



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8867/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Richard Read & Associates Pty Ltd and Highscore Pty Ltd

1.3. Property details

Property: Mining Leases 77/581, 77/1246, 77/1250
Miscellaneous Licence 77/226
Local Government Area: Shire of Yilgarn
Colloquial name: Dulcie Operations

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 28 May 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 association:

1068: Parker - 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 July 2009, November 2011 and January 2012. The following vegetation associations were recorded within the application area (MBS Environmental, 2012):

- Thicket of *Allocasuarina campestris/Allocasuarina helmsii* over heath of *Baeckea elderiana*;
- Very open mallee of *Eucalyptus capillosa* subsp. *polyclada* over open dwarf scrub of *Grevillea paradoxa/Melaleuca cordata/Phebalium filifolium* within historically cleared gravel pit;
- Low woodland of *Eucalyptus salubris* and *Eucalyptus salmonophloia* over dwarf scrub of *Acacia merrallii*;
- Forrest of *Eucalyptus salubris* and *Eucalyptus salmonophloia* over heath of *Melaleuca pauperiflora* subsp. *pauperiflora/Melaleuca pauperiflora* subsp. *fastigiata*;
- Low woodland of *Eucalyptus melanoxydon* over scrub of *Melaleuca pauperiflora* subsp. *fastigiata* over low scrub of *Eremophila ionantha*;
- Open mallee of *Eucalyptus loxophleba* subsp. *lissophloia* over scrub of *Melaleuca acuminata* and *Melaleuca hamata*;
- Open mallee of *Eucalyptus salubris* and *Eucalyptus calycogona* over open low scrub of *Acacia merrallii*;
- Open tree mallee of *Eucalyptus horistes* and *Eucalyptus oleosa* over heath of *Daviesia benthamii*.

Clearing Description Dulcie Operations.
Richard Read and Associates Pty Ltd and Highscore Pty Ltd propose to clear up to 36 hectares of native vegetation within a boundary of approximately 207 hectares, for the purpose of mineral production. The project is located approximately 40 kilometres south of Marvel Loch, within the Shire of Yilgarn.

Vegetation Condition Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment The vegetation condition was derived from a vegetation survey conducted by Botanica Consulting (2012).

The proposed clearing will enable gold mining activities to be undertaken, including construction and operation of shallow open pits, haul roads, waste rock landform, water supply pipeline and temporary topsoil stockpiles.

This application is directly related to a previous clearing permit (CPS 5169/1) which was held over the same area by Richard Read & Associates Pty Ltd and Highscore Pty Ltd. CPS 5169/1 was approved for an area of 61 hectares within a boundary of 207 hectares, and was active from 27 October 2012 to 31 October 2017. Due to the slow progress of mining operations, clearing was not completed nor continued. On 6 April 2020, Richard

Read & Associates Pty Ltd and Highscore Pty Ltd applied for CPS 8867/1 in order to complete the clearing activities to allow for the renewed and ongoing mining at the Dulcie Operations. The applicant has reduced the amount of clearing required by 25 hectares. The assessment of CPS 8867/1 remains consistent with the assessment of CPS 5169/1.

3. Assessment of application against Clearing Principles

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

Comments

Proposal is not likely to be at variance to this Principle

The 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 huegiana* and Jam-York Gum woodlands (CALM, 2002).

A flora and vegetation survey of the application area and surrounds was conducted by Botanica Consulting (2012) in July 2009, November 2011 and January 2012. This survey identified 112 plant taxa from 51 genera and 27 families within and adjacent to the application area (Botanica Consulting, 2012).

The flora survey conducted by Botanica Consulting (2012) did not identify any Threatened Flora species within the application area, however one Priority 3 species, *Hakea pendens*, was recorded within the application area and one Priority 1 species, *Grevillea lissopleura*, (Western Australian Herbarium, 1998-) was recorded in the areas adjacent to the application area (Botanica Consulting, 2012; MBS Environmental, 2012). A total of 15 *Hakea pendens* individuals from six locations were recorded within the application area, while 38 individuals from five locations were recorded outside of the application area (MBS Environmental, 2012). Botanica Consulting have recorded approximately 3,840 individuals of *Hakea pendens* during a survey of the Parker Range (MBS Environmental, 2012). It is therefore considered unlikely that the proposed clearing will impact on the conservation status of this species.

The Eucalypt Woodlands of the Western Australian Wheatbelt are listed as a Threatened Ecological Community (TEC) under the *Environment Protection and Biodiversity Conservation Act 1999* and are also listed as a Priority Ecological Community (PEC) at a State level (DBCA, 2020). The TEC is known to occur in the Merredin subregion (Commonwealth of Australia, 2016). A desktop study found patches of the TEC approximately five kilometres to the north and 10 kilometres to the south of the application area (GIS Database). The vegetation within the application area is predominantly mallee trees and does not fit the description of the Eucalypt Woodlands. Therefore, the proposed clearing is not likely to impact on the Eucalypt Woodlands of the Western Australian Wheatbelt PEC or TEC.

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: *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. myridena* 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. loxophleba* 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 (vegetation units as described in Gibson and Lyons, 1998) (DBCA, 2020).

A flora and vegetation survey conducted over the application area by Botanica Consulting (2012) identified *Hakea pendens* within the application area. MBS Environmental (2012) advise that this species was found as isolated individuals rather than as a thicket as described by DBCA (2020). The Thicket of *Allocasuarina campestris/Allocasuarina helmsii* over heath of *Baeckea elderiana* and Low woodland of *Eucalyptus salubris* and *Eucalyptus salmonophloia* over dwarf scrub of *Acacia merrallii* vegetation communities identified within the survey area appear to be similar to vegetation communities that characterise the Parker Range PEC. The vegetation associations identified within the application area are not restricted and their distribution extends into the broader Parker Range area (Botanica Consulting, 2012). The proposed clearing, of 36 hectares represents less than 0.1 % of the Parker Range PEC. Given the minor area of clearing and noting that the vegetation has previously been disturbed by historic mining activities; the proposed clearing is unlikely to significantly impact the PEC.

Two introduced flora species, *Centaurea melitensis* and *Dittrichia graveolens*, were recorded within the application area during the flora survey conducted by Botanica Consulting (2012). Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

A fauna survey of the application area was conducted by Terrestrial Ecosystems (2009) in November 2009. This survey identified five fauna habitats within the application area (Terrestrial Ecosystems, 2009). These habitats vary from good condition to completely degraded (Terrestrial Ecosystems, 2009). Terrestrial Ecosystems (2009) identified the possibility of 22 conservation significant fauna species occurring within the

Dulcie project area, however only six of these species are considered likely to occur within the application area. Due to the high mobility of these species and the abundance of similar suitable habitat in nearby areas, the proposed clearing is considered unlikely to impact on the conservation status of any of these species.

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

Methodology Botanica Consulting (2012)
CALM (2002)
Commonwealth of Australia (2016)
DBCA (2020)
Gibson and Lyons (1998)
MBS Environmental (2012)
Terrestrial Ecosystems (2009)
Western Australian Herbarium (1998-)

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

A fauna survey was completed by Terrestrial Ecosystems (2009) in November 2009. The following five fauna habitats have been recorded within the application area (Terrestrial Ecosystems, 2009):

1. Allocasuarina shrubland, often dense, to approximately 2.5 metres (degraded habitat);
2. Open Eucalypt woodland with little understory (good fauna habitat);
3. Eucalypt woodland over Melaleuca woodland that can be quite dense, with little vegetation at ground level (good fauna habitat);
4. Acacia shrubland to approximately 2.5 metres (good fauna habitat); and
5. Disturbed areas that have been previously mined or subject to exploration activity (highly degraded fauna habitat).

A desktop assessment found records of 22 conservation significant species with the potential to occur in the Dulcie project area (GIS Database; Terrestrial Ecosystem, 2009). However based on the habitats present in the application area, Terrestrial Ecosystems (2009) identified six conservation significant fauna species likely to occur, these being the Chuditch (*Dasyurus geoffroi*), Malleefowl (*Leipoa ocellata*), Rainbow Bee-eater (*Merops ornatus*), Peregrine Falcon (*Falco peregrinus*), Rufous Fieldwren (*Calamanthus campestris montanellus*) and White-browed Babbler (*Pomatostomus superciliosus ashbyi*). However, no fauna species of conservation significance were recorded in the application area during the survey (Terrestrial Ecosystems, 2009).

Terrestrial Ecosystems (2009) also advise that three inactive Malleefowl mounds have been recorded within the application area that had not been used for some time. The Malleefowl range has recently contracted and their abundance within the eastern Goldfields is low with preference to areas that are more densely vegetated. Terrestrial Ecosystems (2009) advise that the potential for Malleefowl or active Malleefowl mounds within the application area is very low and therefore the conservation of this species is unlikely to be impacted as a result of the proposed clearing.

Due to the high mobility of these species and the occurrence of similar suitable habitat in nearby areas, the proposed clearing is considered unlikely to impact on the conservation of any of these species.

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

Methodology Terrestrial Ecosystems (2009)

GIS Database:

- 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 conducted in July 2009, November 2011 and January 2012, did not record any species of Threatened flora (Botanica Consulting, 2012).

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

Methodology Botanica Consulting (2012)

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 (Botanica Consulting, 2012).

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

Methodology Botanica Consulting (2012)

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). This bioregion has been extensively cleared as only approximately 18% of the pre-European vegetation still remains (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 1068: Parker Medium woodland; salmon gum, morrel, gimlet and *Eucalyptus sheathiana* (GIS Database). Approximately 52% and 49% of the pre-European extent of this vegetation association remains uncleared at the state and bioregional level, respectively (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 located within a large tract of intact vegetation which does not form part of a remnant (GIS Database). The vegetation within the area is divided by a road and historical mining activity has impacted the condition of the vegetation (Botanica Consulting, 2012; GIS Database). Therefore, the vegetation within the application area is not significant in contributing to any ecological linkages or the maintenance of a remnant of vegetation.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA managed lands (and post clearing %)
IBRA Bioregion – Avon Wheatbelt	9,517,109.95	1,761,187.42	~18.51	Vulnerable	~2.42 (~9.94)
IBRA Subregion – Merredin	6,524,180.55	1,367,565.48	~20.96	Vulnerable	~2.54 (~9.27)
Local Government - Yilgarn	560,337.37	288,490.95	~51.49	Least Concern	~9.13 (~17.66)
Beard vegetation associations – WA					
1068	268,900.45	142,088.42	~52.84	Least Concern	~6.24 (~11.80)
Beard vegetation associations – Avon Wheatbelt Bioregion					
1068	74,875.46	37,249.16	~49.75	Depleted	~3.49 (~7.00)
Beard vegetation associations – Merredin Subregion					
1068	74,875.46	37,249.16	~49.75	Depleted	~3.49 (~7.00)

* 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 Botanica Consulting (2012)
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 is not at variance to this Principle

There are no watercourses or wetlands within the area proposed to clear (MBS Environmental, 2012; GIS Database). A flora and vegetation survey conducted by Botanica Consulting (2012) did not identify any vegetation growing in association with a watercourse or wetland.

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

Methodology Botanica Consulting (2012)
MBS Environmental (2012)

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 application area has been mapped as the AC1 and DD15 soil types (GIS Database).

The AC1 soil type is described as gently sloping to gently undulating plateau areas, or uplands, on granites, gneisses, and allied rocks, with long gentle slopes and, in places, abrupt erosional scarps, some granitic bosses, and tors; and irregularly traversed by narrow shallow valleys and flats: chief soils are yellow earthy sands and sandy yellow earths on depositional sites, and ironstone gravels. Soil dominance varies locally. (Northcote et al., 1960-68).

The DD15 soil type consists of undulating plains with some low dunes, seasonal lakes, and clay pans: chief soils seem to be brown and grey-brown calcareous earths (Northcote et al., 1960-68).

MBS Environmental (2012) advise that the lateritic soils, low relief and climatic conditions in the project area are indicative of low erosion potential.

The proposed clearing of up to 36 hectares of native vegetation within a boundary of approximately 207 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 et al. (1960-68)
MBS Environmental (2012)

GIS Database:
- 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 proposed clearing is not located within a conservation area (GIS Database). The nearest DBCA (formerly DPaW) managed land is the Jilbadji Nature Reserve, located approximately 2.5 kilometres to the east (GIS Database). The proposed clearing is unlikely to impact on the environmental values of this 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). The application area experiences approximately 335 millimetres of rainfall per year (BoM, 2020). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall (MBS Environmental, 2012). 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 BoM (2020)
MBS Environmental (2012)

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 335 millimetres per year (BoM, 2020). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (MBS Environmental, 2012).

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)
MBS Environmental (2012)

GIS Database:

- Hydrographic Catchments - Catchments
- Hydrography, linear

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

Comments

There is one native title claim over the area under application (WC2017/007) (DPLH, 2020). 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, 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.

The clearing permit application was advertised on 4 May 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.

Methodology DPLH (2020)

4. References

- BoM (2020) Bureau of Meteorology Website – Climate Data Online, Mulgara Weather Station. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 12 May 2020).
- Botanica Consulting (2012) Level 2 Flora & Vegetation Survey of the Dulcie Project. Unpublished report prepared for Richard Read & Associates, June 2012.
- 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>
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- 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.
- Gibson N, Lyons MN (1998) Flora and vegetation of the eastern goldfields ranges. 3, Parker Range. Journal of the Royal Society of Western Australia 81, 119–129.
- 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., 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.
- MBS Environmental (2012) Dulcie Operations - M 77/581, M 77/1246, M77/1250 and L 77/226 Clearing Permit (Purpose Permit) Application Native Vegetation Management Plan and Assessment of Clearing Principles. Unpublished report prepared for Richard Read and Associates Pty Ltd, July 2012.
- Terrestrial Ecosystems (2009) Level 1 Fauna Risk Assessment for Southern Cross Goldfields Dulcie Project Area. Unpublished report prepared for Southern Cross Goldfields Ltd, November 2009.
- Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions. <https://florabase.dpaw.wa.gov.au/> (Accessed 12 May 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.