



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 9020/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Paddington Gold Pty Ltd

1.3. Property details

Property: Mining Leases 24/29, 24/194, 24/712, 24/809

Local Government Area: City of Kalgoorlie-Boulder

Colloquial name: Gimlet South and Slippery Gimlet Mining Areas

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 22 October 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: 2901: Mosaic: Medium woodland; *Allocasuarina cristata* & goldfields blackbutt Shrublands; *Acacia quadrimarginea* thicket (GIS Database).

A reconnaissance flora and vegetation survey was conducted over the application area by Botanica Consulting (Botanica) in March and July 2020. The following vegetation associations were recorded within the application area (Botanica, 2020):

- CLP-EW1: Low woodland of *Eucalyptus salmonophloia* over mid open shrubland of *Acacia kalgoorliensis* and low open chenopod shrubland of *Atriplex vesicaria/ Maireana pyramidata/ Tecticornia disarticulata* on clay-loam plain;
- CLP-EW2: Low open woodland of *Eucalyptus clelandiorum/ E. oleosa* over mid open shrubland of *Acacia hemiteles/ Eremophila scoparia* and low chenopod shrubland of *Maireana sedifolia* on clayloam plain;
- CLP-MWS1: Shrub mallee of *Eucalyptus griffithsii* over mid shrubland of *Eremophila scoparia* and low chenopod shrubland of *Atriplex vesicaria* on clay-loam plain;
- OD-EW1: Low forest of *Eucalyptus ravidia* over mid open shrubland of *Acacia kalgoorliensis* and low open chenopod shrubland of *Atriplex vesicaria/ Maireana pyramidata/ Tecticornia disarticulata* in open depression;
- RH-EW1: Low open woodland of *Eucalyptus clelandiorum/ E. flavida* over mid open shrubland of *Eremophila interstans* subsp. *virgata* and low open shrubland of *Acacia erinacea* on rocky hillslope;
- RP-AS1: Tall shrubland of *Acacia acuminata* over mid open shrubland of *Eremophila scoparia/ E. granitica* and low open shrubland of *Ptilotus obovatus* on rocky plain;
- RP-EW1: Low open woodland of *Eucalyptus clelandiorum* over mid open shrubland of *Senna artemisioides* and low chenopod shrubland of *Atriplex vesicaria/ Maireana triptera* on rocky plain; and
- RP-MWS1: Open shrub mallee of *Eucalyptus griffithsii* over mid shrubland of *Dodonaea lobulata/ Eremophila scoparia* and low open shrubland of *Scaevola spinescens* on rocky plain.

Clearing Description

Gimlet South and Slippery Gimlet Mining Areas
Paddington Gold Pty Ltd ('Paddington Gold') proposes to clear up to 234.04 hectares of native vegetation within a boundary of approximately 824.478 hectares, for the purpose of mineral production and associated activities. The project is located approximately 56 kilometres northwest of Kalgoorlie-Boulder, within the City of Kalgoorlie-Boulder.

Vegetation Condition

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

To:

Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994).

Comment

The vegetation condition was derived from a vegetation survey conducted by Botanica (2020).

The proposed clearing is for the redevelopment of two existing open pits and associated waste rock dump expansion. Establishment of haul roads, service corridors, run-of-mine pad and other supporting infrastructure will also be required.

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 application area is located within the Eastern Goldfields subregion of the Interim Biogeographic Regionalisation for Australia (IBRA) Coolgardie Bioregion (GIS Database). The Eastern Goldfields subregion is characterised by a subdued relief comprised of gently undulating plains interrupted with low hills and ridges. Calcareous earths are the dominant soil group and cover much of the plains and greenstone areas (CALM, 2002). The vegetation is of Mallees, Acacia thickets and shrubheaths on sandplains. Diverse *Eucalyptus* woodlands occur around salt lakes, on ranges, and in valleys, and salt lake support dwarf shrublands of samphire. The area is rich in endemic Acacias (CALM, 2002).

Disturbance from mining, exploration and pastoral activities is evident across much of the application area, however the majority of vegetation was considered to be in 'Good' condition to 'Very Good' condition (Botanica, 2020; Paddington, 2020). The most noticeable areas of disturbance are the two previously mined open pit sites, waste rock dumps, formed roads and associated operational areas, considered to be 'Completely Degraded' (Botanica, 2020; Paddington, 2020).

No Threatened or Priority Ecological Communities were identified as potentially occurring within the application area and none were recorded during any of the field assessments (Botanica, 2020; Paddington, 2020; GIS Database). The application area is dominated by Eucalypt and Mallee woodlands, interspaced by Mallee and Acacia shrublands, with eight broad vegetation groups identified during the reconnaissance survey (Botanica, 2020). The vegetation found in the application area is considered to be moderately diverse and regionally well represented (Paddington, 2020).

A total of 134 flora taxa from 61 genera and 28 families were recorded from within the application area (Botanica, 2020). A desktop assessment identified four Threatened and 15 Priority flora previously recorded within 50 kilometres of the application area (Botanica, 2020). Of these species, the majority were determined to be unlikely to occur due to a lack of suitable habitat, however one P1 species (*Rhodanthe uniflora*), was assessed as having a possible likelihood of occurring within the application area (Botanica, 2020; DBCA 2007-; Western Australian Herbarium;1998-). The plant is known from only a few records collected from locations more than 20 kilometres outside of the application area (DBCA 2007-). The species is not locally restricted and the proposed clearing is unlikely to impact on its conservation status. No Threatened or Priority flora species were identified during the field assessment of the application area (Botanica, 2020).

Seven introduced flora species (weeds) were recorded within the survey area, none of which are listed as a Declared Plant under the *Biosecurity and Agriculture Management Act 2007* (Botanica, 2020). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower 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.

A desktop assessment identified 104 bird species, 75 reptile species, 32 mammal species (11 of which are bats) and four amphibians with the potential to occur within the application area (Botanica, 2020). When considering the fauna habitats present, four conservation significant fauna species have potential to be found in the application area (Botanica, 2020; Invertebrate Solutions, 2020). No threatened or significant fauna species or habitats of significance have been recorded within the application area during previous field surveys (Botanica, 2020).

The vegetation associations, fauna habitats and landform types found within the application area, are well represented regionally (Paddington, 2020; GIS Database), and the application area is unlikely to represent an area of higher biodiversity than surrounding areas, in either a local or regional context.

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

Methodology

Botanica (2020)
CALM (2002)
DBCA (2007-)
Invertebrate Solutions (2020)
Paddington (2020)
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

Botanica (2020) conducted a fauna assessment of the application area in March and July 2020, which included a desktop review, site reconnaissance and a targeted fauna survey for the Malleefowl. The following five natural fauna habitats were identified within the application area, in addition to zones of cleared minesite infrastructure (Botanica, 2020):

- Clay-loam plains consisting of Eucalypt woodland and Mallee shrublands;
- Open depressions consisting of Eucalypt woodland;
- Rocky hillslopes consisting of Eucalypt woodland;
- Rocky plains consisting of Acacia shrubland; and
- Rocky plains consisting of Eucalypt woodland and Mallee shrublands.

Vegetated areas within the application area were considered to be in 'Very Good' to 'Excellent' condition (Botanica, 2020) and the Eucalypt, Mallee and Acacia woodland and shrubland areas can be considered to provide a medium level of habitat for fauna.

No threatened or significant fauna species or habitats of significance were recorded from the application area as part of the fauna survey (Botanica, 2020). However, the following vertebrate fauna species of conservation significance may potentially occur within the application area, based on habitat suitability and available range data (Botanica, 2020; DAWE 2020; DBCA, 2007-):

- *Leipoa ocellata* (Malleefowl, VU)
- *Falco peregrinus* (Peregrine Falcon, OS)
- *Nyctophilus major tor* (Central Long-eared Bat, P3)

No evidence of Malleefowl activity (inactive or active mounds, tracks, feathers or bird observations) was found within the application area during a targeted survey conducted by Botanica (2020). Furthermore, Paddington Gold actively implement their existing Malleefowl Mound Marking and Reporting procedures at the site (Paddington, 2020). The Peregrine Falcon and Central Long-eared Bat may potentially inhabit some sections of the application area as transient visitors, within a much larger home range, however they are highly mobile species and unlikely to be dependent on the vegetation and habitat types proposed to be cleared (Botanica, 2020; Paddington, 2020).

Invertebrate Solutions (2020) conducted a desktop assessment for short range endemic (SRE) invertebrates over the application area and identified four SRE taxa having a potential of occurring in the area, including the Priority 3 listed mygalomorph spider, *Idiosoma intermedium*. Only two of the habitats mapped in the application area were classed as having moderate to moderate-low habitat value for short-range endemic species however, and both are considered regionally well represented (Invertebrate Solutions Pty Ltd, 2020).

The application area contains suitable habitat for the critically endangered Arid Bronze Azure Butterfly (*Ogyris subterrestris petrina*), however the species is only known to be extant at two locations within the Wheatbelt region of WA and is presumed extinct in the Goldfields (Botanica, 2020; Harewood, 2020a). In June and August 2020, Paddington Gold commissioned targeted surveys for the butterfly's host ant species (*Camponotus* sp. nr. *terebrans*) at two of its other sites located less than 50 kilometres from the application area, and the taxa was not found (Harewood 2020b; Spectrum Ecology, 2020).

All described fauna habitats types identified are considered widespread within the region and not restricted to the application area (Botanica, 2020; Paddington, 2020). They are unlikely to represent significant habitat for indigenous fauna species.

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

Methodology Botanica (2020)
DAWE (2020)
DBCA (2007-)
Harewood (2020a)
Harewood (2020b)
Invertebrate Solutions (2020)
Paddington (2020)
Spectrum Ecology (2020)

- GIS Database:
 - Imagery
 - 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 (rare) flora within the application area (GIS Database). Flora surveys of the application area did not record any species of Threatened flora (Botanica, 2020).

The vegetation associations within the application area are common and widespread within the region and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened flora (Botanica, 2020; GIS Database).

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

Methodology Botanica (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 (Botanica, 2020).

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

Methodology Botanica (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 97% of the pre-European vegetation still exists in the IBRA Coolgardie Bioregion (Government of Western Australia, 2019).

The application area is broadly mapped as Beard vegetation association 2901: Mosaic: Medium woodland; *Allocasuarina cristata* & goldfields blackbutt Shrublands; *Acacia quadrimarginea* thicket (GIS Database).

Approximately 95% of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2019).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DBCA managed lands
IBRA Bioregion – Coolgardie	12,912	12,648	~97	Least Concern	16.39
Beard vegetation associations – WA					
2901	36,012	34,451	~95	Least Concern	3.35
Beard vegetation associations – Coolgardie Bioregion					
2901	35,470	33,995	~95	Least Concern	3.40

* Government of Western Australia (2019)

** Department of Natural Resources and Environment (2002)

Although several large scale mining operations are located within a 50 kilometre radius of the application area (GIS Database), on a broader scale the Coolgardie bioregion has not been extensively cleared. Therefore, the application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared.

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 water courses or natural waterbodies within the application area (GIS Database). The application area crosses a number of ephemeral drainage lines that only flow briefly immediately following significant rainfall (CALM, 2002; GIS Database).

Botanica (2020) conducted a flora and vegetation survey over the application area and did not identify any riparian vegetation. However, the vegetation unit 'OD-EW1' (Low woodland of *Eucalyptus ravidus* over mid open shrubland of *Acacia kalgoorliensis* and low open chenopod shrubland of *Atriplex vesicaria/Maireana pyramidata/Tecticornia disarticulata* on clay-loam plain) was associated with drainage lines within the application area (Botanica, 2020).

Vegetation, including vegetation growing in the drainage lines of the application area, is typical of vegetation previously described for the Goldfields (Paddington, 2020).

Based on the above, the proposed clearing is at variance to this Principle, however the impact linked to the loss of a small percentage of vegetation associated with drainage lines is likely to be minimal.

Methodology Botanica (2020)
CALM (2002)
Paddington (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 soil of the application area is broadly mapped as soil type BB5 (Northcote et al., 1960-68; GIS Database). This soil type is described as: Rocky ranges and hills of greenstones – basic igneous rocks: chief soils seem to be shallow calcareous loamy soils and similar soils, with shallow brown and grey-brown calcareous earths below which weathered rock occurs at shallow depths (Northcote et al., 1960-68).

The Commissioner of Soil and Land Conservation has advised that the Gumland, Illaara and Latimore land systems are primarily affected by the application area (DPIRD, 2020).

The Gumland land system ranges from depositional surfaces with broad shallow valley plains, typically receiving flow from greenstone hills. Higher loamy plains and restricted areas of slightly more elevated stony surfaces and plains with fine gravelly ironstone mantles and central drainage tracts. The alluvial plains of the Gumland system are susceptible to soil erosion if the perennial shrub cover is removed as are the stony plains if the protective mantle is removed (DPIRD, 2020).

The Illaara and Latimore land systems are described as mesa, breakaways and stony plains, with acacia or eucalypt woodlands alongside halophytic shrublands on the Illaara system and non-halophytic shrublands on the Latimore system. These systems are not generally prone to soil erosion (DPIRD, 2020).

The application area is relatively flat, featuring no permanent watercourses and the region receives a relatively low annual rainfall of 200-300 mm, with a pan evaporation rate of approximately 3,600 millimetres per year, resulting in little surface water flow during normal seasonal rains (CALM 2002; GIS Database). Therefore the risk of wind and water erosion is likely to be low during normal weather conditions. Although the removal of vegetation cover may result in localised erosion, the proposed clearing is unlikely to cause appreciable land degradation.

Furthermore, the proposed clearing is for mining purposes and includes expanding an open pit, waste rock stockpile and associated infrastructure (Paddington, 2020). Therefore, most of the clearing will not be susceptible to wind erosion.

To mitigate potential land degradation as a result of the proposed clearing, a staged clearing condition may be placed on the permit. This will reduce the potential for cleared areas to be left open for lengthy periods without appropriate use.

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

Methodology CALM (2002)
DPIRD (2020)
Northcote et al. (1960-68)

GIS Database:
- 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 (GIS Database). The nearest DBCA managed land is the former pastoral lease 'Credo Station', which lies approximately eight kilometres west of the application area (GIS Database).

The Rowles Lagoon Conservation Park and Clear and Muddy Lakes Nature Reserve, are located approximately 20 kilometres west 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 natural water bodies within the application area. The ephemeral creek lines found in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (CALM, 2002; GIS Database). Therefore significant impacts to surface water are considered unlikely.

Groundwater in the application area is generally saline, with between 14,000 to 35,000 milligrams per litre of Total Dissolved Solids (GIS Database). It is unlikely the proposed clearing will result in all incremental increase in groundwater salinity, nor 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 CALM (2002)

GIS Database:
- Groundwater salinity, State wide
- 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 in the region is arid to semi-arid with 200-300 mm of rainfall, sometimes in summer but usually in winter (CALM, 2002). The region experiences a pan evaporation rate of approximately 3,600 millimetres (GIS Database) per year resulting in little surface water flow during normal seasonal rains.

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 (CALM, 2002). 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 CALM (2002)

GIS Database:

- Hydrography, lakes
- Hydrography, linear

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

Comments

The clearing permit application was advertised on 14 September 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 two native title claims (WC2017/007 and WC2017/001) over the area under application (DPLH, 2020). 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 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

- Botanica (2020) Reconnaissance Flora & Fauna Survey Ora Banda Region. Report prepared by Botanica Consulting for Norton Gold Fields Pty Ltd, August 2020.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- DAWE (2020) EPBC Act Protected Matters Search Tool. Department of Agriculture, Water and the Environment. <https://www.environment.gov.au/epbc/protected-matters-search-tool> (Accessed 7 October 2020).
- DBCA (2007-) NatureMap: Mapping Western Australia's Biodiversity. Department of Biodiversity, Conservation and Attractions. <https://naturemap.dbca.wa.gov.au/> (Accessed 7 October 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.
- DPIRD (2020) Advice received in relation to Clearing Permit Application CPS 9020/1. Commissioner of Soil and Land Conservation, Department of Primary Industries and Regional Development, Western Australia, October 2020.
- DPLH (2020) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <http://maps.daa.wa.gov.au/AHIS/> (Accessed 7 October 2020).
- 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>
- Harewood, G. (2020a) Arid Bronze Azure Butterfly (*Ogyris subterrestris petrina*) Review. Clearing Permit Area (CPS 8872/1) Mulgarrie Project Paddington Gold Pty Ltd. Review prepared by Greg Harewood, for Paddington Gold Pty Ltd, June 2020.
- Harewood, G. (2020b) Ant Survey. Clearing Permit Area (CPS 8872/1) Mulgarrie Project Paddington Gold Pty Ltd. Review prepared by Greg Harewood, for Paddington Gold Pty Ltd, June 2020.
- Invertebrate Solutions (2020) Desktop assessment for SRE Fauna for the Refractory Ore Project – Gimlet South and Slippery Gimlet Areas, Ora Banda WA. Report prepared for Norton Gold Fields Pty Ltd, by Invertebrate Solutions Pty Ltd, June 2020.
- 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. Western Australian Herbarium (1998-)
- Paddington (2020) Native Vegetation Clearing Permit Supporting Document: Ora Banda Gimlet South & Slippery Gimlet Mining Areas. Report prepared by Paddington Gold Pty Ltd, July 2020.

5. Glossary

Acronyms:

BC Act	<i>Biodiversity Conservation Act 2016</i> , Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DBCA and DWER)
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)
DoE	Department of the Environment, Australian Government (now DAWE)
DoEE	Department of the Environment and Energy (now DAWE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora
DSEWPac	Department of Sustainability, Environment, Water, Population and Communities (now DAWE)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPA	Environmental Protection Authority, 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).

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.