



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 8583/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Adaman Resources Pty Ltd

1.3. Property details

Property: Mining Lease 59/474
Mining Lease 59/476
Mining Lease 59/477
Miscellaneous Licence 59/165
Miscellaneous Licence 59/166

Local Government Area: City of Greater Geraldton and Shire of Murchison

Colloquial name: A-Zone Gold Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 26 September 2019

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description The vegetation of the application area is broadly mapped as the following Beard vegetation associations:
40: Shrublands; acacia scrub, various species;
268: Succulent steppe with open scrub; scattered *Acacia sclerosperma* over saltbush and bluebush;
404: Shrublands; bowgada and *Acacia murrayana* scrub; and
420: Shrublands; bowgada and jam scrub (GIS Database).

The majority of the application area is broadly mapped as Beard vegetation association 420 (GIS Database). Beard vegetation association 40 was mapped over approximately 5 kilometres of the eastern end of the proposed road corridor; and vegetation associations 268 and 404 represented only small sections of the application area (GIS Database).

A flora and vegetation survey was conducted over the application area and surrounding areas by Spectrum Ecology during March 2019. The following vegetation associations were recorded within the application area (Preston 201; Spectrum, 2019):

Flats: plain (clay flat)

P1: *Acacia ramulosa* var. *linophylla* (+/-*Acacia tetragonophylla* and *Acacia grasbyi*) tall sparse shrubland, over +/-*Eremophila forrestii*, *Hakea preissii* and *Sida ectogama* mid isolated shrubs, over *Ptilotus obovatus* low sparse shrubland and *Monachather paradoxus* low sparse tussock grassland.

Flats: plain (sandy flat)

P3: *Acacia ramulosa* tall sparse shrubland, over *Eremophila forrestii* and *Eremophila* sp. mid sparse shrubland, over *Monachather paradoxus* and *Eragrostis eriopoda* open tussock grassland.

P4: *Acacia grasbyi*, *Acacia tetragonophylla* and *Acacia ramulosa* var. *linophylla* tall isolated shrubs, over *Maireana pyramidata*, *Maireana triptera* and *Ptilotus obovatus* low sparse shrubland.

P5: *Tecticornia* spp. and *Maireana glomerifolia* low sparse shrubland.

Open depression: (drainage line and/or floodplain)

D1: *Acacia burkittii*, *Acacia tetragonophylla* and *Acacia grasbyi* tall open shrubland, over *Ptilotus obovatus* low isolated shrubs.

D2: *Acacia caesaneura*, *Acacia tetragonophylla* and *Dodonaea inaequifolia* tall shrubland.

Slope: simple (low lateritic rise)

S1: *Acacia ramulosa* var. *linophylla*, *Acacia murrayana* and *Acacia mulganeura* tall sparse shrubland, over +/-*Eremophila forrestii*, *Sida ectogama* and *Thryptomene decussata* mid sparse shrubland, over *Monachather paradoxus* low sparse tussock grassland and *Ptilotus schwartzii* low sparse shrubland.

S2: *Acacia umbraculiformis* tall sparse shrubland, over *Senna artemisioides* subsp. *helmsii* and *Senna* sp. Austin (A. Strid 20210) mid isolated shrubs, over *Ptilotus obovatus* low sparse shrubland.

S3: *Acacia burkittii* and *Alectryon oleifolius* subsp. *oleifolius* tall isolated shrubs, over *Maireana georgei*, *Maireana triptera* and *Maireana pyramidata* low sparse shrubland.

Clearing Description	A-Zone Gold Project Adaman Resources Pty Ltd proposes to clear up to 49 hectares of native vegetation within a boundary of approximately 1,142 hectares, for the purpose of mineral production and associated infrastructure. The project is located approximately 150 kilometres northeast of Geraldton, within the City of Greater Geraldton and the Shire of Murchison.
Vegetation Condition	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (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 Spectrum Ecology (Spectrum, 2019). The majority of the vegetation within the application area was described as in Excellent condition (Spectrum, 2019). There were some localised areas of disturbance from existing tracks and a small gravel pit (Preston, 2019; Spectrum, 2019). The proposed clearing is for the development of a gold mining operation, including two mine pits, a waste rock landform, a haul road and access roads, and other mining-related infrastructure (Preston, 2019).

3. Assessment of application against Clearing Principles

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

Comments	<p>Proposal is not likely to be at variance to this Principle</p> <p>The clearing permit application area is located within the Talling subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Yalgoo Bioregion (GIS Database). The Yalgoo bioregion is characterised by red sandy plains landforms, supporting low woodlands of Eucalyptus, Acacia, and Callitris (CALM, 2002).</p> <p>A flora and vegetation survey of the application area and surrounding areas recorded 68 flora taxa, from 32 genera and 20 families (Spectrum, 2019). A review of available databases determined that several Priority flora species have the potential to occur in the local area, however, there are no records of Priority flora within the application area (Spectrum, 2019, GIS Database). One Priority flora species, <i>Grevillea globosa</i> (Priority 3) was recorded during the survey, however it was outside the application area (Spectrum, 2019). No Threatened flora were recorded within the survey area (Spectrum, 2019).</p> <p>The majority of the vegetation within the survey area was in Excellent condition, and no weed species were recorded during the survey (Spectrum, 2019). Clearing activities may spread or introduce weeds, which have the potential to out-compete native flora and reduce the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.</p> <p>No Threatened or Priority Ecological Communities are known to occur within or in close proximity to the application area, and none were recorded during the vegetation survey (Spectrum, 2019; GIS Database).</p> <p>A fauna reconnaissance survey of the application area and surrounding areas, recorded 14 vertebrate fauna species in the broader survey area including: one mammal, 11 bird species, and two reptiles (Spectrum, 2019).</p> <p>A desktop fauna assessment identified 19 conservation significant fauna species with the potential to occur within the application area, based on known distributions (Spectrum, 2019). These included: Malleefowl, <i>Leipoa ocellata</i> (Vulnerable); Western Spiny-tailed Skink, <i>Egernia stokesii badia</i> (Vulnerable); Gilled Slender Blue-tongued Skink, <i>Cyclodomorphus branchialis</i> (Vulnerable); Peregrine Falcon, <i>Falco peregrinus</i> (OS); and several migratory bird species (Spectrum, 2019). An additional 13 potential Short Range Endemic (SRE) invertebrate species were also identified in the desktop assessment (Spectrum, 2019). However, no conservation significant fauna species were recorded during the on-site survey (Spectrum, 2019).</p> <p>The application area occurs within the rangelands, and vegetation in surrounding areas remains largely uncleared (Spectrum, 2019; GIS Database). The vegetation associations, fauna habitats, and landform types present within the application area, are typical for the region and well represented in surrounding areas (Preston, 2019; Spectrum, 2019; GIS Database). The application area is unlikely to represent an area of higher biodiversity than surrounding areas, in either a local or regional context.</p> <p>Based on the above, the proposed clearing is not likely to be at variance to this Principle.</p>
Methodology	CALM (2002) Preston (2019) Spectrum (2019)

GIS Database:

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

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

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

A fauna reconnaissance survey of the application area and surrounding areas, recorded the following fauna habitats within the application area (Spectrum, 2019):

- Breakaway;
- Dense Woodland;
- Drainage Line;
- Low Chenopod Shrubland;
- Low Shrubland;
- Sandplain/Shrubland;
- Salt lake/Claypan;
- Shrubland; and
- Rock Outcrop.

A desktop study identified that several of the fauna habitats were potentially suitable for conservation significant fauna species and Short Range Endemic (SRE) invertebrate species (Spectrum, 2019). However, site investigations found that the potential habitats for SRE invertebrate species do not appear to provide the accumulation of leaf litter and the landscape features necessary to support these species (Spectrum, 2019).

Several fauna species of conservation significance have the potential to occur within the application area, based on known distributions (Spectrum, 2019; GIS Database). Of these, Malleefowl, *Leipoa ocellata* (Vulnerable); Western Spiny-tailed Skink, *Egernia stokesii badia* (Vulnerable); and Gilled Slender Blue-tongued Skink, *Cyclodomorphus branchialis* (Vulnerable) were considered the most likely to occur within the application area, based on habitat preferences (Spectrum, 2019).

Malleefowl are known to occur in the Yalgoo region, in habitats similar to the Dense Woodland and Sandplain/Shrubland habitats of the application area, particularly where the vegetation is dense and has abundant leaf litter (Spectrum, 2019). However, these habitat types within the clearing permit application area were generally lacking in leaf litter, reducing the suitability as foraging habitat for Malleefowl. Spectrum (2019) concluded that Malleefowl may forage through the area during favourable climatic conditions, however the application area provided minimal suitable foraging habitat for Malleefowl and was unlikely to be suitable for breeding. The nearest recorded location of Malleefowl is approximately 40 kilometres southwest of the application area (Preston, 2019).

Rocky outcrops are known to support populations of the Western Spiny-tailed Skink, *Egernia stokesii badia*, however, the area of Rock Outcrop habitat recorded within the application area is small (less than 0.5 hectares), and it does not contain suitable crevices to support this species (Spectrum, 2019).

The Gilled Slender Blue-tongued Skink may occur in the Low Chenopod Shrubland habitat, however, the habitat requirements for this species are not well understood (Spectrum, 2019).

No fauna species of conservation significance were recorded within or in close proximity to the clearing permit application area (Preston, 2019; Spectrum, 2019).

Fauna habitats identified during the survey, extend beyond the boundaries of the application area and are well represented in the region (Preston, 2019). Habitats outside the proposed clearing area remain relatively undisturbed (Preston, 2019). Therefore, the vegetation proposed to be cleared is unlikely to represent significant fauna habitat at a regional scale.

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

Methodology Preston (2019)
Spectrum (2019)

GIS Database:

- Imagery
- Pre-European Vegetation
- Threatened Fauna

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

Comments **Proposal is not likely to be at variance to this Principle**
There are no known records of Threatened flora within the application area (GIS Database). Flora surveys of the application area did not record any species of Threatened flora (Spectrum, 2019).

The vegetation associations within the application area are common and widespread within the region (Preston, 2019; Spectrum, 2019; 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 Preston (2019)
Spectrum (2019)

GIS Database:
- Pre-European Vegetation
- Threatened and Priority Flora

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments **Proposal is not likely to be at variance to this Principle**
There are no known Threatened Ecological Communities (TECs) 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 (Spectrum, 2019).

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

Methodology Spectrum (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 Yalgoo Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 97% of the pre-European vegetation still exists in the IBRA Yalgoo Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 40: Shrublands; acacia scrub, various species; 268: Succulent steppe with open scrub; scattered *Acacia sclerosperma* over saltbush and bluebush; 404: Shrublands; bowgada and *Acacia murrayana* scrub, and 420: Shrublands; bowgada and jam scrub (GIS Database). More than 94% 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).

The area surrounding the application area remains largely uncleared (Spectrum, 2019; GIS Database). 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 – Yalgoo	5,057,325	4,923,840	97	Least Concern	31
Beard vegetation associations – WA					
40	369,056	351,139	95	Least Concern	6
268	15,547	15,547	100	Least Concern	4.9
404	206,553	198,504	96	Least Concern	20
420	859,632	830,216	96	Least Concern	14
Beard vegetation associations – Yalgoo Bioregion					
40	301,712	284,656	94	Least Concern	4.3
268	7,093	7,093	100	Least Concern	10.6
404	151,772	143,906	94	Least Concern	13
420	621,396	620,265	99	Least Concern	16.3

* 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)
Spectrum (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 (GIS Database). Surface water drainage in the area is associated with the Greenough River, a major seasonal river system located to the north of the application area, and consisting of multiple drainage lines and a broad floodplain (GIS Database). The main river channel is located approximately two kilometres north of the application area, however, several minor seasonal drainage lines pass through the application area, and areas subject to seasonal inundation occur within or in close proximity to the application area (GIS Database).

Surveys conducted over the application area recorded two vegetation associations growing in association with drainage lines and flood plain areas (Preston, 2019; Spectrum, 2019). Clearing of native vegetation growing in association with watercourses should be avoided where possible, and management measures such as culverts or floodways should be implemented to maintain natural surface flows at drainage line crossings.

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

Methodology Preston (2019)
Spectrum (2019)

GIS Database:

- Hydrography, Lakes
- Hydrography, linear
- Imagery

(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 lies within the Ero, Kalli, Narryer, Tindalarra and Yewin land systems (GIS Database). These land systems have been mapped and described in technical bulletins produced by the former Department of Agriculture (now the Department of Primary Industries and Regional Development).

The Kalli land system consists of red sandplains supporting bowgada shrublands with wanderrie grasses. This land system is not normally susceptible to erosion (Payne et al., 1998).

The Narryer land system consists of stony plains and occasional hills and breakaways on gneiss and granite supporting sparse acacia shrublands. This land system may be mildly susceptible to erosion if vegetation cover is removed (Payne et al., 1998).

The Yewin land system is described as saline flood plains supporting halophytic low scrublands with snakewood and spiny snakewood. This land system is considered to be moderately susceptible to erosion (Payne et al., 1998). This land system is only mapped over a relatively small section of the application area, located at the north-western end of M59/474 (GIS Database).

The Ero land system consists of tributary floodplains with shallow, erodible duplex soils on red-brown hardpan, more or less saline; supporting acacia scrublands, and halophytic and non-halophytic shrublands. This land system is moderately susceptible to erosion if vegetation cover is removed (Curry et al., 1994). This land system intersects a short section of the proposed road corridor, towards the eastern end (GIS Database).

The Tindalarra land system consists of gently inclined wash plains with narrow drainage lines supporting tall mixed acacia shrubland. This land system is moderately to highly susceptible to erosion if vegetation cover is removed (Curry et al., 1994). This land system is mapped over the eastern end of M59/474 and approximately 50 percent of the proposed road corridor (GIS Database).

Based on the above, clearing of vegetation in areas associated with watercourses and drainage lines may result in localised water erosion particularly where roads cross drainage lines. Potential erosion may be minimised by the implementation of a watercourse management condition.

Overall, the proposed clearing of up to 49 hectares of native vegetation within a boundary of approximately 1,142 hectares, 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 Curry et al. (1994)
Payne et al. (1998)

GIS Database:
- Hydrography, Lakes
- Hydrography, linear
- Imagery
- Landsystem Rangelands

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

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

There are no conservation areas in the vicinity of the application area. The nearest DBCA (formerly DPaW) managed land is the former Woolgorong Pastoral Lease which is located approximately 5 kilometres north of the application area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.

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

Methodology GIS Database:
- DPaW Tenure

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

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

There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to surface water quality.

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, Lakes
- 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 236 millimetres per year (BoM, 2019). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (Preston, 2019).

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

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

Methodology BoM (2019)
Preston (2019)

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

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

Comments

The clearing permit application was advertised by the Department of Mines, Industry Regulation and Safety (DMIRS), inviting submissions from the public. The application was initially advertised on 29 July 2019 and subsequently readvertised on 2 September 2019 with an increased application area. No submissions were received in relation to this application.

There are three native title claims (WC1996/093; WC2004/010; WC1997/072) over the area under application (DPLH, 2019). These claims have been registered with the National Native Title Tribunal on behalf of the claimant groups. 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 is one registered Aboriginal Site of Significance within the application area (DPLH, 2019). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

Methodology DPLH (2019)

4. References

- BoM (2019) Bureau of Meteorology Website – Climate Data Online, Woolgorong (6055). Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 20 August 2019).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- Curry, P.J., Payne, A.L., Leighton, K.A., Hennig, P., and Blood, D.A. (1994) An inventory and condition survey of the Murchison River Catchment and surrounds, Western Australia. Technical Bulletin No. 84. Department of Agriculture, South Perth, Western Australia.
- 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.
- DPLH (2019) Aboriginal Heritage Enquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 20 August 2019).

- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions, Perth.
<https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Payne, A.L., van Vreeswyk, A.M.E., Leighton, K.A., Pringle, H.J., and Hennig, P. (1998) An inventory and condition survey of the Sandstone-Yalgoo- Paynes Find area, Western Australia. Technical Bulletin No. 90. Department of Agriculture and Food, South Perth, Western Australia.
- Preston (2019) A-Zone Gold Project Native Vegetation Clearing Permit Application supporting Information. Report prepared for Adaman Pty Ltd, by Preston Consulting Pty Ltd, June 2019.
- Spectrum (2019) Snake Well Reconnaissance Flora and Level 1 Fauna Assessment. Report prepared for Adaman Resources Pty Ltd, by Spectrum Ecology Pty Ltd, May 2019.

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.