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.: 9212/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Montague Resources Australia Pty Ltd**

1.3. Property details

Property: Exploration Licence 77/2244
Local Government Area: Shire of Yilgarn
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 13 May 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 association: 1413: Shrublands; acacia, casuarina & melaleuca thicket (GIS Database).

A detailed flora and vegetation survey was conducted over the application area and surrounds by AECOM during October and November, 2019. The following vegetation associations were recorded within the application area (AECOM, 2019):

- EbGpMc – Shrubland: *Eucalyptus burracoppinensis* low scattered trees over *Grevillea pterosperma*, *Hakea multilineata* and *Acacia assimilis* subsp. *assimilis* tall shrubland over *Melaleuca cordata*, *Gastrolobium floribundum* and *Allocasuarina acutivalvis* subsp. *acutivalvis* low shrubland. Recorded on rocky ridges on skeletal soils;
- EcAaGa – Shrubland: *Eucalyptus cylindriflora* and *Santalum acuminatum* low woodland over *Allocasuarina acutivalvis* subsp. *acutivalvis*, *Acacia mackeyana* and *Melaleuca hamata* mid to tall shrubland over *Grevillea acuaria*, *Dodonaea bursariifolia* and *Phebalium tuberculosum* low shrubland;
- EeAM – Mallee Woodland: *Eucalyptus eremophila*, *Eucalyptus* sp. 1 and *Eucalyptus* sp. 2 low mallee woodland over *Acacia lachnocarpa* (P1), *Pultenaea arida* and *Melaleuca halmaturorum* low open shrubland;
- EsHsMc – Shrubland: *Eucalyptus eremophila*, *Allocasuarina acutivalvis* subsp. *acutivalvis* and *Callitris preissii* low isolated trees over *Hakea scoparia* subsp. *scoparia*, *Hakea multilineata* and *Melaleuca condylosa* tall shrubland over *Melaleuca cordata*, *Acacia yorkrakinensis* subsp. *acrita* and *Cyathostemon heteranthera* low shrubland; and
- EsMhPo – Tall Shrubland: *Eucalyptus* sp. 3 and *Santalum acuminatum* low open woodland over *Melaleuca hamata*, *Hakea multilineata* and *Acacia yorkrakinensis* subsp. *acrita* tall closed shrubland over *Phebalium obovatum*, *Hibbertia pungens* and *Hakea erecta* mid to low shrubland.

Clearing Description

Montague Resources Australia Pty Ltd proposes to clear up to 3.71 hectares of native vegetation within a boundary of approximately 101.89 hectares, for the purpose of mineral exploration. The project is located approximately 82 kilometres south-southeast of Southern Cross, within the Shire of Yilgarn.

Vegetation Condition

Pristine: No obvious signs of disturbance (Keighery, 1994).

To

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

Comment

The vegetation condition was derived from a vegetation survey conducted by AECOM (2019).

The proposed clearing will allow for the establishment of 8.9 kilometres of access track, at 3 metres width, and 26 drill pads, each 20 metres by 20 metres in size. Existing drill lines and access tracks from historical disturbance will be utilised where possible to minimise the extent of new clearing.

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 application area is located within the Southern Cross sub-region of the Coolgardie Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Southern Cross subregion consists of diverse Eucalyptus woodlands (*Eucalyptus salmonophloia*, *E. salubris*, *E. transcontinentalis*, *E. longicornis*) and is rich in endemic eucalypts which occur around salt lakes, on low greenstone hills, valley alluvials and broad plains of calcareous earths (CALM, 2002).

The proposal is located wholly within the Jilbadji ('C' Class) Nature Reserve which is an area of approximately 200,000 hectares (GIS Database). The environmental values of the Jilbadji Nature Reserve include; large reserve size, importance as a fauna refugia site, high diversity of fauna species and flora species endemism. The Jilbadji Nature Reserve is a significant area in maintaining existing ecological processes at a regional scale. It is substantially larger than the average reserve area in the Wheatbelt of 114 hectares and therefore is a potentially important refugium for many species, including invertebrates and smaller vertebrates (DAWE, 2021). The Nature Reserve also supports a very high diversity of reptiles, with 38 species, and a high diversity of native mammal species, with 15 species (DAWE, 2021).

There are no known Threatened Ecological Communities or Threatened flora within the application area (AECOM, 2019; Blueprint, 2021; GIS Database).

The majority of the application area is located within the Priority Ecological Community (PEC) 'Ironcap Hills vegetation complexes (Mt Holland, Middle, North and South Ironcap Hills, Digger Rock and Hatter Hill) (banded ironstone formation)' - Priority 3. This PEC is described as 'Assemblages on skeletal soils derived from banded ironstone and massive laterites on deeper soils derived from greenstone or decomposing laterites.' It is inferred that this PEC mainly encompasses the banded ironstone formations within this region (Blueprint, 2021). As there were no Banded Ironstone Formations within the survey areas, it is unlikely that the proposed clearing will impact on the values of this PEC.

Seven Priority flora species have been identified during the broader flora survey (AECOM, 2019; Blueprint, 2021):

- *Acacia lachnocarpa* – Priority 1;
- *Grevillea lullfitzii* – Priority 1;
- *Microcorys elatoides* – Priority 1;
- *Acacia undosa* – Priority 3;
- *Verticordia stenopetala* – Priority 3;
- *Grevillea neodissecta* – Priority 4; and
- *Microcorys sp. Forrestania* (V. English 2004) – Priority 4.

Grevillea lullfitzii, *Verticordia stenopetala, Grevillea neodissecta* and *Microcorys sp. Forrestania* (V. English 2004) are all outside of the proposed disturbance areas.

There are approximately 250 *Acacia lachnocarpa* within five metres of the proposed access track. AECOM (2019) identified 6,866 individuals of *Acacia lachnocarpa* locally so the maximum potential impact to the tenement population is 3.64%.

There are 205 *Microcorys elatoides* recorded within five metres of the proposed access track, and based on mapping undertaken by Montague Resources Australia Pty Ltd, the maximum potentially to be impacted would be 80 individuals. As 10,573 individuals have been identified, the maximum local impact would be 1.93%. Montague Resources Australia Pty Ltd are currently in the final stages of developing a Conservation Management Plan, and have committed to flagging all Priority flora prior to operations commencing and avoiding where possible (Blueprint, 2021).

AECOM (2019) identified 272 *Acacia undosa* from two populations, with previous surveys of the area identifying 19,688 *Acacia undosa* from at least a further ten populations. Based on mapping provided by Montague Resources Australia Pty Ltd, only a small percent of the *Acacia undosa* identified by AECOM (2019) will be impacted by the proposed clearing in relation to the population present within the local and regional area (AECOM, 2019).

No introduced flora species were recorded within the application area (Blueprint, 2021). 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 proposed clearing may be minimised by the implementation of a weed management condition.

Three fauna habitats are present within the application area: 'Tall Closed Shrubland with Emergent Eucalypts,' 'Mallee Woodland over Scattered Shrub' and 'Open Shrubland on Skeletal Soils.' Each of these fauna habitats are well represented in the local and regional area (AECOM, 2019; Blueprint, 2021). Based on the small scale of clearing and the low impact nature of the proposed activities, it is unlikely that the proposed clearing will significantly impact on fauna species or their faunal habitat. Fauna diversity is not likely to be higher than other areas within the Jilbadji Nature Reserve.

The vegetation associations, fauna habitats and landform types present within the application area, are well represented in surrounding areas (AECOM, 2019; Blueprint, 2021; GIS Database). 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

AECOM (2019)
Blueprint (2021)
CALM (2002)
DAWE (2021)

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

Comments

Proposal may be at variance to this Principle

A Vertebrate Fauna Survey was completed over the project tenement comprising a desktop assessment and field survey on 30 and 31 October 2019 (AECOM, 2019).The following three fauna habitats have been recorded within the application area (AECOM, 2019; Blueprint, 2021):

- Tall Closed Shrubland with Emergent Eucalypts;
- Mallee Woodland over Scattered Shrub; and
- Open Shrubland on Skeletal Soils.

These fauna habitats are common and widespread in the local and regional area (Blueprint, 2021).

No conservation significant fauna have been identified within the application area, however, three species of conservation significance have been identified as potentially occurring within the broader survey area (AECOM, 2019; Blueprint, 2021):

- *Dasyurus geoffroyii* (Chuditch – Vulnerable);
- *Leipoa ocellata* (Malleefowl – Vulnerable);
- *Macropus Irma* (Western Brush Wallaby – Priority 4).

Chuditch currently only occur in areas dominated by sclerophyll forest or drier woodland, heath and mallee shrubland (AECOM, 2019; Blueprint, 2021). No Chuditch or indirect evidence of this species was observed, however, there are numerous records of Chuditch in the area and it is likely to utilise the habitat present (AECOM, 2019). The Chuditch requires adequate numbers of suitable den and refuge sites (horizontal hollow logs or earth burrows) and sufficient prey biomass (large invertebrates, reptiles and small mammals) to survive. During the field assessment many diggings were observed that could be from Chuditch or rabbits (AECOM, 2019). The conical shape of the diggings implied they were created by a small marsupial however this could not be confirmed (AECOM, 2019).

Suitable habitat for Malleefowl was identified in the broader survey area (AECOM, 2019; Blueprint, 2021), however, no Malleefowl mounds were recorded during the fauna survey within the application area. The fauna survey confirmed a very small amount of breeding and foraging habitat may be impacted if tree and shrubland vegetation is removed (AECOM, 2019. A large amount of similar habitat is located nearby and in surrounding areas (AECOM, 2019).

Western Brush Wallaby habitat was identified in the application area and surrounds. Its preferred habitat consists of open sclerophyll forest or woodland and favours open flats over scrub thickets (AECOM, 2019). However, it doesn't seem to venture into open pasture areas adjacent to its bushland refuges (AECOM, 2019). It is also found in larger areas of mallee and heathland in the wheat belt and is uncommon in wet sclerophyll forest (AECOM, 2019). Large amounts of similar habitat are located nearby the application area (AECOM, 2019; GIS Database).

The proposed clearing is not expected to significantly impact any fauna species (including the Chuditch, Malleefowl or Western Brush Wallaby) due to the abundance of similar habitat nearby, small size and linear nature of the proposed clearing, and rehabilitation being undertaken within six months. A Conservation Management Plan is also being developed to assist in minimising potential impacts (Blueprint, 2021).

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

Methodology

AECOM (2019)
Blueprint (2021)

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, 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). Flora surveys of the application area did not record any species of Threatened flora (AECOM, 2019).

The vegetation associations within the application area are common and widespread within the region (Blueprint, 2021; GIS Database), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened flora.

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

Methodology

AECOM (2019)
Blueprint (2021)

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 (AECOM, 2019).

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

Methodology

AECOM (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 Coolgardie Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 98% of the pre-European vegetation still exists in the IBRA Coolgardie Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 1413: Shrublands; acacia, casuarina & melaleuca thicket (GIS Database). Approximately 77% of the pre-European extent of this vegetation association remains uncleared at the state level and approximately 98% remains at the bioregional level (Government of Western Australia, 2019).

Therefore, the application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA managed lands
IBRA Bioregion – Coolgardie	12,912,204	12,648,491	~98	Least Concern	16.37
Beard vegetation associations – WA					
1413	1,679,916	1,286,855	~77	Least Concern	13.22
Beard vegetation associations – Coolgardie Bioregion					
1413	1,061,212	1,042,554	~98	Least Concern	18.18

* 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 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 is not at variance to this Principle**
There are no watercourses or wetlands within the area proposed to clear (AECOM, 2019; Blueprint, 2021; GIS Database). No riparian vegetation has been identified within the application area (AECOM, 2019; Blueprint, 2021; GIS Database).

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

Methodology AECOM (2019)
Blueprint (2021)

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**
The proposal is located in the Jilbadji Nature Reserve (GIS Database). This reserve is well vegetated and the vegetation within the reserve is contiguous (DAWE, 2021). It is unlikely that the small amount of native vegetation clearing required for the purpose of exploration will cause soil or wind erosion. As the proposal requires minimal disturbance (linear clearing) and a small amount of native vegetation clearing, it is unlikely the proposal will change salinity levels, impact nutrient export or soil acidification.

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

Methodology DAWE (2021)

GIS Database:
- DPaW Tenure
- Landsystem Rangelands
- Soils, 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 at variance to this Principle**
The application area is located within the Jilbadji Nature Reserve. This reserve is a listed Environmentally Sensitive Area (ESA) on the Register of the National Estate (AECOM, 2019; Blueprint, 2021; GIS Database). The environmental values of the Jilbadji Nature Reserve include; large reserve size, importance as a fauna refugia site, high diversity of fauna species and flora species endemism (DAWE, 2021).

A number of species present at Jilbadji have strong Gondwanan associations including the Western Pygmy-possum (*Cercartetus concinnus*), the Malleefowl (*Leipoa ocellata*) and the Bush Thick-knee (*Burhinus grallarius*) (DAWE, 2021) Jilbadji Nature Reserve is located in the north-eastern part of the Wheatbelt region which is rich in endemic species at a national scale. There are 20 fauna species that are endemic either to the south-west region, or to Western Australia at Jilbadji Nature Reserve. There are 12 endemic reptile species, including three geckos: the Reticulated Velvet Gecko (*Oedura reticulata*) and two other gecko species including *Diplocdactylus maini* and *D. assimilis*. Seven species of endemic skink also occur in the reserve. There are also 26 plant species endemic either to the Wheatbelt or to Western Australia, including 20 Eucalypt species located at Jilbadji Nature Reserve (DAWE, 2021).

Although the proposed clearing occurs in the Jilbadji Nature Reserve, it is unlikely the clearing will significantly impact on the environmental values of the nature reserve, given the small amount of clearing proposed, the low impact nature of the clearing and the large size of the existing nature reserve (DAWE, 2021; GIS Database). The application area has also been used historically for the purpose of mineral exploration activities and has therefore been subjected to minor disturbance. New disturbance will be minimised wherever possible by using existing access tracks, grid lines and previously disturbed areas (Blueprint, 2021).

As part of their exploration approval process, the applicant is required to submit a Conservation Management Plan (CMP) to the Department of Biodiversity, Conservation and Attractions and the Department of Mines, Industry Regulation and Safety, outlining the proposed exploration activities and management of environmental impacts. A condition of the tenement requires exploration to be undertaken in accordance with the CMP. Potential impacts to the Jilbadji Nature Reserve may further be minimised by the implementation of a rehabilitation condition. The condition will require rehabilitation to be completed within six months in order to be consistent with the proposed conservation management plan and Programme of Work, as well as to allow for monitoring to ensure the establishment of similar species composition. Potential impacts to Jilbadji Nature Reserve as a result of the proposed clearing may be further minimised by the implementation of a weed management condition.

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

Methodology

AECOM (2019)
Blueprint (2021)
DAWE (2021)

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 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 of approximately 292.8 millimetres per year (BoM, 2021). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (AECOM, 2019; Blueprint, 2021; BoM, 2021).

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 AECOM (2019)
Blueprint (2021)
BoM (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 29 March 2021 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 over the area under application (DPLH, 2021). 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, 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

AECOM (2019) E77/2244 Flora and Fauna Assessment V5. Unpublished report prepared for Wesfarmers Chemicals, Energy & Fertilisers by AECOM Australia Pty Ltd, October 2020.

Blueprint (2021) Clearing Permit – Purpose Permit Application for Exploration on E77/2244 Assessment of Clearing Principles. Unpublished report prepared for Wesfarmers Chemicals, Energy & Fertilisers by Blueprint Environmental Strategies, February 2021.

BoM (2021) Bureau of Meteorology Website – Climate Data Online, Southern Cross. Bureau of Meteorology. http://www.bom.gov.au/climate/data/ (Accessed 10 May 2021).

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

DAWE (2021) Department of Agriculture, Water and the Environment, Australian Heritage Database, Jilbadji Nature Reserve, Forrestania - Southern Cross Rd, Barker Lake via Marvel Loch, WA, Australia. http://www.environment.gov.au/cgi-bin/ahdb/search.pl?mode=place_detail;place_id=9790 (Accessed 10 May 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 10 May 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

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.