



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8833/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Western Areas Ltd

1.3. Property details

Property: Exploration Licences 77/1581; 77/1734; 77/2235; 77/2236; 77/2261; 77/2440; and 77/2527
Local Government Area: Shire of Yilgarn
Colloquial name: Northern Estates Exploration Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 3 September 2020

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:
141: Medium woodland; York gum, salmon gum & gimlet;
511: Medium woodland; salmon gum & morrel;
519: Shrublands; mallee scrub, Eucalyptus eremophila;
1068: Medium woodland; salmon gum, morrel, gimlet & Eucalyptus sheathiana;
1148: Shrublands; scrub-heath in the Coolgardie Region;
1413: Shrublands; acacia, casuarina & melaleuca thicket (GIS Database).

A flora and vegetation survey was conducted over the application area by Botanica Consulting (2018) during September and October, 2018. The following vegetation associations were recorded within the application area (Botanica, 2018):

- Clay-Loam Plain (Eucalyptus Woodland (MVG 5)): Mid Open Woodland of *Eucalyptus salmonophloia* / *E. salubris* / *E. urna* on clay-loam plain;
- Sand-Loam Plain: (Mallee Woodland and Shrubland (MVG 14)): Mid Mallee Shrubland of *Eucalyptus platycorys* / *E. pileata* on sand-loam plain;
- Sandplain (Heathlands (MVG 18)): Mid Heathland of *Allocasuarina* spp. / *Melaleuca hamata* on sandplain;
- Sandplain (Heathlands (MVG 18)): Mid Heathland of *Acacia lasiocalyx* / *Allocasuarina campestris* on sandplain.

Clearing Description Northern Estates Exploration Project.
Western Areas Ltd proposes to clear up to 16.55 hectares of native vegetation within a boundary of approximately 76.279 hectares, for the purpose of mineral exploration. The project is located approximately 60 kilometres east of Hyden, within the Shire of Yilgarn.

Vegetation Condition Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).
To
Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).

Comment The vegetation condition was derived from a vegetation survey conducted by Botanica (2018).

3. Assessment of application against Clearing Principles

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

Comments

Proposal may 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 majority of the application area is located within the Jilbadji Nature Reserve which is an area of approximately 200,000 hectares (GIS Database). The reserve is also a listed Environmentally Sensitive Area (ESA) and intercepts the Priority 3 Priority Ecological Community (PEC) - Parker Range (Western Areas, 2020; 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 processes at a regional scale (DAWE, 2020). 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, 2020). 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, 2020).

The Parker Range PEC is not formally protected but are areas of conservation significance being considered for listing and formal protection under the EPBC Act 1999 as Threatened Ecological Communities (TEC) (Western Areas, 2020). However, under this proposal only 0.046% of the PEC is proposed to be impacted which is not expected to have a significant impact on the PECs values.

No Threatened Flora or TECs have been identified within the application area (Western Areas, 2020; GIS Database).

Twelve Priority flora species have been identified within the application area: *Acacia asepala* (Priority 2); *Bossiaea celata* (Priority 3); *Bossiaea flexuosa* (Priority 3); *Caesia viscida* (Priority 2); *Chorizema circinale* (Priority 3); *Cryptandra crispula* (Priority 3); *Grevillea prostrata* (Priority 4); *Microcorys sp. Forrestania* (Priority 4); *Microcybe sp. Windy Hill* (Priority 3); *Stylidium sejunctum* (Priority 3); *Teucrium sp. Dwarf* (Priority 3); and *Verticordia multiflora subsp. solox* (Priority 2). Initially, Western Areas (2020) was proposing up to a 59% local impact to *Verticordia multiflora subsp. solox*, 17% to *Teucrium sp. Dwarf*, 15% to *Stylidium sejunctum*, 14% to *Acacia asepala*, and 12% to *Bossiaea celata*. Western Areas subsequently reduced the clearing permit boundary, and now has completely removed identified impacts to *Verticordia multiflora subsp. solox*, *Bossiaea celata* and *Bossiaea flexuosa*. Western Areas (2020) has reduced the proposed impact to below six percent for all the other Priority flora species.

The application area and surrounding area have been impacted by fire events in 2001, 2005 and 2008. Vegetation affected by fire is now actively regrowing except in some areas of taller woodland which have remained unburnt (Western Areas, 2020). No weeds were noted during the flora and vegetation survey (Western Areas, 2020).

A desktop fauna survey identified 339 fauna species potentially occurring, indicating the area is highly diverse (AES, 2018). However, the on-site fauna survey located a small number of reptile species, (two species), a large number of bird species (46 species), a small number of mammal species (three species and three introduced species were also identified) and no short range endemic (SRE) species were located in the application area (AES, 2018).

Although the proposed clearing area is located within a nature reserve that represents a high level of biodiversity, the size of the area to be cleared and low impact nature of the proposed clearing is not expected to adversely the biodiversity in the area. A conservation management plan has been developed to minimise potential impacts in the locality.

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

Methodology

AES (2018)
CALM (2002)
DAWE (2020)
Western Areas (2020)

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 indigenous to Western Australia.

Comments Proposal may be at variance to this Principle

A Level 1 fauna survey was undertaken over the application area in September 2018 by Australasian Ecological Services (AES) (AES, 2018). Based on the results of this survey the following eleven broad fauna habitats have been identified within the application area (AES, 2018):

1. Shrubland;
2. *Eucalyptus* woodland over mallee or small mallee, over shrubland;
3. Shrub mallee or low mallee over shrubland;
4. Regenerating *Eucalyptus*;
5. *Melaleuca* forest with herbage underneath;
6. Salmon Gum and mallee over very sparse shrubland;
7. Salmon Gum over low shrubland and dwarf shrubland ;
8. Sparse *Eucalyptus* woodland over dense mallee woodland;
9. Areas of exposed flat rock and open clay patches with dwarf shrubland;
10. Mallee and mallee over rocky habitat; and
11. Rock Sheoak (*Allocasuarina huegeliana*) woodland.

A desktop survey of fauna species potentially occurring in the region was undertaken prior to the on-site fauna survey (AES, 2018). The desktop survey identified 339 fauna species potentially occurring, indicating the area is highly diverse. The fauna survey located a small number of reptile species, (two species), a large number of bird species (46 species), a small number of mammal species (three species), a small number of introduced species (three species) and no short range endemic (SRE) species were located in the application area (AES, 2018).

Malleefowl (*Leipoa ocellata* – Vulnerable) individuals and breeding and foraging habitat for Malleefowl were identified in the application area (AES, 2018). Nine inactive Malleefowl mounds were recorded during the fauna survey. A 50 metre buffer area will be maintained around the nine inactive Malleefowl mounds and no clearing will be undertaken in this area (Western Areas, 2020). The fauna survey confirmed a very small amount of breeding and foraging habitat may be impacted if tree and shrubland vegetation is removed (AES, 2018). It is unlikely that the small amount of clearing needed for the proposal would have a significant impact on Malleefowl individuals or habitat. A large amount of similar habitat is also located nearby and in surrounding areas (AES, 2018).

Western Brush Wallaby (*Macropus irma* – Priority 4) were also identified in the application area and sightings also occurred south of the application area. There is the potential for minor habitat loss if shrublands or grassy woodlands are cleared. Open grassy woodlands are used for foraging and scrub habitat is used for resting (AES, 2018). Large amounts of similar habitat are located nearby, therefore, the proposed clearing is not expected to have a significant impact on fauna habitat for the Western Brush Wallaby (AES, 2018).

Suitable feeding and breeding habitat for the Red-tailed Phascogale (*Phascogale calura* - Endangered) were identified in the application area. However, no Red-tailed Phascogale individuals were recorded during the fauna survey (AES, 2018). Fauna habitat type 2; *Eucalyptus* woodland over mallee or small mallee, over shrubland, fauna habitat type 9; areas of exposed flat rock and open clay patches with dwarf shrubland and fauna habitat 11; Rock Sheoak (*Allocasuarina huegeliana*) woodland which were recorded in the application area, are suitable for Red-tailed Phascogales (AES, 2018). AES (2018) confirmed that limited areas of these habitat types are located in the Jilbadji Nature Reserve. Western Areas (2020) reported fauna habitats 2, 9 and 11 will be avoided and no clearing for the proposal will be undertaken in these areas.

None of the fauna habitat types present in the application area were assessed as being critical to any of the fauna species (AES, 2018). 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 indigenous fauna species or their faunal habitat.

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

Methodology AES (2018)
Western Areas (2020)

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 (Western Areas, 2020).

The vegetation associations within the application area are common and widespread within the region (Ref, Year; GIS Database), and 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

Western Areas (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 (Western Areas, 2020).

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

Methodology

Western Areas (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 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 associations 141: Medium woodland; York gum, salmon gum & gimlet; 511: Medium woodland; salmon gum & morrel; 519: Shrublands; mallee scrub, *Eucalyptus eremophila*; 1068: Medium woodland; salmon gum, morrel, gimlet & *Eucalyptus sheathiana*; 1148: Shrublands; scrub-heath in the Coolgardie Region; and 1413: Shrublands; acacia, casuarina & melaleuca thicket (GIS Database). Over 50% of the pre-European extent of each of these vegetation associations remains uncleared at both the state and 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					
141	883,086	858,525	~97	Least Concern	46.08
511	464,424	435,177	~94	Least Concern	19.32
519	147,579	146,944	~99	Least Concern	10.66
1068	193,988	104,804	~54	Least Concern	7.3
1148	254,932	252,776	~99	Least Concern	17.13
1413	1,061,212	1,042,554	~98	Least Concern	18.18
Beard vegetation associations – Coolgardie Bioregion					
141	1,158,760	960,756	~83	Least Concern	35.24
511	700,693	520,615	~74	Least Concern	15
519	2,333,414	1,440,062	~62	Least Concern	10.46
1068	268,900	142,088	~53	Least Concern	6.23
1148	260,384	258,227	~99	Least Concern	17.53
1413	1,679,916	1,286,855	~77	Least Concern	13.22

* 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 at variance to this Principle**

There are no permanent watercourses or wetlands within the area proposed to clear (Western Areas, 2020; GIS Database). Several seasonal creek line pass through the application area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall (Western Areas, 2020).

Based on the above, the proposed clearing is at variance to this Principle. Potential impacts to vegetation growing in association with the watercourse may be minimised by the implementation of a watercourse management condition.

Methodology Western Areas (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 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, 2020). It is unlikely that the small amount of native vegetation clearing required for the purpose of exploration will impact the application area and 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 (2020)

GIS Database:

- Landsystem Rangelands
- Reserves
- 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 not likely to be at variance to this Principle

The application area is located within the Jilbadji Nature Reserve. The reserve is also a listed Environmentally Sensitive Area (ESA) (Western Areas, 2020; 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, 2020).

The Jilbadji Nature Reserve is an area of approximately 200,000 hectares and is a significant area in maintaining existing processes at a regional scale (GIS Database). 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, 2020; Western Areas, 2020). 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, 2020).

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, 2020; Western Areas, 2020.) 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 *Diplodactylus 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, 2020; Western Areas, 2020).

Western Areas (2020) have developed a Conservation Management Plan (CMP) in consultation with DBCA. The CMP will guide Western Areas Limited on how to avoid and manage environmental impacts from proposed exploration works in order to protect conservation values to the greatest extent practicable and ensuring relevant laws and authorisations are complied with (Western Areas, 2020).

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 (approximately 200,000 hectares). 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 (DAWE, 2020; Western Areas, 2020). The approved CMP will be implemented to manage potential and actual impacts to the Jilbadji Nature Reserve (Western Areas, 2020).

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

**Methodology DAWE (2020)
Western Areas (2020)**

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 325.8 millimetres per year (BoM, 2020). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (Western Areas, 2020).

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 (2020)
Western Areas (2020)

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 13 April 2020 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 are no native title claims over the area under application (DPLH, 2020). This/these claim/s has/have been registered with the National Native Title Tribunal / determined by the Federal Court on behalf of the claimant group/s. 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, 2020). 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 (2020)

4. References

AES (2020) Level 1 Fauna Assessment and Level 2 Targeted Fauna Survey of Proposed Parker Dome and Northern Estates Clearing Envelopes, Jilbadji Nature Reserve. Unpublished report prepared by AES for Western Areas Ltd, November 2018.

BoM (2020) Bureau of Meteorology Website – Climate Data Online, Hyden. Bureau of Meteorology.
<http://www.bom.gov.au/climate/data/> (Accessed 1 September 2020).

- Botanica (2020) Detailed Flora & Vegetation Survey and Targeted Flora Survey of the Parker Dome Exploration Project. Unpublished report prepared by Botanica Consulting for Western Areas Ltd, November 2018.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DAWE (2020) 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 1 September 2020)
- DPLH (2020) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 1 September 2020).
- 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.
- Western Areas (2020) Clearing Permit Application - Supporting Information Document – Version 2, Exploration Licence: E77/1734, E77/1581, E77/2235, E77/2236, E77/2261, E77/2440, E77/2527. Unpublished report prepared by Western Areas Ltd, July 2020.

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)
DoEE	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 DoEE)
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 DoEE)
DWER	Department of Water and Environmental Regulation, Western Australia
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
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.