

1. Application details and outcomes

1.1. Permit application details

Permit number:	10902/1
Permit type:	Purpose Permit
Applicant name:	Zeus Mining Pty Ltd
Application received:	18 December 2024
Application area:	93.96 hectares
Purpose of clearing:	Mineral production and associated infrastructure
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 51/886 Mining Lease 51/889
Location (LGA area/s):	Shire of Meekatharra
Colloquial name:	Garden Gully Project

1.2. Description of clearing activities

Zeus Mining Pty Ltd proposes to clear up to 93.96 hectares of native vegetation within a boundary of approximately 204 hectares, for the purpose of mineral production and associated infrastructure. The project is located approximately 20 kilometres direction of nearest major town, within the Shire of Meekatharra.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	6 March 2025
Decision area:	93.96 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) 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 A), relevant datasets (Appendix D), supporting information provided by the applicant including the results of a flora and vegetation survey, the clearing principles set out in Schedule 5 of the EP Act (Appendix B), 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;
- potential impacts to fauna of the region;
- potential impacts to flora of the region;
- potential impacts on watercourses; and
- potential land degradation in the form of erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to lead to appreciable land degradation and can be managed to be 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;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;

- targeted pre-clearance survey for Priority flora;
- water course management condition to prevent riparian vegetation from being impacted where possible, and to maintain water flows; and
- commence mineral production no later than three months after undertaking clearing to reduce the risk of erosion.

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 (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)

Relevant agreements (treaties) considered during the assessment include:

- Japan-Australia Migratory Bird Agreement
- China-Australia Migratory Bird Agreement
- Republic of Korea-Australia Migratory Bird Agreement

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

Mitigation and management measures proposed by the applicant include (MBS Environmental, 2024):

- clearing of vegetation kept to the minimum required for application area;
- utilisation of existing disturbed areas where possible;
- clearing to be managed by internal Land Clearing Procedure;
- clearing area to be clearly delineated to ensure only that required for a safe working area is cleared;
- implementation of a procedure to record the amount of clearing undertaken and report the cumulative total in the Annual Environmental Report (AER) and Mine Rehabilitation Fund (MRF) reporting;
- minimisation of weeds by implementation of vehicle and equipment hygiene procedures;
- site weed and dust control measure conducted as required;
- stockpiling stripped topsoil and vegetation for use in future rehabilitation activities;
- progressive rehabilitation of disturbed areas on completion of Project activities;
- implementation of speed limits to minimise dust emissions and to minimise the risk of fauna injury or death due to vehicle traffic.

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. Additionally, further management conditions have been placed on the clearing permit to mitigate and minimise potential impacts to 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 A) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

The assessment against the clearing principles (see Appendix B) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise, hygiene management conditions and staged clearing management conditions. Non-standard management conditions will include flora management conditions, directional clearing, and watercourse management conditions.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 7 February 2025 by the Department of Energy, 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 (WC2004/010) over the area (DPLH, 2025). This claim has been determined by the Federal Court on behalf of the claimant group (Wajarri Yamatji). 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 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. Site characteristics

A.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 the native vegetation and landscape of the Murchison bioregion. The proposed clearing area is adjacent to the Garden Gully Development Project (GIS Database).								
Ecological linkage	According to aerial imagery the application area does not form part of any formal or informal ecological linkages (GIS Database).								
Conservation areas	The application area does not form part of any known or mapped conservation areas. The closest conservation area, Lakeside Conservation Park (R54420), is approximately 130 kilometres southwest of the application area (MBS Environmental, 2024; GIS Database).								
Vegetation description	<p>The vegetation of the application area is broadly mapped Beard vegetation association 18: Low woodland, open low woodland or sparse woodland (GIS Database).</p> <p>A reconnaissance level flora and vegetation survey was conducted over the application area by Botanica Consulting during June, 2024. The following vegetation communities were recorded within the application area (MBS Environmental, 2024):</p> <table border="1"> <thead> <tr> <th>Vegetation Communities</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>RP-AOW1</td> <td>Mid woodland of <i>Acacia pruinocarpa</i> and <i>Acacia incurvaneura</i> over mid open shrubland of <i>Acacia grasbyi</i>, <i>Eremophila galeata</i> and <i>Senna</i> sp. Meekatharra overflow sparse shrubland of <i>Maireana triptera</i> and <i>Enchylaena tomentosa</i> on rocky plain.</td> </tr> <tr> <td>DD-AFW1</td> <td>Mid open forest of <i>Acacia incurvaneura</i> over mid open shrubland of <i>Acacia tetragonophylla</i>, <i>Eremophila galeata</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> and <i>Solanum lasiophyllum</i> in drainage depression.</td> </tr> <tr> <td>CLP-AOW1</td> <td>Mid woodland of <i>Acacia incurvaneura</i> over mid shrubland of <i>Eremophila compacta</i> over low sparse shrubland of <i>Solanum lasiophyllum</i> and <i>Aristida contorta</i> on clay loam plain.</td> </tr> </tbody> </table>	Vegetation Communities	Description	RP-AOW1	Mid woodland of <i>Acacia pruinocarpa</i> and <i>Acacia incurvaneura</i> over mid open shrubland of <i>Acacia grasbyi</i> , <i>Eremophila galeata</i> and <i>Senna</i> sp. Meekatharra overflow sparse shrubland of <i>Maireana triptera</i> and <i>Enchylaena tomentosa</i> on rocky plain.	DD-AFW1	Mid open forest of <i>Acacia incurvaneura</i> over mid open shrubland of <i>Acacia tetragonophylla</i> , <i>Eremophila galeata</i> and <i>Senna</i> sp. Meekatharra over low sparse shrubland of <i>Ptilotus obovatus</i> and <i>Solanum lasiophyllum</i> in drainage depression.	CLP-AOW1	Mid woodland of <i>Acacia incurvaneura</i> over mid shrubland of <i>Eremophila compacta</i> over low sparse shrubland of <i>Solanum lasiophyllum</i> and <i>Aristida contorta</i> on clay loam plain.
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Vegetation condition	<p>The vegetation survey (MBS Environmental, 2024) and aerial imagery (GIS Database) indicate the vegetation within the proposed clearing area ranges from good to a completely degraded (Trudgen 1991) condition.</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix C.</p>								
Climate and landform	The application area is located in an arid zone with an annual average rainfall (Meekatharra Airport) of 234 millimetres (BoM, 2025).								
Soil description	The soil in the application area is mapped as red shallow loam, red shallow sandy duplex, red shallow sand, red-brown hardpan shallow loam and stony soil (Botanica Consulting, 2024).								
Land degradation risk	<p>The application area falls within the Wiluna system (Botanica Consulting, 2024), which is described below:</p> <p>Wiluna system: Low greenstone hills with occasional lateritic breakaways and broad stony slopes, lower saline stony plains and broad drainage tracts; supporting sparse mulga and other acacia shrublands with patches of halophytic shrubs. Sandy surfaced gravelly plains, alluvial fans and plains and drainage floors are mildly to moderately susceptible to accelerated erosion when degraded. The system shows extensive disturbance and localised erosion as a result of mining activities (Curry, et. al 1994).</p>								
Waterbodies	The desktop assessment and aerial imagery indicate that the application area is in the Murchison River Catchment. One major and several minor ephemeral drainage lines intersect the survey area (MBS Environmental, 2024; GIS Database). The Garden Gully Creek is listed as a major ephemeral drainage line and intersects the northern part of the survey area (MBS Environmental, 2024; GIS Database).								
Hydrogeography	The application area is located within the East Murchison Groundwater Area which is legislated by the RIWI Act 1914. The mapped groundwater salinity is 1,000-3,000 milligrams per litre total dissolved solids, which is described as brackish (GIS Database).								
Flora	One Priority flora species was identified in the application area, <i>Grevillea inconspicua</i> (Priority 4) growing in the drainage line. No other Priority flora or conservation significant flora species were identified within the application area. According to WA Herbarium records <i>Calytrix verruculosa</i> , a Priority 3 species has been recorded approximately 1 kilometre from the application area (GIS Database).								

Characteristic	Details									
Ecological communities	No Threatened Ecological Communities or Priority Ecological Communities were found within the application area (MBS Environmental, 2024). The nearest recorded Priority Ecological Community is found approximately 8 kilometres west of the application area (GIS Database).									
Fauna	No threatened species of fauna are likely to be present in the application area. There was no evidence of conservation significant species observed (MBS Environmental, 2024). GIS Database indicates there are conservation significant fauna species recorded within 20 kilometres of the application area. These species have been further assessed in Appendix A.3									
Fauna habitat	The following fauna habitats have been identified within the application area (MBS Environmental, 2024): <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th>Fauna Habitat</th> <th>Description</th> <th>Representative Fauna Attributes</th> </tr> </thead> <tbody> <tr> <td>Acacia open woodland on rocky or clay-loam plain</td> <td>Open Acacia woodland over Eremophila shrubland</td> <td>Ground not particularly suited to burrowing species. Low diversity vegetation strata supporting a reduced avifauna assemblage. Low vegetation density and low leaf litter supporting some small reptiles.</td> </tr> <tr> <td>Acacia/ Eucalypt woodlands in drainage lines</td> <td>Closed Acacia and/or Eucalypt woodland over mixed Acacia and Eremophila shrubland</td> <td>Ground moderately suited to burrowing species in some areas. Moderate diversity vegetation strata supporting a good avifauna assemblage. Moderate vegetation density and moderate leaf litter supporting small reptiles.</td> </tr> </tbody> </table>	Fauna Habitat	Description	Representative Fauna Attributes	Acacia open woodland on rocky or clay-loam plain	Open Acacia woodland over Eremophila shrubland	Ground not particularly suited to burrowing species. Low diversity vegetation strata supporting a reduced avifauna assemblage. Low vegetation density and low leaf litter supporting some small reptiles.	Acacia/ Eucalypt woodlands in drainage lines	Closed Acacia and/or Eucalypt woodland over mixed Acacia and Eremophila shrubland	Ground moderately suited to burrowing species in some areas. Moderate diversity vegetation strata supporting a good avifauna assemblage. Moderate vegetation density and moderate leaf litter supporting small reptiles.
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A.2. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix D.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]	Suitable soil type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Grevillea inconspicua</i>	Priority 4	Y	Y	Y	Within application area	62	Y
<i>Calytrix verruculosa</i>	Priority 3	Y	Y	Y	1	14	N

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

A.3. 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)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Falco hypoleucos</i> (Grey Falcon)	Threatened, Vulnerable under BC Act 2016	Y	N	120	190	Y
<i>Falco peregrinus</i> (Peregrine Falcon)	Other specially protected	Y	N	14	1 756	Y
<i>Tringa glareola</i> (Wood sandpiper)	Specially protected, Migratory	N	N	14	1 262	Y

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
<i>Gelochelidon nilotica</i> (Gull-billed tern)	Other Specially Protected, Migratory	N	N	5.75	1 170	Y
<i>Tringa nebularia</i> (common Greenshank)	Specially Protected, Migratory	N	N	5.75	5 476	Y
<i>Calidris acuminata</i> (Sharp-tailed sandpiper)	Specially Protected, Migratory	N	N	5.75	2 078	Y
<i>Calidris ferruginea</i> (Curlew sandpiper)	Threatened species, Critically endangered	N	N	5.75	2 293	Y
<i>Sminthopsis longicaudata</i> (long-tailed dunnart)	Priority 4	N	N	14	282	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains records of one Priority four flora species (Botanica Consulting, 2024). No Priority Ecological Communities were found within the application area (MBS Environmental, 2024). GIS Database indicates <i>Calytrix verruculosa</i>, a Priority three species, approximately 1 kilometre from the application area.</p> <p>The most recent records of <i>Calytrix verruculosa</i> dates to 2009 (WA Herbarium, 1998), with none of these recorded within conservation areas (Florabase, 2025). The flowering season of <i>Calytrix verruculosa</i>, ranges from August to October (Florabase, 2025) and the biological survey was completed in June 2024 by Botanica Consulting. Based on this assessment, and the timing of the flora and vegetation survey conducted, it cannot be assumed that the proposed clearing will not have an impact on this species; however potential impacts may be minimised by the implementation of a flora management condition to identify the likelihood of this species to be found within the application area. These species have been further assessed in Appendix A.3.</p> <p>Six introduced flora (weeds) species were observed within the survey area – none of which are listed as Declared Pest or as a Weed of National Significance (Botanica Consulting, 2024).</p>	May be at variance	No
<p><u>Principle (b):</u> "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."</p> <p><u>Assessment:</u></p> <p>There was no evidence of conservation significant species observed (MBS Environmental, 2024). Habitat and distribution data determined the likelihood of two significant fauna species occurring within the application area were identified as possibly occurring; <i>Falco peregrinus</i> (Peregrine Falco) and <i>Falco hypoleucos</i> (Grey Falcon), with all other species assessed as "unlikely" or "would not occur" (MBS Environmental, 2024). Both species considered as possibly occurring are highly mobile avian species with large home ranges. Based on this assessment, the area</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>proposed to be cleared is unlikely to contain vegetation necessary for the maintenance of significant habitat for conservation significant fauna.</p> <p>Available databases indicates the closest record of <i>Falco hypoleucos</i> (Grey Falcon) is approximately 120 kilometres from the application area (GIS Database). The habitat within the application area is not considered to be critical habitat for this species (MBS Environmental, 2024), therefore the proposed clearing is unlikely to represent as significant impact for the species.</p> <p>These species have been further assessed in Appendix A.3</p>		
<p>Principle (c): <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>There are no records of Threatened flora species within the application area (MBS, 2024; GIS Database)</p>	Not likely to be at variance	No
<p>Principle (d): <i>“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.”</i></p> <p><u>Assessment:</u></p> <p>The application area proposed to be cleared does not intercept any mapped or known ecological communities and the vegetation associations identified in the application area do not form part of any known or mapped Threatened Ecological Communities (Botanica Consulting, 2024; GIS Database).</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p>Principle (e): <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The application area falls within the Murchison Bioregion of the Interim Biogeographic Regionalisation for Australia (GIS Database). Over 99 per cent of the pre-European vegetation still exists in the Murchison Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 18 (GIS Database). This vegetation association has not been extensively cleared as over 99 per cent of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2019).</p>	Not at variance	No
<p>Principle (h): <i>“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></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area (GIS Database), the proposed clearing is not likely to have an impact on the environmental values of adjacent or nearby conservation areas.</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<p>Principle (f): <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>Given two minor, non-perennial watercourses are recorded within the application area and a major water course (Garden Gully Creek) runs adjacent to the application area, the proposed clearing is likely to impact on vegetation associated with a watercourse (GIS Database), however, the clearing for the expansion associated with this clearing permit should not cause complete deterioration of the flow of water along these watercourses. Potential impacts on watercourses in the area may be minimised by the implementation of a watercourse management condition requiring the maintenance of existing water flows.</p>	At variance	No
<p>Principle (g): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
The mapped soils and land systems are mildly to moderately susceptible to accelerated erosion (Curry, et. al 1994). Noting the location of the application area and the condition of the vegetation, the proposed clearing is likely to cause appreciable land degradation.		
<p><u>Principle (i):</u> "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."</p> <p><u>Assessment:</u></p> <p>The application area sits within the Murchison River Catchment. Garden Gully Creek runs adjacent to the northern part of the application area and two minor ephemeral drainage lines run through the application area. A Public Drinking Water Source Area is recorded approximately 1 kilometre north of the application area (GIS Database). The clearing is unlikely to have an impact on the quality of underground water and the short-term impacts may have an affect on surface water quality which can be managed with erosion control measures (MBS Environmental, 2024).</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."</p> <p><u>Assessment:</u></p> <p>Given the application area sits within the Murchison River Catchment, the Garden Gully Creek runs adjacent to the northern part of the application area and two minor ephemeral drainage lines run through the application area, the proposed clearing may contribute to localised waterlogging in certain areas (MBS Environmental, 2024). Potential exacerbation of waterlogging from the proposed clearing can be mitigated by a staged clearing condition to avoid degradation of cleared areas (MBS Environmental, 2024).</p>	May be at variance	No

Appendix C. 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 Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

Appendix D. Sources of information

D.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- DBCA - Lands of Interest (DBCA-012)
- DBCA - Legislated Lands and Waters (DBCA-011)
- Esri World Imagery
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation (DPIRD-006)
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- Threatened and Priority Flora (TPFL)
- Threatened and Priority Flora (WAHerb)
- Threatened and Priority Fauna
- Threatened and Priority Ecological Communities
- Threatened and Priority Ecological Communities (Buffers)

D.2. References

- Botanica Consulting (2024) Reconnaissance Flora and Basic Fauna Assessment Crown Prince Project completed for Ora Gold Ltd by Botanica Consulting, August 2024.
- Bureau of Meteorology (BoM) (2025) Bureau of Meteorology Website – Climate Data Online, Meekatharra Airport. Bureau of Meteorology. <https://reg.bom.gov.au/climate/data/> (Accessed 5 February 2025).
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4. 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)
DCCEEW	Department of Climate Change, Energy, the Environment and Water, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia (now DEMIRS)
DMP	Department of Mines and Petroleum, Western Australia (now DEMIRS)
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	<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 (2023) 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 the species of fauna that are listed as critically endangered, endangered or vulnerable threatened species.

Threatened flora is the species of flora that are listed as critically endangered, endangered or vulnerable threatened species.

The assessment of the conservation status of threatened species is in accordance with the BC Act listing criteria and the requirements of [Ministerial Guideline Number 1](#) and [Ministerial Guideline Number 2](#) that adopts the use of the International Union for Conservation of Nature (IUCN) [Red List of Threatened Species Categories and Criteria](#), and is based on the national distribution of the species.

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.

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.

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.

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).

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.

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).

Migratory species include birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) or 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.

CD Species of special conservation interest (conservation dependent fauna)
Species of special conservation need that are 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).

Currently only fauna are listed as species of special conservation interest.

OS Other specially protected species
Species 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).

Currently only fauna are listed as species otherwise in need of special protection.

P Priority species:

Priority is not a listing category under the BC Act. The Priority Flora and Fauna lists are maintained by the department and are published on the department’s website.

All fauna and flora are protected in WA following the provisions in Part 10 of the BC Act. The protection applies even when a species is not listed as threatened or specially protected, and regardless of land tenure (State managed land (Crown land), private land, or Commonwealth land).

Species that may possibly be threatened species that do not meet the criteria for listing under the BC Act because of insufficient survey 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 prioritisation for survey and evaluation of conservation status so that consideration can be given to potential listing as threatened.

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

Assessment of priority status 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 – known from few locations, none on conservation lands

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, for example, 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 for threatened listing and appear to be under immediate threat from known threatening processes. These species are in urgent need of further survey.

P2 Priority Two - Poorly-known species – known from few locations, some on conservation lands

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, for example, 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 for threatened listing and appear to be under threat from known threatening processes. These species are in urgent need of further survey.

P3 Priority Three - Poorly-known species – known from several locations

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. These species need 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 a conservation dependent specially protected species.

(c) Species that have been removed from the list of threatened species or lists of conservation dependent or other specially protected species, during the past five years for reasons other than taxonomy.

(d) Other species in need of monitoring.

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.