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.: 8512/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Aurenne Parker Range Pty Ltd**

1.3. Property details

Property: Mining Lease 77/893
Local Government Area: Shire of Yilgarn
Colloquial name: Buffalo Gold Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 25 July 2019

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 association: 1068: Medium woodland; salmon gum, morrel, gimlet and *Eucalyptus sheathiana* (GIS Database).

A flora and vegetation survey was conducted over the application area by Botanica Consulting during November 2012. The following four vegetation associations were recorded, from within two major vegetation groups, in the application area (Botanica, 2019):

Eucalypt Woodland

1. **CLP-EWI:** Low forest of regrowth *Eucalyptus* sp. (sterile) over open mid shrubland of *Eremophila scoparia* and open low shrubland of *Eremophila maculata* on clay–loam plain;

2. **CLP-EW2:** Low woodland of *Eucalyptus salmonophloia* / *Eucalyptus salubris* over tall shrubland of *Melaleuca pauperiflora* subsp. *fasigata* and open chenopod shrubland *of Atriplex vesicaria* / *Tecticornia disarticulata* on clay-loam plain;

3. **CLP-EW3:** Low woodland of *Eucalyptus longicornis* over tall shrubland of *Melaleuca pauperiflora* subsp. *fastigata* and open chenopod shrubland of *Atriplex vesicaria* / *Tecticornia disarticulata* on clay-loam plain; and

Mallee Woodland and Shrubland

4. **HS-MWS1:** Very open tree mallee of *Eucalyptus capillosa* subsp. *polyclada* / *Eucalyptus loxophleba* subsp. *lissophloia* over low heathland of *Allocasuarina campestris* and low shrubland of *Microcybe multiflora* on laterite rise.

Clearing Description

Buffalo Gold Project.
Aurenne Parker Range Pty Ltd proposes to clear up to 117.3 hectares of native vegetation within a boundary of the same area, for the purpose of mineral production. The project is located approximately 21 kilometres south east of Marvel Loch, within the Shire of Yilgarn.

Vegetation Condition

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

Comment

The vegetation condition was described in the vegetation survey conducted by Botanica Consulting using a scale adapted from the Keighery scale and the Trudgen scale (Botanica, 2019; Keighery, 1994; Trudgen, 1991), and has been converted to the Keighery scale (Keighery, 1994).

The proposed clearing is over the same application area as previous permit 5621/1 which expired in July 2017.

The application area includes some areas historically cleared for mining activity, and some disturbed areas have regrowth; following mining and post fire events (Botanica, 2019).

3. 21/1Assessment 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 clearing permit application area is located within the Merredin subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Avon Wheatbelt Bioregion (GIS Database).

The Merredin subregion is characterised by gently undulating landscape of low relief, supporting Proteaceous scrub heaths, rich in endemics, on residual lateritic uplands, and derived sandplains; with mixed eucalypt, *Allocasuarina huegliana* and Jam-York Gum woodlands (CALM, 2002).

A flora and vegetation survey of the application area was undertaken by Botanica Consulting in November 2012 (Botanica, 2019). The survey identified two major vegetation groups; represented by a total of 52 flora taxa, from 34 genera and 18 families (Botanica, 2019). No Threatened flora or Threatened Ecological Communities (TECs) were recorded in the application area.

A desktop study found patches of a recently listed TEC approximately four kilometres to the west of the application area (GIS Database). The TEC is known to occur in the Merredin subregion (Commonwealth of Australia, 2016). The Eucalypt woodlands of the WA Wheatbelt is listed as a PEC at a State level and was recently listed as a TEC under the *Environmental Protection and Biodiversity Conservation Act 1999* (DBCA, 2019).

The nationally listed woodlands only includes: patches that are large, remain in good condition, and do not include woodlands dominated by mallee trees (Commonwealth of Australia, 2016). Whereas the application area includes: patches of vegetation that are small and fragmented, degraded from historic mining activities and woodlands dominated by mallee trees (Botanica, 2019; GIS Database). Therefore, the majority of the application area would not fit the description of the listed Eucalypt woodland.

Therefore the proposed clearing is not likely to impact on the Eucalypt woodlands of the WA Wheatbelt PEC or TEC.

One Priority flora *Calamphoreus inflatus* (Priority 4) was recorded in the area, however, this species is well represented at a regional scale, with populations recorded outside the application area within the Coolgardie and Mallee Bioregions (Botanica, 2019). The clearing will impact the species at a local level; however, it is unlikely to impact these species at a regional scale.

A desktop study of the application area identified the Priority Ecological Community (PEC), Parker Range vegetation complexes (Priority 3) (GIS Database). The Parker Range PEC covers an area of approximately 40,000 hectares (GIS Database), and the vegetation complex is described as: *Hakea pendula* Tall Shrubland (is of particular significance). *Eucalyptus sheathiana* with *E. transcontinentalis* and / or *E. eremophila* woodland on sandy soils at the base of ridges and low rises: *E. longicornis* with *E. corrugata* and *E. salubris* or *E. myriadena* woodland on broad flats; *E. salmonophloia* and *E. salubris* woodland on broad flats; *Allocasuarina acutivalvis* and *A. corniculata* on deeper sandy soils of lateritic ridges: *E.capillosa* subsp. *polyclada* and / or *E. loxohleba* over *Hakea pendens* thicket on skeletal soils on ridges (laterites, breakaways and massive gossanous caps); and *Callitris glaucophylla* low open woodland on massive greenstone ridges (DBCA, 2019a). Department of Biodiversity, Conservation and Attractions (DBCA), Species and Communities Branch advice is that existing mapping of the PEC is indicative only and the descriptions of the vegetation system are broad scale (DBCA, 2019b).

Analysis of flora survey data from the broader Parker Range area and surveys undertaken in the application area, to determine the similarities between species composition and vegetation communities, suggest that; species composition of the vegetation complex that characterises the Parker Range PEC appear to be similar to vegetation associations CLP-EW2, CLP-EW3, and potentially HS-MWS1 recorded within the application area (Botanica, 2019).

DBCA, Species, and Communities Branch advice is that vegetation units located on the Parker Range are the Parker Range PEC (DBCA, 2019).

The Vegetation associations identified within the application area are not restricted and their distribution extends into the broader Parker Range area (Botanica, 2019). The proposed clearing, of at most 117.3 represents less than 0.3 % of the Parker Range PEC. Given the minor area of clearing and that the vegetation was previously disturbed by historic mining activities; the proposed clearing is unlikely to significantly impact the PEC.

The application is within the vicinity of the Great Western Woodlands (Botanica, 2019). The Great Western Woodlands strategy is focused on integrated management of values such as biodiversity at a landscape scale (Government of Western Australia, 2010). The application area has previously been altered by multiple

disturbance and the vegetation survey indicates that the application area is not an area of high biodiversity (Botanica, 2019). The proposed clearing is unlikely to have any significant impact on the conservation values of the Great Western Woodlands

The following weed species were recorded in the application area: *Centaurea melitensis* (Maltese cockspur) and *Dittrichia graveolens* (Stinkwort). Neither of these species are listed as a declared plant under the *Biosecurity and Agriculture Management Act 2007* (DPIRD, 2019). Clearing activities may spread or introduce weeds, which have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

Four fauna habitats were recorded within the survey area. A desktop assessment found records of a total of 124 vertebrate fauna, and 13 invertebrate fauna species in the broader area (Botanica, 2019).

The vegetation associations, fauna habitats and landform types present within the application area, are well represented in surrounding areas (Botanica, 2019). The application area is unlikely to represent an area of higher biodiversity than surrounding areas, in either a local or regional context.

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

Methodology

Botanica (2019)
CALM (2002)
Commonwealth of Australia (2016)
DBCA (2019a)
DBCA (2019b)
DPIRD (2019)
Government of Western Australia (2010)

GIS Database:
- IBRA Australia
- Pre-European Vegetation
- Threatened and Priority Flora
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers
- Threatened Fauna

(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 not likely to be at variance to this Principle

The following four broad fauna habitats have been recorded within the survey area (Botanica, 2019):

1. Clay-Loam Plain Regrowth Eucalypt Woodland;
2. Clay Loam Plain Eucalypt Woodland;
3. Hillslope Mallee Woodland and Shrubland; and
4. Cleared Vegetation Disturbed mined area (that has largely not regenerated).

A desktop assessment found records of a total of 124 vertebrate fauna, 66 bird species, eight mammal, and 34 reptile species in the broader survey area (Botanica, 2019). A total of 13 invertebrate fauna species had the potential to occur within the broader area (Botanica, 2019). Based on the fauna habitats and previous records, Botanica (2019) identified fauna species of conservation significance that may occur in the application area, this included; Lake Cronin Snake (*Paroplocephalus atriceps*) (Priority 3), Malleefowl (*Leipoa ocellata*) (Vulnerable), Peregrine Falcon (*Falco peregrinus*) (OS) and Central Long-eared Bat (*Nyctophilus major tor*) (Priority 3).

However, no conservation significant fauna species were recorded in the application area. Fauna habitats within the application are common and widespread in the region (Botanica, 2019). The proposed clearing of 117.3 hectares is not likely to impact significant fauna habitat.

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

Methodology

Botanica (2019)

GIS Database:
- Imagery
- Pre-European Vegetation
- Threatened Fauna

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

Comments

Proposal is not likely to be at variance to this Principle

There are no known records of Threatened flora within the application area (GIS Database). Flora surveys of the application area did not record any species of Threatened flora (Botanica, 2019).

The vegetation associations within the application area extend beyond the application area into the broader Parker Range area (Botanica, 2019; GIS Database). The vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened (rare) flora.

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

Methodology

Botanica (2019)

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) in the application area (GIS Database).

A flora and vegetation survey of the application area and did not identify any TECs (Botanica, 2019).

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

Methodology

Botanica (2019)

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 at variance to this Principle

The application area falls within the Avon Wheatbelt Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 19% of the pre-European vegetation still exists in the IBRA Avon Wheatbelt Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 1068: Medium woodland salmon gum, morrrel, gimlet and *Eucalyptus sheathiana* (GIS Database). More than 50% of the pre-European extent of this vegetation association remains uncleared at a State level, therefore, vegetation association 1068 has a conservation status of 'Least Concern' at a State level (Department of Natural Resources and Environment, 2002; Government of Western Australia, 2019). However, approximately 50% of this pre-European vegetation association remains at a bioregional and subregional level, therefore, Beard vegetation association 1068 is on the threshold of the ecological vegetation class scale of 30- 50% and considered 'Depleted' at a bioregional level (Department of Natural Resources and Environment, 2002; Government of Western Australia, 2019).

The national objectives and targets for biodiversity conservation recognise that the retention of 30% or more of the pre-clearing extent of a vegetation association is necessary if Australia's biological diversity is to be protected (DEH, 2001). Beard vegetation association 1068 is above the 30% threshold at a State, bioregional and subregional level. However, the Avon Wheatbelt bioregion and the Merredin subregion themselves are considered 'Vulnerable' with less than 30% of vegetation remaining. The Yilgarn local government area is considered of 'Least Concern' with more than 50% of vegetation remaining.

While the proposed clearing is within a region that has been extensively cleared; the application area is divided by a road and historical mining activity has impacted the condition of the vegetation, therefore, the vegetation within the application area is not considered a significant remnant of vegetation (Botanica, 2019; GIS Database).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA managed lands
IBRA Bioregion – Avon Wheatbelt	9,517,109	1,761,187	~19	Vulnerable	2(10)
IBRA Subregion – Merredin	6,524,180	1,367,565	~21	Vulnerable	3(9)
Local Government – Yilgarn	3,042,759	2,480,372	~82	Least Concern	25(31)
Beard vegetation associations – WA					
1068	268,900	142,088	~53	Least Concern	6(~12)
Beard vegetation associations – Avon Wheatbelt Bioregion					
1068	74,875	37,249	~50	Depleted	3(7)
Beard vegetation associations – Merredin Bioregion					
1068	74,875	37,249	~50	Depleted	3(7)

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

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

Methodology DEH (2001)
Department of Natural Resources and Environment (2002)
Government of Western Australia (2019)

GIS Database:
- IBRA Australia
- Pre-European Vegetation

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

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

One minor non-perennial creek line passes through the application area (GIS Database). The creek line terminates in a non-perennial lake, which at its closest point is approximately 0.5 kilometres to the east of the application area. Creek lines in the region are dry for most of the year, and only flow and hold water for short durations following significant rainfall events (Botanica, 2019).

None of the vegetation associations recorded during the flora and vegetation survey are described as growing in association with watercourses or wetlands (Botanica, 2019). The vegetation surrounding the creekline is comprised of: Low woodland of *Eucalyptus salmonophloia* / *Eucalyptus salubris* over tall shrubland of *Melaleuca pauperiflora* subsp. *fasigata* and open chenopod shrubland of *Atriplex vesicaria* / *Tecticornia disarticulata* on clay-loam plain, which is not exclusively associated with the creek line and is widespread throughout the area (Botanica, 2019; GIS Database).

Based on the above, the proposed clearing may be at variance to this Principle. Potential impacts may be minimised by the implementation of a watercourse management condtion.

Methodology Botanica (2019)

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

A desktop study illustrates minimal variation between contour lines across the application area, indicating that the application area is relatively flat (GIS Database). Therefore, there is little slope to impel movement of soil

and water, and hence cause erosion.

Soil mapping defines the majority of the application area as; undulating plains with some low dunes and seasonal lakes, with soils of brown and grey brown calcareous earth (Northcote, K. H. et al. 1960-68)

The proposed clearing of up to 117.3 hectares of native vegetation within a boundary of approximately 117.3 hectares, for the purpose of mineral production is unlikely to cause appreciable land degradation.

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

Methodology Northcote, K. H. et al. (1960-68)

GIS Database:
- Soils, Statewide
- Topgraphic Contours, Statewide

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

Comments **Proposal 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 (formerly DPaW) managed land is the Jibadji Nature Reserve which is located approximately 19.5 kilometres east 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 Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to surface water flows.

The proposed clearing of 117.3 hectares 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 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**

The climate of the region is semi-arid, with a low average rainfall at the nearest weather station at Southern Cross Airfield of approximately 306 millimetres per year (BoM, 2019). Drainage lines in the area are dry for most of the year, only flowing and holding surface water for short durations following significant rainfall (Botanica, 2019).

There are no permanent water courses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region and temporary localised flooding may occur briefly following heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.

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

Methodology BoM (2019)
Botanica (2019)

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 17 June 2019 by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WC2017/007) over the area under application (DPLH, 2019). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2019). 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 (2019)

4. References

BoM (2019) Bureau of Meteorology Website – Climate Data Online, Southern Cross Airfield (012320). Bureau of Meteorology. (Accessed 15 July 2019).

Botanica (2019) Flora, Vegetation and Fauna Survey of the Buffalo Gold Project. Report prepared for Goldfields Technical Services / Aurenne Parker Range Pty Ltd, by Botanica Consulting, May 2019.

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

Commonwealth of Australia (2016). Eucalypt Woodlands of the Western Australian Wheatbelt: a nationally protected ecological community. https://www.environment.gov.au/system/files/resources/27022643-7a75-47bf-95b1-66d36bff9109/files/guide-eucalypt-woodlands-wa-wheatbelt.pdf (Accessed 12 July 2019)

DBCA (2019a) Priority Communities for Western Australia Version 28. Species and Communities Program, Department of Biodiversity, Conservation and Attractions, 17 January 2019.

DBCA (2019b) Advice received in relation to Clearing Permit Application CPS 8512/1. Environmental Management Branch. Department of Biodiversity, Conservation and Attractions, Western Australia, July 2019.

DEH (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Department of the Environment and Heritage, Canberra, 2001.

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.

DPIRD (2019) Declared Plants. Department of Primary Industries and Regional Development. https://www.agric.wa.gov.au/pests-weeds-diseases/weeds/declared-plants (Accessed 26 June 2019).

DPLH (2019) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage. http://maps.daa.wa.gov.au/AHIS/ (Accessed 15 July 2019).

Government of Western Australia (2010) Biodiversity and Cultural Conservation Strategy for the Great Western Woodlands, Department of Environmental and Conservation https://www.dpaw.wa.gov.au/management/off-reserve-conservation/the-great-western-woodlands (Accessed 15 July 2019).

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

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

Northcote, K. H. et al. (1960-68) Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

Trudgen, M.E. (1991) Vegetation Condition Scale, in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc). and the Tree Society (Inc), Perth.

5. Glossary

Acronyms:

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)
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
DEE	Department of the Environment and Energy, Australian Government
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)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora
DoE	Department of the Environment, Australian Government (now DEE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
EP Act	*Environmental Protection Act 1986*, 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.