Department of Mines, Petroleum and Exploration

GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	10374/1
Permit type:	Purpose permit
Applicant name:	Evolution Mining Limited
Application received:	12 October 2023
Application area:	22.5 hectares
Purpose of clearing:	Haul road
Method of clearing:	Mechanical removal
Tenure:	Miscellaneous Licence 16/123
Location (LGA area/s):	Shire of Coolgardie
Colloquial name:	Paradigm haul road

1.2. Description of clearing activities

Evolution Mining Limited proposes to clear up to 22.5 hectares of native vegetation within a boundary of approximately 36.19 hectares, for the purpose of a haul road. The project is located approximately 46 kilometres north-west of Kalgoorlie, within the Shire of Coolgardie.

The application is to allow for the construction of a haul road between the Paradigm gold mine and the Mungari processing plant (Evolution Mining, 2023).

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	18 November 2023
Decision area:	22.5 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E and 51O of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) (now Department of Mines, Petroleum and Exploration) on 12 October 2023. DMIRS advertised the application for a public comment for a period of 21 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix E), supporting information provided by the applicant (Appendix A) including the results of a flora and vegetation survey, the clearing principles set out in Schedule 5 of the EP Act (Appendix D), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3).

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to an unacceptable risk to environmental values.

The Delegated Officer decided to grant a clearing permit subject to conditions to:

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds.

1.5. Site map

A site map of proposed clearing is provided in Figure 1 below.

Figure 1. Map of the application area. The yellow area indicates the area within which conditional authorised clearing can occur under the granted clearing permit.

2. Legislative context

The clearing of native vegetation in Western Australia is regulated under the EP Act and the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (Clearing Regulations).

In addition to the matters considered in accordance with section 51O of the EP Act (see Section 1.4), the Delegated Officer has also had regard to the objects and principles under section 4A of the EP Act, particularly:

- the precautionary principle
- the principle of intergenerational equity
- the principle of the conservation of biological diversity and ecological integrity.

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

During the assessment of the permit the applicant reduced the amount of clearing required for the permit from 36.19 hectares to 22.5 hectares. The road has also been sited to avoid impacts to key environmental values where possible (Evolution Mining 2023).

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

There are no records of any conservation significant flora, fauna or ecological communities within the application area (Native Vegetation Solutions, 2023; Terrestrial Ecosystems, 2023; GIS Database). The vegetation present is well represented in the local area. There is one minor ephemeral drainage line which intersects the application area (GIS Database). The proposed clearing is not likely to impact on the quality or quantity of surface or groundwater in the local area. The proposed clearing of 22.5 hectares is not likely to cause appreciable land degradation in the local area.

The assessment against the clearing principles (see Appendix C) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise and weed hygiene management conditions.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 23 November 2023 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim over the area under application (DPLH, 2025). 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, 2025). 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.

Other relevant authorisations required for the proposed land use include:

- A Mining Proposal / Mine Closure Plan / Mining Development and Closure Proposal approved under the *Mining Act 1978*.

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.

End

Appendix A. Additional information provided by applicant

Summary of comments	Consideration of comment
DMPE requested a targeted search was undertaken for suitable habitat and ant colonies supporting the inland hairstreak and arid bronze azure butterfly.	The survey did not identify any ant colonies that would support either butterfly species.
DMPE requested further detail about avoidance and mitigation measures. Evolution Mining considered the clearing required for the proposed haul road and agreed that the clearing could be reduced to 22.5 hectares.	The amount of clearing approved under the permit was reduced as indicated.

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is surrounded by native vegetation.
Ecological linkage	According to available databases, the application area does not contain any known or mapped ecological linkages (GIS Database).
Conservation areas	The closest conservation area is the ex Creedo pastoral lease approximately 4 kilometres north of the application area (GIS Database).
Vegetation description	The vegetation of the application area is broadly mapped as the following Beard vegetation associations (GIS Database): 468: Medium woodland; salmon gum & goldfields blackbutt; and 555: Hummock grasslands, mallee steppe; red mallee over spinifex, *Triodia scariosa*. A flora and vegetation survey was conducted over the application area by Native Vegetation Solutions during May, 2023. The following vegetation associations were recorded within the application area (Native Vegetation Solutions, 2023): - Transitional Eucalyptus woodland over sclerophyll shrubland; - *Eucalyptus griffithsii* and *Casuarina pauper* over sclerophyll shrubland; - *Eucalyptus salmonophloia* woodland; - Open chenopod shrubland.
Vegetation condition	The vegetation survey (Native Vegetation Solutions, 2023) indicates the vegetation within the proposed clearing area is in good to very good (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix D.
Climate and landform	The application area is mapped within elevations of 410-420 metres AHD (GIS Database). The annual average rainfall (Kalgoorlie) is 264.5 millimetres (BoM, 2025).
Soil description	The soil is mapped as 265k6: Flat to undulating valley plains and pediments; some rock outcrop (DPIRD, 2023).
Land degradation risk	There is no land degradation risk mapping which covers the application area (DPIRD, 2023).
Waterbodies	The desktop assessment and aerial imagery indicated that a non-perennial watercourse transects the area proposed to be cleared (GIS Database).
Hydrogeography	The application area is not within any public drinking water source areas. The mapped groundwater salinity is 14,000-35,000 milligrams per litre total dissolved solids which is described as saline (GIS Database).
Flora	There are no records of any Threatened or priority flora within the application area (Native Vegetation Solutions, 2023; GIS Database). There are records of 21 species of priority flora within the local area (50 kilometre radius).

Characteristic	Details
Ecological communities	There are no records of any Threatened or Priority Ecological Communities (TEC/PEC) within the application area (GIS Database). There are no known TECs or PECs within the local area (50 kilometres).
Fauna	There are no records of conservation significant fauna species within the application area (GIS Database). There are records of 19 species of conservation significant fauna species within the local area (GIS Database). Over 40% of the records in the local area are of malleefowl (GIS Database).

B.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent Remaining %	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA Managed Lands
IBRA Bioregion - Coolgardie	12,912,204	12,648,491	98	2,116,637	17
Beard vegetation associations - State					
468	592,022	583,903	98	135,197	23
555	57,420	57,252	99	25,399	44
Beard vegetation associations - Bioregion					
468	583,356	575,361	99	130,858	22
555	34,944	34,784	99	21,319	61

Government of Western Australia (2019)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix E.1), and biological survey information, impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
Acacia websteri	Priority 1	Y	Y	<50	Y
Eucalyptus educta	Priority 2	N	N	<20	Y
Angianthus prostratus	Priority 3	N	N	<30	Y
Atriplex lindleyi subsp. *conduplicata*	Priority 3	Y	Y	<15	Y
Elachanthus pusillus	Priority 2	Y	Y	<50	Y
Eremophila caerulea subsp. *merrallii*	Priority 4	Y	Y	<50	Y
Eremophila praecox	Priority 2	Y	Y	<25	Y
Notisia intonsa	Priority 3	Y	Y	<20	Y
Gompholobium cinereum	Priority 3	Y	Y	<25	Y
Hysterobaeckea ochropetala subsp. *cometes*	Priority 3	Y	Y	<35	Y
Xanthoparmelia subbarbatica	Priority 1	N	Y	<20	Y
Rumex crystallinus	Priority 2	N	N	<15	Y
Lepidium fasciculatum	Priority 3	N	N	<15	Y
Austrostipa burgensiana	Priority 1	Y	Y	<25	Y
Ricinocarpus digynus	Priority 1	Y	Y	<20	Y

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
Calandrinia lefroyensis	Priority 1	Y	Y	<30	Y
Eucalyptus jutsonii subsp. *jutsonii*	Priority 4	N	N	<30	Y
Philotheca pachyphylla	Priority 1	N	N	<30	Y
Phlegmatospermum eremaeum	Priority 3	Y	Y	<50	Y
Ptilotus rigidus	Priority 1	Y	Y	<30	Y
Ptilotus sp. Kalgoorlie (J. Jackson & B. Moyle 260)	Priority 1	Y	Y	<30	Y

B.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
Actitis hypoleucos (Common Sandpiper)	Migratory	N	N	<15	Y
Arenaria interpres (Ruddy Turnstone)	Migratory	N	N	<15	Y
Caldris acuminata (Sharp-tailed Sandpiper)	Migratory	N	N	<30	Y
Caldris ferruginea (Curlew Sandpiper)	Critically Endangered	N	N	<30	Y
Caldris ruficollis (Red-necked Stint)	Migratory	N	N	<30	Y
Charadrius veredus (Oriental Plover)	Migratory	N	N	<15	Y
Falco peregrinus (Peregrine Falcon)	Other Specially Protected	Y	Y	<15	Y
Leipoa ocellata (Malleefowl)	Vulnerable	Y	Y	<5	Y
Oxyura australis (Blue-billed Duck)	Priority 4	N	N	<15	Y
Plegadis falcinellus (Glossy Ibis)	Migratory	N	N	<10	Y
Tringa glareola (Wood Sandpiper)	Migratory	N	N	<15	Y
Tringa nebularia (Common Greenshank)	Migratory	N	N	<15	Y

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): *"Native vegetation should not be cleared if it comprises a high level of biodiversity."* Assessment: The application area contains habitat which has the potential to support conservation significant flora and fauna however, surveys over the area proposed to be cleared have not recorded any significant flora, fauna, habitats, or assemblages of plants (Native Vegetation Solutions, 2023). The vegetation within the application area is common in the local area and is not likely to comprise a high level of biodiversity. Weeds have been recorded within the application area (Native Vegetation Solutions, 2023). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area.	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (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."* Assessment: The area proposed to be cleared is not likely to contain significant habitat for native fauna in the local area. The application area contained vegetation which was suitable to support host ant colonies for the inland hairstreak (*Jalmenus aridus*) and arid bronze azure butterfly (*Ogyris subterrestris petrina*). A target search of the application area did not identify any ant (*Camponotus terebrans*) colonies or suitable habitat for the inland hairstreak (Botanica Consulting, 2025). There are numerous records of malleefowl in the local area and malleefowl mounds have been recorded during the fauna survey for nearby haul roads (Terrestrial Ecosystems, 2023; GIS Database). Malleefowl in the goldfields tend to target more densely shrubbed areas and areas with gravelly soils (Terrestrial Ecosystems, 2023). Searches of the application area have not found any malleefowl mounds (Terrestrial Ecosystems, 2023).	Not likely to be at variance	No
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: 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 (Native Vegetation Solutions, 2023). The area proposed to be cleared is unlikely contain habitat for flora species listed under the BC Act.	Not likely to be at variance	No
Principle (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."* Assessment: 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 (Native Vegetation Solutions, 2023).	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
Principle (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."* Assessment: The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.	Not at variance	No
Principle (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."* Assessment: There are no conservation areas within the application area. The nearest DBCA managed land is the former Credo Pastoral Lease which is located approximately four kilometres north of the application area (GIS Database). The application area is not part of an ecological linkage to this conservation area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.	Not likely to be at variance	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: There are no permanent watercourses within the application area. There is one minor ephemeral drainage line present (GIS Database). None of the vegetation types within the application area were identified as growing in association with a watercourse (Native Vegetation Solutions, 2023). The watercourses in the local area only flow	At variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
immediately following significant rainfall and the proposed clearing is not likely to significantly impact riparian vegetation in the local area.		
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: Soils in the application area are described as flat to undulating valley plains and pediments; some rock outcrop (DPIRD, 2023). The majority of the application area is relatively flat and the region receives relatively low annual rainfall (BoM, 2025; GIS Database). Although the removal of vegetation cover may result in localised erosion, the proposed clearing of up to 22.5 hectares of native vegetation, is unlikely to cause appreciable land degradation.	Not likely to be at variance	No
Principle (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."* Assessment: 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 (Kern, 1995). The proposed clearing is unlikely to result in significant changes to surface water quality. The groundwater within the application area is between 14,000 – 35,000 milligrams per litre of Total Dissolved Solids. This is considered to be saline water. It would not be expected that the proposed clearing would cause salinity levels within the application or surrounding area to alter.	Not likely to be at variance	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: The climate of the region is semi-arid, with a low average rainfall of approximately 265 millimetres per year, and average annual pan evaporation rates of 2,400 millimetres (BoM, 2023). There are no permanent watercourses 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.	Not likely to be at variance	No

Appendix D. Vegetation condition rating scale

Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree of disturbance impacts upon the vegetation's ability to regenerate. Disturbance at a site can be a cumulative effect from a number of interacting disturbance types.

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

Condition	Description
Pristine	Pristine or nearly so, no obvious signs of disturbance.
Excellent	Vegetation structure intact, with disturbance affecting individual species; weeds are non-aggressive species.
Very good	Vegetation structure altered, with obvious signs of disturbance. For example, disturbance to vegetation structure caused by repeated fires, the presence of some more aggressive weeds, dieback, logging and/or grazing.

Condition	Description
Good	Vegetation structure significantly altered by very obvious signs of multiple disturbances. Retains basic vegetation structure or ability to regenerate it. For example, disturbance to vegetation structure caused by very frequent fires, the presence of some very aggressive weeds at high density, partial clearing, dieback and/or grazing.
Degraded	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not to a state approaching good condition without intensive management. For example, disturbance to vegetation structure caused by very frequent fires, the presence of very aggressive weeds, partial clearing, dieback and/or grazing.
Completely degraded	The structure of the vegetation is no longer intact and the area is completely or almost completely without native species. These areas are often described as 'parkland cleared' with the flora comprising weed or crop species with isolated native trees or shrubs.

Appendix E. Sources of information

E.1. GIS databases

Publicly available GIS Databases used (sourced from www.data.wa.gov.au):

- 10 Metre Contours (DPIRD-073)
- Contours (DPIRD-073)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Offsets Register – Offsets (DWER-078)
- Pre-European Vegetation Statistics
- Interim Ramsar Sites (DBCA-010)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) – Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

E.2. References

Botanica Consulting (2025) Carbine Haul Roads – Desktop and Targeted Invertebrate Fauna Surveys, Spring 2024. Report prepared for Evolution Mining, March 2025.

Bureau of Meteorology (BoM) (2025) Bureau of Meteorology Website – Climate Data Online, Kalgoorlie-Boulder Airport. Bureau of Meteorology. http://www.bom.gov.au/climate/data/ (Accessed 30 November 2023).

Department of Environment Regulation (DER) (2014) *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf

Department of Planning, Lands and Heritage (DPLH) (2025) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS (Accessed 18 November 2025).

Department of Primary Industries and Regional Development (DPIRD) (2023) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: https://dpird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f (Accessed 30 November 2023).

Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.pdf

Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf

Environmental Protection Authority (EPA) (2020) Technical Guidance – Terrestrial Fauna Surveys. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.pdf

Evolution Mining (2023) Application for clearing permit CPS 10374/1, October 2023.

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. 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.

Kern, A.M. (1995) Hydrogeology of the Kalgoorlie 1:250 000 Sheet. Geological Survey of Western Australia, 1:250 000 Hydrogeological Series Explanatory Notes, 16p, Western Australia.

Native Vegetation Solutions (2023) Detailed Flora and Vegetation Survey of Proposed Hauls Roads and Bypass Roads. Report prepared for Evolution Mining (Mungari) Pty Ltd, by Native Vegetation Solutions, July 2023.

Terrestrial Ecosystems (2023) Basic and Targeted Vertebrate Fauna Survey, Carbine/Paradigm Haul Roads. Report prepared for Evolution Mining (Mungari) Pty Ltd, July 2023.

4. Glossary

Acronyms:

BC Act	*Biodiversity Conservation Act 2016,* Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DCCEEW	Department of Climate Change, Energy, the Environment and Water, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DoEE	Department of the Environment and Energy (now DCCEEW)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	*Environmental Protection Act 1986*, Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	*Rights in Water and Irrigation Act 1914*, Western Australia
TEC	Threatened Ecological Community

Definitions:

{DBCA (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia}:-

T **Threatened species:**

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR **Critically endangered species**
Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN **Endangered species**
Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU **Vulnerable species**
Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct Species:

EX **Extinct species**
Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW **Extinct in the wild species**
Species that *"is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species:

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI **Migratory species**
Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD **Species of special conservation interest (conservation dependent fauna)**
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS **Other specially protected species**
Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P **Priority species:**

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 **Priority One - Poorly-known species**
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species**
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species**
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4 **Priority Four - Rare, Near Threatened and other species in need of monitoring**
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Principles for clearing native vegetation:

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

(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.

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

(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.

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

(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.

(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.

(j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.