeifolia, Roepera fruticulosa, Commicarpus australis* and *Euphorbia boophthona*. Occurs over lower and middle slopes on brown to orange sands.

VT02 - *Melaleuca cardiophylla* shrubland to open shrubland.
Melaleuca cardiophylla shrubland to open shrubland over *Alyogyne hakeifolia*, *Pimelea microcephala* subsp. *microcephala* and *Rhagodia preissii* subsp. *obovata* open shrubland over *Ptilotus divaricatus* scattered forbland. Other common species include *Roepera fruticulosa*, *Pimelea gilgiana* and **Bromus diandrus*. Areas that contain deeper soils *Acacia rostellifera* was also recorded. Occurs on upper mid slopes on white-brown sand with limestone outcropping.

*denotes weed species

Areas of the application area have also been mapped as cleared.

Clearing Description

Lynton North Project.
GMA Garnet Pty Ltd proposes to clear up to 28.33 hectares of native vegetation within a boundary of approximately 29.07 hectares, for the purpose of mineral production and associated activities. The project is located approximately three kilometres north-east of Port Gregory, within the Shire of Northampton.

Vegetation Condition

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994);

to

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

Comment

The vegetation condition was derived from a vegetation survey conducted by GHD (2020).

The proposed clearing is for the expansion of the existing Lynton North mine and the widening of the existing haul road located to the south of the existing mining (GMA Garnet, 2020). These two clearing areas are located approximately 2.8 kilometres from each other (see figure 1).

Figure 1: Clearing permit application area

3. Assessment of application against Clearing Principles

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

Comments

Proposal is not likely to be at variance to this Principle

The clearing permit application area is located within the Geraldton Hills subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Geraldton Sandplains Bioregion (GIS Database). The Geraldton Hills subregion is characterised by proteaceous scrub-heath, rich in endemics, on the sandy earths of an extensive, undulating, and lateritic sandplain (CALM, 2002). York gum and jam woodlands occur on outwash plains associated drainage and valleys (CALM, 2002). Vegetation of the subregion is characterised by sand heaths with emergent *Banksia* and *Callitris*, york gum woodlands on alluvial plains, proteaceous heath and *Acacia* scrubs on limestones depending on depth of coastal-sand mantle, low closed forest of *Acacia rostellifera* on alluvial plains of the Greenough and Irwin River (CALM, 2002).

A reconnaissance flora and vegetation survey on Mining Lease 70/204 which includes the application area was conducted by GHD (2020) from 8-12 December 2019. The vegetation of the application area was dominated by *Acacia rostellifera* woodland (GHD, 2020). No Threatened or Priority Ecological Communities were identified as potentially occurring in the application area and none were identified during the field assessment (GHD, 2020; GIS Database).

A desktop assessment identified 455 flora species occurring within 10 kilometres of Mining Lease 70/204 (GHD, 2020). A total of 64 flora species representing 26 families and 50 genera were recorded within the greater survey area (GHD, 2020). The desktop assessment identified 48 conservation significant flora species within 10 kilometres of the application area, however 45 of these were determined to be unlikely to occur due to a lack of suitable habitat (GHD, 2020). Two Priority flora species were identified as possibly occurring due to the presence of suitable habitat, including *Anthocercis intricata* (Priority 3) and *Balladonia aervoides* (Priority 3). Neither of these species were identified during the field survey (GHD, 2020). Suitable habitat also exists for the Threatened flora species *Caladenia bryceana* subsp. *cracens* however, it was not recorded within the application area (GHD, 2020).

Fifteen species of weeds were recorded during the greater field survey of the application area and surrounding areas (GHD, 2020). None were listed as a Declared Pest according to the *Biosecurity and Agriculture Management Act 2007* (GHD, 2020). Weeds have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the introduction of weeds may be minimised by the implementation of a weed management condition.

The fauna habitat within the application area is mostly is good condition but has been impacted on by weeds

and feral grazers (GHD, 2020). The application area does not contain any significant habitat features (such as caves, hollows or water sources) (GHD, 2020). Whilst the vegetation is likely to contribute to an ecological linkage, is not likely to support a high level of faunal diversity.

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

Methodology CALM (2002)
GHD (2020)

GIS Database:
- IBRA Australia
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities 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.

Comments **Proposal may be at variance to this Principle**

There were two fauna habitats; Acacia woodlands and Melaleuca shrubland on limestone, recorded within the application area (GHD, 2020). Other areas were mapped as 'cleared' which were previously cleared and contained little or no native vegetation. The haul road area is mostly mapped as cleared as it contains the existing haul road. The pit expansion area has largely been uncleared and is mostly comprised of the Acacia woodlands with some areas of Melaleuca shrubland on limestone habitat on the eastern side of the area at the top of the slope. The Acacia woodlands habitat contains a high level of wood and branches from previously cleared trees which would provide suitable habitat for birds and reptiles (GHD, 2020). The Melaleuca shrubland on limestone habitat contains good ground cover, litter, debris and some areas of outcropping rock which would provide excellent cover for a range of fauna species (GHD, 2020). Both of these habitats have evidence of high grazing impacts, including from feral pigs (GHD, 2020). The patchy vegetation and drive tracks may increase the use of the area by feral animals (GHD, 2020).

There are a number of conservation significant fauna species which have been recorded in the local area (20 kilometre radius) (GHD, 2020; DBCA, 2007-). Based on the habitat present, the application area is not likely to be suitable for most of these species. An Osprey (*Pandion cristatus* – Migratory) was observed nesting in a dead Acacia tree in the vegetation between the haul road and pit expansion areas (GHD, 2020). The vegetation in the application is not likely to be significant habitat for this species.

The application area forms part of an ecological linkage running north-west to south-east with Hutt Lagoon to the west and large areas of cleared farmland to the east (GIS Database). This linkage is likely to be significant for fauna species in the local area. The haul road area is largely already cleared and the clearing of this area will not have a significant impact on the linkage. The vegetation within the pit expansion area has a greater significance in the maintenance of this ecological linkage. The proposed clearing will not sever the linkage, however, it may have an impact on the ability for fauna to move through the landscape. Potential impacts to fauna habitat may be minimised by the implementation of a staged clearing condition and rehabilitation condition.

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

Methodology DBCA (2007-)
GHD (2020)

GIS Database:
- Current Extent of Native Vegetation
- Imagery

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

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

There are no known records of Threatened flora within the application area (GIS Database). The Threatened flora species *Caladenia elegans* and *Caladenia bryceana* subsp. *cracens* have both been previously recorded within 5 kilometres of the application area (GHD, 2020; GIS Database). Suitable habitat for *Caladenia elegans* is not present within the application area (GHD, 2020).

The '*Melaleuca cardiophylla* shrubland to open shrubland' vegetation type was identified as being potential habitat for *Caladenia bryceana* subsp. *cracens* (GHD, 2020). A known location of this species was visited with staff from DBCA in August 2020. It was confirmed that this species was flowering and suitable habitat on Mining Lease 70/204 was searched for the species. Flora surveys of the application area did not record any species of Threatened flora (GHD, 2020). The habitat within the application area is also significantly degraded

through weeds and evidence of feral pig grazing (GMA Garnet, 2020).

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

Methodology GHD (2020)
GMA Garnet (2020)

GIS Database:
- Pre-European Vegetation
- 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 (TECs) located within or in close proximity to the application area (GIS Database).

A flora and vegetation survey of the application area did not identify any TECs (GHD, 2020).

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

Methodology GHD (2020)

GIS Database:
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities 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 Sandplains Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 44% of the pre-European vegetation still exists in the IBRA Geraldton Sandplains Bioregion (Government of Western Australia, 2019), which gives it a conservation status of 'Depleted' according to the Department of Natural Resources and Environment (2002). The local area (10 kilometres radius) has been extensively cleared for agricultural purposes.

The application area is broadly mapped as Beard vegetation associations 17: shrublands; *Acacia rostellifera* thicket; and 371: low forest; *Acacia rostellifera* (GIS Database). Approximately 83-88% of the pre-European extent of vegetation association 17 remains uncleared at the state, bioregional and subregional level (Government of Western Australia, 2019). Approximately 10% of the pre-European extent of vegetation association 371 remains uncleared at both the state, bioregional and subregional level (Government of Western Australia, 2019). This gives vegetation association 371 a conservation status of 'Vulnerable' according to the Department of Natural Resources and Environment (2002).

A vegetation and flora survey conducted by GHD (2020) mapped the vegetation of the application area at a much finer scale than the Beard vegetation mapping. The vegetation of the application area was mapped as VT01: *Acacia rostelifera* open woodland to woodland, which was inferred to represent Beard vegetation association 17: Shrublands; *Acacia rostellifera* thicket (GHD, 2020). Therefore the proposed clearing will not reduce the extent of Beard vegetation association 371. Over 83% of the pre-European extent of vegetation association 17 remains uncleared at the state, bioregional and subregional levels (Government of Western Australia, 2019).

The application area is located on the intermediate slopes between the dune system in the east and Hutt Lagoon and the coastal plains in the west. The majority of the area to the east of the application area has been cleared for agriculture (GIS Database). The application area is located within a relatively intact band of vegetation along the eastern edge of Hutt Lagoon (GIS Database). The haul road area is largely already cleared and the clearing of this area will not have a significant impact on the remnant. The vegetation within the pit expansion area has a greater significance in the maintenance of the ecological linkage the remnant provides. The proposed clearing will not sever the linkage, however it may have an impact on the ability for fauna to move through the landscape. The condition of the vegetation within the pit expansion area is mostly good condition due to the existing disturbances and weeds within the application area. Further clearing of the remnant may contribute to the continued decline in the condition of the remnant. Monitoring of previously rehabilitated areas has shown that the vegetation has the potential to return to a relatively similar composition and condition of the vegetation within the remnant (GMA Garnet, 2020). If cleared areas are rehabilitated in a timely manner, the long term impacts of the clearing may be mitigated. Potential impacts to remnant vegetation may be minimised by the implementation of a staged clearing condition and rehabilitation condition.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA managed lands (and post clearing %)
IBRA Bioregion – Geraldton Sandplains	3,136,037	1,404,424	~44	Depleted	18 (40)
IBRA Subregion – Geraldton Hills	1,964,262	901,446	~45	Depleted	18 (39)
Local Government – Northampton	1,258,428	930,228	~73	Least Concern	18 (24)
Beard vegetation associations – WA					
17	76,633	67,605	~88	Least Concern	11 (13)
371	32,816	3,499	~10	Vulnerable	0 (6)
Beard vegetation associations – Geraldton Sandplains Bioregion					
17	54,078	45,159	~83	Least Concern	11 (13)
371	32,807	3,499	~10	Vulnerable	0 (6)
Beard vegetation associations – Geraldton Hills subregion					
17	49,605	42,016	~84	Least Concern	11 (13)
371	32,807	3,499	~10	Vulnerable	0 (6)

* Government of Western Australia (2019)
** Department of Natural Resources and Environment (2002)

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 (2019)
GHD (2020)
GMA Garnet (2020)

GIS Database:
- Current Extent of Native Vegetation
- IBRA Australia
- 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 likely to be at variance to this Principle

There are no permanent watercourses or wetlands within the area proposed to clear (GHD, 2020; GIS Database). Minor non-perennial watercourses and surface flow lines can be seen adjacent to the application area (GIS Database), however the field survey did not record any drainage lines or vegetation associated with drainage lines (GHD, 2020).

The application area is situated approximately 300-400 metres east of Hutt Lagoon at its closest points (GIS Database). Hutt Lagoon is a wetland listed in the Directory of Important Wetlands in Australia as an important stop-over for migratory waterbirds and a good example of a coastal brine lake (DEC, 2009; GIS Database). The existing garnet mine east of Hutt Lagoon is described as a threat to the ecology of Hutt Lagoon in DEC's Resource Condition Report because of its potential to alter the hydrology and water quality of Hutt Lagoon if not managed properly (DEC, 2009). The threats of the garnet operations are focussed on operational aspects of groundwater use with groundwater draw down potentially causing a seawater intrusion and impacting nearby Utcha Swamp (DEC, 2009). Groundwater management during operations is assessed in the Mining Proposal under the *Mining Act 1978*. Any potential impacts of the proposed clearing to the adjacent vegetation of Hutt Lagoon may be reduced by the implementation of staged clearing and rehabilitation conditions.

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

Methodology DEC (2009)
GHD (2020)

GIS Database:
- Hydrography, 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 may be at variance to this Principle

The application area is interpreted to be in the Port Gregory soil-landscape zone which is summarised as coastal dunes, calcareous in places, with undulating sandplain on limestone (DPIRD, 2021). The application area has been mapped as Map Unit 231Ta_2 of the Tamala North System, described as low hills and relic dunes with some limestone outcrops forming a coastal band three to seven kilometres wide (DPIRD, 2021). Water erosion has the potential to occur in cleared areas due primarily to the land slope (DPIRD, 2021). However, rainfall events that generate significant run-off are infrequent and the surface flow is generally very localised (DPIRD, 2021).

There is the risk of wind erosion from the proposed clearing due to the loose sandy nature of the soils and when cleared, these soils have the potential to mobilise under strong prevailing winds (DPIRD, 2021). This may impact on neighbouring and surrounding vegetation and properties. GMA Garnet Pty Ltd has protocols to manage risks associated with dust and include such measures as (GMA Garnet, 2020):

- Use of water trucks on sandy and unsealed areas
- Undertaking staged clearing to minimise open areas
- Undertaking rehabilitation as soon as practicable to reduce open areas
- Scheduling topsoil stripping to avoid periods of high winds
- Apply dust suppressant to overburden/topsoil stockpiles
- Cease activities where causing dust lift-off where dust management measures have not prevented dust generation affecting sensitive receptors

Based on the above, the proposed clearing may be at variance to this Principle. Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition and rehabilitation condition.

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

Methodology DPRID (2021)
GMA Garnet (2020)

(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 in the vicinity of the application area. The nearest DBCA managed land is the Utcha Well Nature Reserve which is located approximately 6.5 kilometres north-west of the application area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.

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

Methodology 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

There are no watercourses within the application area and the flora survey of the area did not identify any vegetation as riparian (GHD, 2020: GIS Database). The nearest waterbody is Hutt Lagoon located approximately 350 metres west of the application area (GIS Database). The application area is located on a slope which can cause localised areas of erosion however, the risk of water erosion in the area is low (DPRID, 2021). The proposed clearing is not likely to cause sediment runoff into the nearby Hutt Lagoon.

There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). In the local area, stable or declining groundwater levels are observed in landscapes that are substantially cleared for agriculture (DPIRD, 2021). The application area has already been significantly cleared

for mining activities.

The proposed clearing is unlikely to cause deterioration in the quality of underground water.

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

Methodology DPIRD (2021)
GHD (2020)

GIS Database:
- Hydrography, Linear
- Public Drinking Water Source Areas

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

Comments

Proposal is not likely to be at variance to this Principle

There are no permanent water courses or waterbodies within the application area (GIS Database). The application area is located on a slope and any removal of vegetation has the potential to increase the velocity of water runoff following rainfall events. Based on the soils present the proposed clearing has a low risk of increasing the incidence or intensity of natural flooding events (DPIRD, 2021).

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

Methodology DPIRD (2021)

GIS Database:
- Hydrographic Catchments - Catchments
- Hydrography, linear

Planning Instrument, Native Title, previous EPA decision or other matter.

Comments

The clearing permit application was advertised on 18 January 2021 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. There were two submissions received, one voicing support for the application and the other objecting to the application due to concerns about Aboriginal heritage.

There is one native title claim (WC2019/008) over the area under application (DPLH, 2021). This claim has been determined by the Federal Court 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*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2021). 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 Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works

Methodology DPLH (2021)

4. References

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.

DBCA (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Biodiversity, Conservation and Attractions. https://naturemap.dbca.wa.gov.au/ (Accessed 8 March 2021).

DEC (2009) Resource Condition Report for a Significant Western Australian Wetland - Hutt Lagoon. Department of Environment and Conservation, Perth, Western Australia

DPIRD (2021) Advice received in relation to Clearing Permit Application CPS 9172/1. Office of the Commissioner of Soil and Land Conservation, Department of Primary Industries and Regional Development, Western Australia, January 2021.

DPLH (2021) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS (Accessed 8 March 2021).

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 (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth. https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics

GHD (2020) Lynton Mine Expansion Biological Survey. Report prepared by GHD Pty Ltd for GMA Garnet Pty Ltd, February 2020.

GMA Garnet (2020) GMA Mining Australia Mining Tenement M70/204 Supporting Documentation for Native Vegetation Clearing Permit Application. Report prepared by GMA Garnet Pty Ltd, December 2020.

Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.

5. Glossary

Acronyms:

BC Act	*Biodiversity Conservation Act 2016,* Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DoEE	Department of the Environment and Energy (now DAWE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	*Environmental Protection Act 1986*, Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	*Rights in Water and Irrigation Act 1914*, Western Australia
TEC	Threatened Ecological Community

Definitions:

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

T **Threatened species:**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**
Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife*

Conservation (Specially Protected Fauna) Notice 2018 for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN **Endangered species**
Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**
Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct Species:

EX **Extinct species**
Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW **Extinct in the wild species**
Species that *"is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species:

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI **Migratory species**
Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD **Species of special conservation interest (conservation dependent fauna)**
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation*

(Specially Protected Fauna) Notice 2018.

OS **Other specially protected species**
Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P **Priority species:**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 **Priority One - Poorly-known species**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species**
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species**
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations 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 locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

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 are close to qualifying for vulnerable but are not listed as Conservation Dependent.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.