

# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

Permit number:	11340/1
Permit type:	Purpose permit
Applicant name:	Big Bell Gold Operations Pty Ltd
Application received:	14 November 2025
Application area:	50 hectares
Purpose of clearing:	Mineral production
Method of clearing:	Mechanical removal
Tenure:	Mining Leases 20/12, 20/45, 20/68, 20/77, 20/214, and 20/421
Location (LGA area):	Shire of Cue
Colloquial name:	Central Murchison Gold Project

### 1.2. Description of clearing activities

Big Bell Gold Operations Pty Ltd proposes to clear up to 50 hectares of native vegetation within a boundary of approximately 1,292.2 hectares, for the purpose of mineral production. The project is located approximately 56.6 kilometres south-southwest of Meekatharra, within the Shire of Cue.

This permit was applied for to replace expired permit CPS 6615/3 (Big Bell Operations Pty Ltd, 2025).

Clearing permit CPS 6615/1 was granted by the Department of Mines and Petroleum (now the Department of Mines, Petroleum and Exploration) on 16 July 2015 and was valid from 8 August 2015 to 31 July 2020. The permit authorised the clearing of up to 50 hectares of native vegetation within a boundary of approximately 1,300 hectares, for the purpose of mineral production

CPS 6615/2 was granted on 14 May 2020, amending the permit to extend the permit duration by five years, to 31 July 2025.

On 7 April 2025, the permit holder applied to amend CPS 6615/2 to extend the permit duration but five years, to 31 July 2030. The amount authorised to clear, and the permit boundary remain unchanged.

Based on the most recent annual clearing report (reporting period 1 July 2023 to 30 June 2024), Big Bell Gold Operations Pty Ltd have cleared a total of 33.14 hectares of native vegetation (Big Bell Gold Operations Pty Ltd, 2017; 2018; Metals X Limited, 2016; Westgold Resources Limited, 2019; 2020; 2021; 2022; 2023; 2024). An additional 31.06 hectares have been cleared under the regulation 5 item 20 exemption of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004.

The application is to allow for the development of future and ongoing mining operations (Westgold Resources Limited, 2025a).

### 1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	16 December 2025
Decision area:	50 hectares of native vegetation

### 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51E(1) and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Mines, Petroleum and Exploration (DMPE) 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 biological 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 conservation significant flora;

- potential impacts to conservation significant fauna and their habitats
- impacts to vegetation growing in association with a watercourse
- potential land degradation in the form of water 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 can be minimised and 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
- engage a fauna specialist for the duration of clearing to identify, and if necessary, remove and relocate, native fauna from the application area to an area of suitable habitat ahead of the clearing activity
- engage a botanist to undertake a targeted flora survey for threatened and priority flora
- commence construction no later than three months after undertaking clearing to reduce the risk of erosion
- avoid clearing riparian vegetation where practicable

## 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)
- *Biosecurity and Agriculture Management Act 2007* (BAM Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)

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)
- Terrestrial Biological Surveys as an Element of Biodiversity Protection, Position Statement No. 3 (EPA, 2002)
- Guidance for the Assessment of Environmental Factors – *Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia* (EPA, 2004a)
- Guidance for the Assessment of Environmental Factors – *Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia* (EPA, 2004b)
- Technical Guide - Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment (EPA and DPaW, 2010)

## 3. Detailed assessment of application

### 3.1. Avoidance and mitigation measures

Metals X Group (2015) provided the following details regarding their avoidance and mitigation measures:

- Big Bell will minimise the area of vegetation clearance and land disturbance as much as practicable. Clearing will be planned so that only the area of land required for immediate use is cleared and exposed.

- Where practicable, a minimum of 0.2 metres of soil and laterite (plus any existing vegetation) from within disturbance footprints will be stripped and stockpiled as topsoil. This will expedite the regrowth of vegetation as part of rehabilitation; Where possible up to 1 metre of subsoil and laterite will be cleared.
- Disturbed areas will be rehabilitated as soon as practicable. This will reduce colonisation by weed species and dust generation.
- Areas designated for clearing will be clearly delineated on the ground, along with the designated areas for cleared vegetation and topsoil stockpiling.
- Land clearing will be audited to validate the effectiveness of ground-disturbance procedures and contingency actions (e.g. revegetation) will be implemented if unauthorised clearing is identified.
- Dust suppression will incorporate the use of water trucks across cleared infrastructure, haul roads, stockpile areas and around areas of activity.
- Vegetation clearing will be undertaken in accordance with Big Bell's Ground Disturbance and Topsoil Management Standard Operating Procedure.
- The workforce will be trained on proper clearing protocols and procedures and provided with sufficient data to ensure they are aware of the specific areas to be cleared.
- Further expansion of weed populations will be avoided through the implementation of proper hygiene practices on mobile equipment used for land clearing.
- Weed populations will be controlled and monitored to reduce the impacts of the project on native flora.
- Clearing and disturbance of vegetation will be kept to a minimum necessary for safe operation of the mine.
- Big Bell will minimise the area of vegetation clearance and land disturbance as much as practicable. Clearing will be planned so that only the area of land required for immediate use is cleared and exposed.
- Clearing will only occur in accordance with the existing Ground Disturbance and Topsoil Management Standard Operating Procedure and no clearing will occur without prior authorisation from Big Bell's Environment Department.
- Vehicles will be prohibited from driving off the access tracks, unless authorised by the Resident Manager, to minimise unnecessary disturbance to flora and vegetation communities.
- Visual observations of vegetation health to monitor potential impacts from fugitive dust emissions and any erosion that occurs as a result of the mine will be undertaken in accordance with mine management procedures.
- Rehabilitation will include the use of provenance seed, preferentially sourced from the immediate area.
- Targeted and regular weed monitoring will be undertaken.
- Control of introduced weed populations will be undertaken as required, in consultation with the DBCA.

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 (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 identified that the impacts of the proposed clearing present a risk to biological values (fauna, flora and vegetation). The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

#### 3.2.1. Biological values (flora and fauna) - Clearing principles (a), (b), and (c)

##### Assessment

A flora and vegetation and fauna survey was conducted over the application area and surrounds by MWH Australia Pty Ltd (2015a) between 15 to 20 April 2015 and covered an area of approximately 5,254 hectares. The survey was undertaken by one botanist and one zoologist.

##### **FLORA**

While no threatened or priority flora were recorded within the application during the field assessment, MWH Australia Pty Ltd (2015a) found *Ptilotus beardii* (P3) at a single location approximately 0.72 kilometres outside the application area.

In addition, the survey found seven taxa that were only partially identified as due to lack of reproductive material. Two of the unidentified specimens match conservation significant flora that MWH Australia Pty Ltd (2015a) determined were likely to occur within the application area and surrounds. These species are *Maireana prosthocochaeta* (P3) and *Ptilotus lazardis* (P3).

A flora and vegetation survey (22-27 September 2019) conducted by Biologic Environmental Survey (2020a) that partially intersects the application area recorded *Acacia speckii* (P4) and *Maireana prosthocochaeta* (P3) approximately 2.3 kilometres outside the application area, and *Ptilotus luteolus* (P3) approximately 13.0 kilometres outside the application area.

##### **FAUNA**

The following broad fauna habitats were recorded within the application area (MWH Australia Pty Ltd, 2015a):

- open shrubland (585.3 ha)
- degraded (383.7 ha)

- stony plain (153.3 ha)
- low open mulga woodland (72.6 ha)
- drainage lines (45.7 ha)
- stony rise (44.4 ha)
- ephemeral wetland (7.0 ha)

The fauna survey did not identify any fauna species of conservation significance, however a number of surrounding fauna surveys recorded *Lerista eupoda* (West Coast mulga slider, P1), and suitable habitat exists within the application area.

#### ***Lerista eupoda* (West Coast mulga slider, P1)**

All known records of the West Coast mulga slider occur within 70 kilometres of the application area, comprising of 28 records total (GIS Database). The species is only known from the arid southern interior between Cue and Meekatharra and prefers habitat of open mulga on red loams and sandy loams (Smith, 1996). It is likely that this species would occur within the open shrubland, and low open mulga woodland habitats recorded within the application area (MWH Australia Pty Ltd, 2015a).

MWH Australia Pty Ltd (2015b) surveyed an area approximately 17 kilometres north of the application area. Two ecologists spent 14 to 17 July 2015 surveying an area of approximately 1,573 hectares. This survey recorded West Coast mulga slider in July 2015 at two locations in dunefield habitat, which was described as open mulga woodland with *Hakea preissii* or *Senna artemisioides* over an open shrubland of *Eremophila*, *Maireana* and *Atriplex* species, over open tussock grassland on red/orange loamy or clayey sand.

Biologic Environmental Survey (2020b) recorded West Coast mulga slider at one location in April 2017 in mulga woodland habitat. This fauna survey was located approximately 31 kilometres northeast of the application area, where five zoologists covered an area of approximately 13,648 hectares over a total of 20 days.

#### Conclusion

The most recent flora and vegetation and fauna survey conducted over the application area was in April 2015, over 10 years ago, therefore it is recommended that contemporary survey work is undertaken prior to further clearing.

Given a number of flora taxa were only partially identified due to lack of reproductive material, surveys in the surrounding areas recorded a number of conservation significant flora species, and there is suitable habitat for a number of these species within the application area (Appendix A.3), further surveys are recommended.

It is unlikely that sufficient time was spent surveying all suitable habitat for West Coast mulga slider within six days covering an area of approximately 5,254 hectares, with a survey team of one botanist and one zoologist. Given that suitable habitat occurs in the application area for West Coast mulga slider, and that the species is endemic to the local area, it is likely that this species occurs within the low open mulga woodland habitat and similar mulga dominated habitats with loamy soils present.

#### Conditions

To address the above impacts, the following management measures will be required as conditions on the clearing permit:

- Flora management – pre-clearance survey condition
  - within areas considered to be in 'very good' condition as per MWH Australia Pty Ltd (2015a), engage a botanist to conduct a targeted flora survey of the areas to be cleared for the presence of threatened flora and priority flora
- Fauna management – fauna spotter condition
  - within areas considered to be in 'very good' condition as per MWH Australia Pty Ltd (2015a), prior to and for the duration of clearing activities, engage a fauna specialist to identify, and if necessary remove and relocate, native fauna from the application area to an area of suitable habitat

### **3.3. Relevant planning instruments and other matters**

The clearing permit application was advertised on 21 November 2025 by the Department of Mines, Petroleum and Exploration inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WCD2021/008 - Yugunga-Nya People Part A) over the area under application (DPLH, 2025). This claim has been determined by the Federal Court on behalf of the claimant group. The mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*. There is also one Indigenous Land Use Agreement (WI2012/001 - Yugunga-Nya People & Sandfire ILUA (Non-overlapping area)) over the area under application (DPLH, 2025).

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 Programme of Work approved under the *Mining Act 1978*
- A 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. Site characteristics

### A.1. Site characteristics

Characteristic	Details																								
Local context	<p>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 located within the Eastern Murchison subregion of the Murchison bioregion and closely borders the Western Murchison subregion (GIS Database). It is surrounded by large areas of uncleared land, mining operations (primarily gold), salt lake systems, and is located within the Polelle pastoral station (GIS Database).</p> <p>Approximately 99% of the local area (50 kilometre radius from the application area) remains uncleared (GIS Database).</p>																								
Ecological linkage	<p>The application area is not considered an ecological linkage, as the majority of the surrounding vegetation remains uncleared (GIS Database).</p>																								
Conservation areas	<p>The application area is not located within any legislated conservation areas (GIS Database). The nearest legislated conservation area is the Lakeside Conservation Park, located approximately 63.6 kilometres southwest of the application area (GIS Database).</p>																								
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation associations:</p> <p>18: Low woodland; mulga (<i>Acacia aneura</i>); and</p> <p>39: Shrublands; mulga scrub (GIS Database).</p> <p>A flora and vegetation survey was conducted over the application area and surrounds by MWH Australia Pty Ltd between 15-20 April 2015. The following vegetation types were recorded within the application area (MWH Australia Pty Ltd, 2015a):</p> <table><tr><th>CODE</th><th>DESCRIPTION</th><th>SIZE WITHIN APPLICATION AREA (HA)</th></tr><tr><td>AcAiAh</td><td>Tall shrubland dominated by <i>Acacia craspedocarpa</i>, <i>Acacia incurvaneura</i> and <i>Acacia tetragonophylla</i>, over low open shrubs dominated by <i>Eremophila</i> spp., over grassland dominated by <i>Aristida holathera</i> var. <i>holathera</i>, on red sandy clay loam with quartz or laterite in drainage lines</td><td>45.7</td></tr><tr><td>AiAr</td><td>Tall shrubland dominated by <i>Acacia incurvaneura</i>, over mid open shrubland dominated by <i>Acacia ramulosa</i>, on red sandy clay with quartz in gullies</td><td>123.0</td></tr><tr><td>AiEfEe</td><td>Tall open shrubland dominated by <i>Acacia incurvaneura</i> and other mixed <i>Acacia</i> spp. over low open shrubland of <i>Eremophila forrestii</i> and <i>Eremophila galeata</i>, over grassland dominated by <i>Eragrostis pergracilis</i> and <i>Eragrostis eriopoda</i>, on red sandy clay plains</td><td>72.6</td></tr><tr><td>AiSmMt</td><td>Tall shrubland dominated by <i>Acacia incurvaneura</i>, over low shrubland dominated by <i>Senna</i> sp. Meekatharra (E. Bailey 1-26) and <i>Eremophila forrestii</i>, over low forland dominated by <i>Maireana triptera</i> on sandy red clay with laterite, on hills and slopes</td><td>154.6</td></tr><tr><td>HpEgCd</td><td>Tall shrubland dominated by <i>Hakea preissii</i>, over mid sparse shrubland dominated by <i>Eremophila galeata</i> and <i>Grevillea deflexa</i>, over closed grassland dominated by *<i>Cynodon dactylon</i>, <i>Chrysopogon fallax</i> and <i>Cyperus iria</i> and low sparse forland of *<i>Sonchus oleraceus</i>, on brown sandy clay with quartz, on floodway</td><td>7.0</td></tr><tr><td>MtSIAh</td><td>Tall open shrubland dominated by <i>Acacia</i> spp., over low forbs dominated by <i>Maireana triptera</i> and <i>Solanum lasiophyllum</i> with open grassland dominated and <i>Aristida holathera</i> var. <i>holathera</i> on red/orange sandy clay loam with quartzite, on plains</td><td>477.6</td></tr><tr><td>Disturbed</td><td></td><td>411.7</td></tr></table> <p>* denotes weed species.</p>	CODE	DESCRIPTION	SIZE WITHIN APPLICATION AREA (HA)	AcAiAh	Tall shrubland dominated by <i>Acacia craspedocarpa</i> , <i>Acacia incurvaneura</i> and <i>Acacia tetragonophylla</i> , over low open shrubs dominated by <i>Eremophila</i> spp., over grassland dominated by <i>Aristida holathera</i> var. <i>holathera</i> , on red sandy clay loam with quartz or laterite in drainage lines	45.7	AiAr	Tall shrubland dominated by <i>Acacia incurvaneura</i> , over mid open shrubland dominated by <i>Acacia ramulosa</i> , on red sandy clay with quartz in gullies	123.0	AiEfEe	Tall open shrubland dominated by <i>Acacia incurvaneura</i> and other mixed <i>Acacia</i> spp. over low open shrubland of <i>Eremophila forrestii</i> and <i>Eremophila galeata</i> , over grassland dominated by <i>Eragrostis pergracilis</i> and <i>Eragrostis eriopoda</i> , on red sandy clay plains	72.6	AiSmMt	Tall shrubland dominated by <i>Acacia incurvaneura</i> , over low shrubland dominated by <i>Senna</i> sp. Meekatharra (E. Bailey 1-26) and <i>Eremophila forrestii</i> , over low forland dominated by <i>Maireana triptera</i> on sandy red clay with laterite, on hills and slopes	154.6	HpEgCd	Tall shrubland dominated by <i>Hakea preissii</i> , over mid sparse shrubland dominated by <i>Eremophila galeata</i> and <i>Grevillea deflexa</i> , over closed grassland dominated by * <i>Cynodon dactylon</i> , <i>Chrysopogon fallax</i> and <i>Cyperus iria</i> and low sparse forland of * <i>Sonchus oleraceus</i> , on brown sandy clay with quartz, on floodway	7.0	MtSIAh	Tall open shrubland dominated by <i>Acacia</i> spp., over low forbs dominated by <i>Maireana triptera</i> and <i>Solanum lasiophyllum</i> with open grassland dominated and <i>Aristida holathera</i> var. <i>holathera</i> on red/orange sandy clay loam with quartzite, on plains	477.6	Disturbed		411.7
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Vegetation condition	<p>The vegetation survey and satellite imagery of the application area found the vegetation to be in very good, good, and completely degraded condition (MWH Australia Pty Ltd, 2015a; Trudgen, 1991; GIS Database).</p> <p>Disturbances at the site included past mining operations and drilling programs, vehicle tracks, low density weeds, feral animal grazing and trampling (MWH Australia Pty Ltd, 2015a).</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix C.</p> <p>The flora and vegetation survey recorded three weed species (MWH Australia Pty Ltd, 2015a):</p> <ul style="list-style-type: none"><li>• <i>Cucumis myriocarpus</i></li><li>• <i>Cynodon dactylon</i></li><li>• <i>Sonchus oleraceus</i></li></ul>																								

Characteristic	Details
	<p>An additional two weed species have been recorded within the broader Reedy project area (Westgold Resources Limited, 2025b):</p> <ul style="list-style-type: none"> <li>• <i>Acetosa vesicaria</i></li> <li>• <i>Cenchrus ciliaris</i></li> </ul> <p>None of the above species are listed as declared pests under the BAM Act (DPIRD, 2025b).</p>
Climate and landform	<p>The climate of the Eastern Murchison subregion is described as arid, with the nearest weather station recording an average rainfall of approximately 231.2 millimetres per year (BoM, 2025; CALM, 2002).</p> <p>The application area is mapped at elevations of 460-520 metres Australian height datum (GIS Database). Landforms within the application area are broadly described as undulating stony and gravelly plains with low rises, hills, breakaways, and ridges (Curry et al., 1994; DPIRD, 2025a; Payne et al., 1998; GIS Database).</p>
Soil description	<p>The application area is broadly mapped within the Violet (543.6 ha), Gabanintha (186.4 ha), Millex (181.2 ha), Wiluna (177.7 ha), Mindura (128.6 ha), Jundee (61.9 ha), and Sherwood (12.9 ha) land systems (Curry et al., 1994; DPIRD, 2025a; Payne et al., 1998; GIS Database). The following soils (based on the Western Australian Soil Groups) occur within these land systems, which may be present within the application area (Curry et al., 1994; DPIRD, 2025a; Payne et al., 1998; GIS Database):</p> <ul style="list-style-type: none"> <li>• red shallow loam</li> <li>• red loamy earth</li> <li>• red deep sand</li> <li>• friable non-cracking clay</li> <li>• red shallow sand</li> <li>• red shallow sandy duplex</li> <li>• stony soil</li> <li>• red-brown hardpan shallow loam</li> <li>• shallow sandy gravel</li> </ul>
Land degradation risk	<p>The mapped land systems are susceptible to water erosion where the soil surfaces have been disturbed (Curry et al., 1994; DPIRD, 2025a; Payne et al., 1998; GIS Database).</p>
Waterbodies	<p>There are several minor, non-perennial watercourses that intersect the application area (GIS Database).</p>
Hydrogeography	<p>The application area is not located within any mapped Public Drinking Water Source Areas or legislated surface water areas (GIS Database). The nearest Public Drinking Water Source Area is the Cue Water Reserve, located approximately 36.2 kilometres southwest of the application area (GIS Database).</p> <p>The application area is located within the East Murchison Groundwater Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (GIS Database).</p> <p>The mapped groundwater salinity is 500-3,000 total dissolved solids milligrams per litre, which is described as marginal to brackish water quality (GIS Database).</p>
Flora	<p>There are records of 29 priority flora and one threatened flora species within 50 kilometres of the application area (GIS Database).</p>
Ecological communities	<p>There are no mapped threatened or priority ecological communities within the application area (GIS Database). The nearest ecological community is the 'Yagahong Land System' priority ecological community (P3), located approximately 13.1 kilometres northwest of the application area (GIS Database).</p>
Fauna	<p>There are records of 23 conservation significant fauna species within a 50 kilometre radius of the application area (GIS Database). There are 19 bird, two invertebrate, one reptile, and one mammal species.</p> <p>13 of these species are listed as migratory, six priority, three threatened, and one other specially protected species (GIS Database).</p>
Fauna habitat	<p>The following board fauna habitats were recorded within the application area (MWH Australia Pty Ltd, 2015a):</p>

Characteristic	Details
	<ul style="list-style-type: none"> <li>open shrubland (585.3 ha)</li> <li>degraded (383.7 ha)</li> <li>stony plain (153.3 ha)</li> <li>low open mulga woodland (72.6 ha)</li> <li>drainage lines (45.7 ha)</li> <li>stony rise (44.4 ha)</li> <li>ephemeral wetland (7.0 ha)</li> </ul>

## A.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current extent in all DBCA Managed Land (proportion of pre-European extent) (%)
IBRA Bioregion - Murchison	28,120,586	28,044,823	~99	2,185,987.96	7.77
Beard vegetation associations - State					
18	19,892,306	19,843,148	~99	1,317,179.00	6.62
39	6,613,567	6,602,578	~99	795,070.69	12.02
Beard vegetation associations - Murchison bioregion					
18	12,403,172	12,363,252	~99	614,964.13	4.96
39	1,148,400	1,138,064	~99	40,834.41	3.56

Government of Western Australia (2019)

## A.3. Flora analysis table

The following conservation significant flora species have records within a 50 kilometre radius of the application area (GIS Database). Habitat suitability and likelihood of occurrence was determined utilising biological survey information and the Western Australian Herbarium (Biologic Environmental Survey, 2020a; MWH Australia Pty Ltd, 2015a; 2015b; WAH, 1998-; GIS Database).

Species name	Conservation status	Distance of closest record to application area (km)	Suitable habitat within application area	Likelihood of occurrence	Are surveys adequate to identify? [Y, N, N/A]
<i>Acacia sclerosperma</i> subsp. <i>glaucescens</i>	P3	<25	suitable habitat	possible	N
<i>Acacia speckii</i>	P4	<5	suitable habitat	highly likely	N
<i>Bergia auriculata</i>	P2	<35	limited suitable habitat	unlikely	N
<i>Calotis</i> sp. Perrinvale Station (R.J. Cranfield 7096)	P3	<50	limited suitable habitat	unlikely	N
<i>Calytrix verruculosa</i>	P3	<20	limited suitable habitat	possible	N
<i>Dicrastylis</i> sp. Cue (A.A. Mitchell 764)	P1	<50	no suitable habitat	unlikely	N
<i>Dodonaea amplisemina</i>	P4	<50	limited suitable habitat	unlikely	N
<i>Drummondia miniata</i>	P3	<30	limited suitable habitat	unlikely	N
<i>Eragrostis</i> sp. Erect spikelets (P.K. Latz 2122)	P3	<35	limited suitable habitat	unlikely	N
<i>Eremophila fasciata</i>	P3	<40	limited suitable habitat	unlikely	N
<i>Eremophila retropila</i>	P1	<50	suitable habitat	unlikely	N
<i>Eremophila rostrata</i> subsp. <i>rostrata</i>	CR	<30	some suitable habitat	possible	N
<i>Euploca mitchellii</i>	P1	<40	limited suitable habitat	unlikely	N
<i>Goodenia berringbinensis</i>	P4	<30	some suitable habitat	possible	N
<i>Grevillea inconspicua</i>	P4	<45	no suitable habitat	unlikely	N



<i>Hemigenia virescens</i>	P3	<25	no suitable habitat	unlikely	N
<i>Hibiscus</i> sp. Belele (D.W. Goodall 3417)	P3	<50	some suitable habitat	unlikely	N
<i>Jacksonia lanicarpa</i>	P1	<50	limited suitable habitat	unlikely	N
<i>Maireana prosthocochaeta</i>	P3	<5	suitable habitat	highly likely	N
<i>Micromyrtus placoides</i>	P3	<50	no suitable habitat	unlikely	N
<i>Petrophile pauciflora</i>	P3	<50	no suitable habitat	unlikely	N
<i>Prostanthera ferricola</i>	P3	<40	limited suitable habitat	unlikely	N
<i>Prostanthera petrophila</i>	P3	<20	no suitable habitat	unlikely	N
<i>Ptilotus beardii</i>	P3	<5	suitable habitat	highly likely	N
<i>Ptilotus lazaridis</i>	P3	<25	suitable habitat	likely	N
<i>Ptilotus luteolus</i>	P3	<15	some suitable habitat	possible	N
<i>Ptilotus</i> sp. Cue (P. Armstrong PA 16/362)	P1	<50	unknown	unknown	N
<i>Sida picklesiana</i>	P3	<15	suitable habitat	likely	N
<i>Tecticornia cymbiformis</i>	P3	<20	limited suitable habitat	unlikely	N
<i>Tribulus adelacanthus</i>	P3	<40	some suitable habitat	possible	N

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

#### A.4. Fauna analysis table

The following conservation significant fauna species have records within a 50 kilometre radius of the application area (GIS Database). Habitat suitability and likelihood of occurrence was determined utilising biological survey information, literature, and the Western Australian Museum (Biologic Environmental Survey, 2020b; Gooderham and Tsyrlin, 2002; MWH Australia Pty Ltd, 2015a; 2015b; Smith, 1996; Western Australian Museum Collections, 2025; GIS Database)

Species name	Conservation status		Distance of closest record to application area (km)	Likelihood	Habitat suitability	Are surveys adequate to identify? [Y, N, N/A]
	WA	EPBC				
BIRDS						
<i>Actitis hypoleucos</i> common sandpiper	MI	MI	<30	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Apus pacificus</i> fork-tailed swift	MI	MI	<20	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Calidris acuminata</i> sharp-tailed sandpiper	MI	MI	<20	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Calidris ferruginea</i> curlew sandpiper	CR	CR & MI	<20	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Calidris melanotos</i> pectoral sandpiper	MI	MI	<15	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Calidris ruficollis</i> red-necked stint	MI	MI	<30	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Charadrius cucullatus</i> hooded plover, hooded dotterel	P4		<30	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Chlidonias leucopterus</i> white-winged black tern	MI	MI	<30	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Falco hypoleucos</i> grey falcon	VU		<10	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Falco peregrinus</i> peregrine falcon	OS		<25	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Gelochelidon nilotica</i> gull-billed tern	MI	MI	<15	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Glareola maldivarum</i> oriental pratincole	MI	MI	<50	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Hydroprogne caspia</i> Caspian tern	MI	MI	<30	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y

<i>Leipoa ocellata</i> malleefowl	VU	VU	<20	unlikely	limited suitable habitat, likely to utilise the application area for dispersal. The application area is toward the northern edge of distribution	Y
<i>Oxyura australis</i> blue-billed duck	P4		<30	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Plegadis falcinellus</i> glossy ibis	MI	MI	<30	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Tringa glareola</i> wood sandpiper	MI	MI	<30	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Tringa nebularia</i> common greenshank	MI	MI	<20	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<i>Tringa stagnatilis</i> marsh sandpiper	MI	MI	<30	possible	very limited suitable habitat, nearby salt lakes would result in the species occurring as a transient visitor	Y
<b>INVERTEBRATES</b>						
<i>Branchinella simplex</i> a fairy shrimp (inland WA)	P1		<20	unlikely	no suitable habitat. Inhabits temporary saline lakes which are absent from the application area	N/A
<i>Idiosoma clypeatum</i> northern shield-backed trapdoor spider	P3		<50	unlikely	isolated distribution, only known approximately 50 km northwest	N
<b>MAMMALS</b>						
<i>Antechinomys longicaudata</i> long-tailed dunnart	P4		<40	unlikely	limited suitable habitat. Prefers rocky habitats, flat-topped hills, lateritic plateaus, sandstone ranges and breakaways. The application area may be used as dispersal or foraging	N
<b>REPTILES</b>						
<i>Lerista eupoda</i> West Coast mulga slider	P1		<15	likely	suitable habitat occurs and is endemic to the area and that the species is endemic to the area, it is likely that this species occurs within the Low Open Mulga Woodland habitat and similar Mulga dominated habitats on loamy soils within the Study Area.	N

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, MI: migratory, CD: conservation dependent, OS: other specially protected, P: priority

## Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><b>Principle (a):</b> "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 suitable habitat for conservation significant flora and fauna.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><b>Principle (b):</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."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains habitat for the locally endemic <i>Lerista eupoda</i> (West Coast mulga slider, P1).</p>	At variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><b>Principle (c):</b> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p> <p>One threatened flora species has records within a 50 kilometre radius of the application area: <i>Eremophila rostrata</i> subsp. <i>rostrata</i> (CR) (GIS Database).</p> <p>The flora and vegetation survey of the application area did not record any species of threatened flora, however there is suitable habitat present for this species.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (d):</u> <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>There are no known state or federally listed threatened ecological communities (TECs) located within or in close proximity to the application area (GIS Database). The nearest known threatened ecological community is the 'Depot Springs stygofauna community' state listed threatened ecological community (VU), located approximately 195 kilometres southeast of the application area (GIS Database).</p> <p>The flora and vegetation survey of the application area and surrounds did not record vegetation or habitats that would be representative of a TEC (MWH Australia Pty Ltd, 2015a).</p>	Not at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> <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 (IBRA) (GIS Database). Approximately 99% of the pre-European vegetation still exists in the IBRA Murchison bioregion (Government of Western Australia, 2019).</p> <p>The application area is broadly mapped as Beard vegetation associations 18: Low woodland; mulga (<i>Acacia aneura</i>); and 39: Shrublands; mulga scrub (GIS Database).</p> <p>Approximately 99% of the pre-European extent of these vegetation associations remain uncleared at both the state and bioregional level (Government of Western Australia, 2019).</p> <p>The vegetation proposed to be cleared is unlikely to represent a significant area of remnant vegetation within a bioregional context (GIS Database).</p>	Not at variance	No
<p><u>Principle (h):</u> <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>The application area is not located within any legislated conservation areas (GIS Database). The nearest legislated conservation area is the Lakeside Conservation Park, located approximately 63.6 kilometres southwest of the application area (GIS Database).</p> <p>Given the distance to the nearest conservation area (92 kilometres), the proposed clearing is not likely to have an impact on the environmental values of any legislated conservation areas (GIS Database).</p>	Not at variance	No
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f):</u> <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>MWH Australia Pty Ltd (2015a) recorded a number of vegetation types that either grow in or in association with watercourses that intersect the application area (GIS Database).</p> <p>Potential impacts to vegetation growing in association with a watercourse as a result of the proposed clearing may be minimised by the continued implementation of a watercourse management condition.</p>	At variance	No
<p><u>Principle (g):</u> <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>	May be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>The application area is broadly mapped within the Violet (543.6 ha), Gabanintha (186.4 ha), Millex (181.2 ha), Wiluna (177.7 ha), Mindura (128.6 ha), Jundee (61.9 ha), and Sherwood (12.9 ha) land systems (Curry et al., 1994; DPIRD, 2025a; Payne et al., 1998; GIS Database).</p> <p>The above land systems become largely susceptible to erosion if their soil surfaces are disturbed, in addition, all drainage lines within these land systems are all susceptible to water erosion (Curry et al., 1994; DPIRD, 2025a; Payne et al., 1998; GIS Database).</p> <p>Given that there are areas within the application area that have been subject to disturbances included past mining operations and drilling programs, vehicle tracks, low density weeds, feral animal grazing and trampling (MWH Australia Pty Ltd, 2015a) and several minor non-perennial watercourses intersect the application area, land degradation issues may arise as a result of the proposed clearing.</p> <p>Potential land degradation as a result of the proposed clearing may be minimised by the continued implementation of a staged clearing condition.</p>		
<p><u>Principle (i):</u> <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.”</i></p> <p><u>Assessment:</u></p> <p>The application area is not located within any mapped Public Drinking Water Source Areas (GIS Database). The nearest Public Drinking Water Source Area is the Cue Water Reserve, located approximately 36.2 kilometres southwest of the application area (GIS Database).</p> <p>There are several minor, non-perennial watercourses that intersect the application area (GIS Database). Surface waters at the southern end of the application area typically flow southeast and then to the south, while in the northern end of the application area they slope down to the east or northeast and then to the north (Rockwater Pty Ltd, 2015). Light rainfall events over extended periods produce small volumes of runoff due to initial soakage rates and evaporation. This runoff will be generally of low velocity and will have a minor sediment load, while heavier intense rainfall events usually produce higher velocity flows, resulting in naturally high sediment loads (Metals X Group, 2015).</p> <p>To reduce impacts associated with the proposed clearing, the proponent has developed and will implement surface water management measures. In addition to this, potential impacts to the quality of surface water as a result of the proposed clearing may be minimised by the continued implementation of a watercourse management condition.</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils and topographic contours in the application area indicate the proposed clearing is unlikely to contribute to increased incidence or intensity of flooding (GIS Database).</p> <p>Surface waters at the southern end of the application area typically flow southeast and then to the south, while in the northern end of the application area they slope down to the east or northeast and then to the north (Rockwater Pty Ltd, 2015).</p> <p>During large rainfall events water forms slow moving sheet flow over the broad undulating plains, with some water lost to infiltration due to the high permeability of the sandy soils (Metals X Group, 2015).</p> <p>The proponent has developed and will implement surface water flow management measures (Metals X Group, 2015); therefore the proposed clearing is not likely to increase the incidence or intensity of flooding.</p>	Not likely to 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 datasets

Publicly available GIS datasets used (sourced from [www.data.wa.gov.au](http://www.data.wa.gov.au)):

- Cadastre (Polygon) (LGATE-217)
- Clearing Instruments Activities (Areas Approved to Clear) (DWER-076)
- Clearing Instruments Conditions (Areas Subject to Conditions) (DWER-077)
- Clearing Instruments Proposals (Areas Applied to Clear) (DWER-075)
- Clearing Regulations - Environmentally Sensitive Areas (DWER-046)
- 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)
- EPA Redbook Recommended Conservation Reserves 1976-1991 (DBCA-029)
- EPA Referred Schemes Pending (DWER-121)
- EPA Referred Significant Proposals (DWER-120)
- EPA Referred Significant Proposals Pending (DWER-103)
- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- IBSA Survey Details (DWER-118)
- Local Government Area (LGA) Boundaries (LGATE-233)
- Localities (LGATE-234)
- Medium Scale Topo Contour (Line) (LGATE-015)
- Medium Scale Topo Inland Flat (Polygon) (LGATE-099)
- Medium Scale Topo Water (Line) (LGATE-018)
- Medium Scale Topo Water (Polygon) (LGATE-016)
- Mineral Field Boundaries (DMIRS-005)
- Native Title (Determination) (LGATE-066)
- Native Title (Fed Court) (LGATE-005)
- Native Title (ILUA) (LGATE-067)
- Native Title (NNTT) (LGATE-004)
- Native Vegetation Extent (DPIRD-005)

- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- Reserves (LGATE-227)
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Rivers (DWER-036)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping - Best Available (DPIRD-027)
- Soil Landscape Mapping - Project Areas (DPIRD-070)
- Soil Landscape Mapping - Rangelands (DPIRD-063)
- Soil Landscape Mapping - Systems (DPIRD-064)
- Soil Landscape Mapping - Western Australia attributed by WA Soil Group (DPIRD-076)
- Soil Landscape Mapping - Zones (DPIRD-017)
- Townsites (LGATE-248)
- 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

- Big Bell Gold Operations Pty Ltd (2017) CPS 6615/1 Annual Clearing Report 2016-2017. Prepared by Big Bell Gold Operations Pty Ltd, July 2017.
- Big Bell Gold Operations Pty Ltd (2018) CPS 6615/1 Annual Clearing Report 2017-2018. Prepared by Big Bell Gold Operations Pty Ltd, July 2018.
- Big Bell Gold Operations Pty Ltd (2025) Clearing permit application form, CPS 11340/1, received 14 November 2025.
- Biologic Environmental Survey (2020a) Australian Vanadium Project – Infrastructure Corridor Reconnaissance Flora and Vegetation Survey. Prepared for Australian Vanadium Limited, by Biologic Environmental Survey, April 2020.
- Biologic Environmental Survey (2020b) Australian Vanadium Project Level 2 Vertebrate and SRE Invertebrate Fauna Survey. Prepared for Australian Vanadium Limited, by Biologic Environmental Survey, August 2020.
- Bureau of Meteorology (BoM) (2025) Bureau of Meteorology Website – Climate Data Online, Cue. Bureau of Meteorology. <https://reg.bom.gov.au/climate/data/> (Accessed 7 July 2025).
- Conservation and Land Management (CALM) (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- Curry, P.J., Payne, A.L., Leighton, K.A., Hennig, P., and Blood, D.A. (1994) An inventory and condition survey of the Murchison River catchment, Western Australia. Department of Agriculture, Perth. Technical Bulletin 84.
- Department of Environment Regulation (DER) (2014) *A guide to the assessment of applications to clear native vegetation*. Perth. [https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2\\_assessment\\_native\\_veg.pdf](https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf)
- Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. <https://www.wa.gov.au/system/files/2024-11/procedure-native-vegetation-clearing-permits.pdf>
- Department of Planning, Lands and Heritage (DPLH) (2025) Aboriginal Cultural Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/ACHIS/index.html?viewer=ACHIS> (Accessed 4 July 2025).
- Department of Primary Industries and Regional Development (DPIRD) (2025a) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. <https://dpiird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f> (Accessed 7 July 2025).
- Department of Primary Industries and Regional Development (DPIRD) (2025b) Western Australian Organism List. Department of Primary Industries and Regional Development. Government of Western Australia. <https://www.dpiird.wa.gov.au/online-tools/western-australian-organism-list/> (Accessed 22 July 2025).
- Environmental Protection Authority (EPA) (2000) Environmental Protection of Native Vegetation in Western Australia Clearing of Native Vegetation, with Particular Reference to the Agricultural Area, Position Statement No. 2, December 2000.
- Environmental Protection Authority (EPA) (2002) Terrestrial Biological Surveys as an Element of Biodiversity Protection, Position Statement No. 3, March 2002.
- Environmental Protection Authority (EPA) (2004a) Guidance for the Assessment of Environmental Factors Western Australia - Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia, Guidance Statement No. 56, June 2004.
- Environmental Protection Authority (EPA) (2004b) Guidance for the Assessment of Environmental Factors Western Australia - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia, Guidance Statement No. 51, June 2004.
- Environmental Protection Authority (EPA) and Department of Parks and Wildlife (DPaW) (2010) Technical Guide - Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment, September 2010.
- Gooderham, J., and Tsyrlin, E. (2002) Waterbug book: A guide to the freshwater macroinvertebrates of temperate Australia. CSIRO Publishing. <https://doi.org/10.1071/9780643090026>
- 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>
- Metals X Group (2015) Purpose Clearing Permit Application Reedy Project Area - Central Murchison Gold Project, M20/45, M20/12, M20/68, M20/214, M20/421. Prepared by Metals X Group, May 2015.
- Metals X Limited (2016) CPS 6615/1 Annual Clearing Report 2015-2016. Prepared by Metals X Limited, July 2016.
- MWH Australia Pty Ltd (2015a) CMGP Reedy Project Dewatering Program - Level 1 Flora and Fauna Survey. Prepared for Metals X Group, by MWH Australia Pty Ltd, May 2015.
- MWH Australia Pty Ltd (2015b) Lake Annean Flora and Fauna Assessment. Prepared for Metals X Limited, by MWH Australia Pty Ltd, September 2015.
- Payne, A.L., van Vreeswyk, A.M., Leighton, K.A., Pringle, H.J., and Hennig, P. (1998) An inventory and condition survey of the Sandstone-Yalgoo-Paynes Find area, Western Australia. Department of Primary Industries and Regional Development, Western Australia, Perth. Technical Bulletin 90.
- Rockwater Pty Ltd (2015) Reedy Project Surface Water Assessment for South Emu, Triton, Rand, Jack Ryan & Callisto Pits, Mine Infrastructure and Internal Road Crossings. Prepared for Metals X Limited, by Rockwater Pty Ltd, May 2015.
- Smith, L.A. (1996) A new species of *Lerista* (Lacertilia: Scincidae) from Western Australia, *Lerista eupoda*. Journal of the Royal Society of Western Australia, 79, 161-164. <https://www.rswa.org.au/wp-content/uploads/2023/10/RSWA-79-2-p161-164-Smith.pdf>



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.

Western Australian Herbarium (WAH) (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. <https://florabase.dpaw.wa.gov.au/> (Accessed 11 July 2025).

Western Australian Museum Collections (2025) Long-tailed Dunnart (*Sminthopsis longicaudata*). <https://museum.wa.gov.au/online-collections/names/sminthopsis-longicaudata> (Accessed 21 July 2025)

Westgold Resources Limited (2019) CPS 6615/1 Annual Clearing Report 2018-2019. Prepared by Westgold Resources Limited, July 2019.

Westgold Resources Limited (2020) CPS 6615/1 Annual Clearing Report 2019-2020. Prepared by Westgold Resources Limited, July 2020.

Westgold Resources Limited (2021) CPS 6615/2 Annual Clearing Report 2020-2021. Prepared by Westgold Resources Limited, July 2021.

Westgold Resources Limited (2022) CPS 6615/2 Annual Clearing Report 2021-2022. Prepared by Westgold Resources Limited, July 2022.

Westgold Resources Limited (2023) CPS 6615/2 Annual Clearing Report 2022-2023. Prepared by Westgold Resources Limited, July 2023.

Westgold Resources Limited (2024) CPS 6615/2 Annual Clearing Report 2023-2024. Prepared by Westgold Resources Limited, July 2024.

Westgold Resources Limited (2025a) Clearing permit application form, CPS 6615/3, received 7 April 2025.

Westgold Resources Limited (2025b) Meekatharra Gold Operations Mining Proposal: Reedy Project; REG ID 500395, Version 2.1. Prepared for Big Bell Gold Operations Pty Ltd, by Westgold Resources Limited, June 2025.

## 4. Glossary

### Acronyms:

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



## **Definitions:**

**DBCA (2023) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia:**

### **Threatened species**

**T** 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**

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

#### **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**

#### **SP 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.

**Priority species**

**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.