



# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

<b>Permit number:</b>	9900/1
<b>Permit type:</b>	Purpose Permit
<b>Applicant name:</b>	AngloGold Ashanti Australia Limited
<b>Application received:</b>	30 September 2022
<b>Application area:</b>	260 hectares
<b>Purpose of clearing:</b>	Mineral Production and Associated Activities
<b>Method of clearing:</b>	Mechanical Removal
<b>Tenure</b>	Mining Lease 39/1116
<b>Location (LGA area/s):</b>	Shire of Laverton
<b>Colloquial name:</b>	Sunrise Dam Gold Mine

### 1.2. Description of clearing activities

AngloGold Ashanti Australia Limited proposes to clear up to 260 hectares of native vegetation within a boundary of approximately 1,790 hectares, for the purpose of mineral production and associated activities. The project is located approximately 43 kilometres south of Laverton, within the Shire of Laverton.

The application is to allow for mining related infrastructure such as waste rock dumps, wind turbines, photo voltaic solar panels, battery storage, and a small satellite open pit with associated supporting infrastructure.

### 1.3. Decision on application and key considerations

<b>Decision:</b>	Grant
<b>Decision date:</b>	3 November 2022
<b>Decision area:</b>	260 hectares of native vegetation

### 1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 30 September 2022. DMIRS advertised the application for a public comment for a period of 21 days, and no submissions were received.

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

The assessment identified that the proposed clearing may result in:

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

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing 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; and
- take hygiene steps to minimise the risk of the introduction and spread of weeds.

## 2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

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

The key guidance documents which inform this assessment are:

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

## 3. Detailed assessment of application

### 3.1. Avoidance and mitigation measures

The proponent purposely designed the application area to avoid significant habitat for brush-tailed mulgara and slender-billed thornbill (refer to Figure 1 in Appendix D). In addition to minimisation and hygiene protocols, vegetation trimming or blade up clearing will be carried out where possible. During land clearing, AngloGold will strip and stockpile topsoil. The topsoil will be respread to act as a seed source during rehabilitation. With the exception of open pits, cleared areas will be rehabilitated following completion of mining operations using a progressive rehabilitation approach as described in the Sunrise Dam Gold Mine (SDGM) Mine Closure Plan (AngloGold, 2021).

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

### 3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix 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 and hygiene management conditions.

### 3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 7 October 2022 by the Department of Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WC2019/002) over the area under application (DPLH, 2022). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are six registered Aboriginal Sites of Significance within the application area (DPLH, 2022). 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 native vegetation to the north and east, by mining development to the south, and by a salt lake to the west. Native vegetation in the area is contiguous but is used for commercial grazing (Kingfisher, 2022).
Ecological linkage	According to available databases and aerial imagery, the application area does not form part of any known ecological linkages.
Conservation areas	The application area is not located within any mapped conservation areas (GIS Database).
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>389: Succulent steppe with open low woodland; mulga over saltbush (GIS Database).</p> <p>A flora and vegetation survey was conducted over the application area by Mattiske Consulting Pty Ltd during June, 2022. The following vegetation associations were recorded within the application area (Mattiske, 2022):</p> <p><b>A2:</b> Open Low Woodland to Woodland of <i>Acacia aneura</i> var. <i>aneura</i>, <i>Acacia aneura</i> var. <i>intermedia</i> and <i>Acacia ayersiana</i> over <i>Acacia ramulosa</i> var. <i>ramulosa</i>, <i>Acacia tetragonophylla</i>, <i>Eremophila latrobei</i> subsp. <i>latrobei</i>, <i>Eremophila</i> spp., <i>Maireana triptera</i>, <i>Solanum lasiophyllum</i>.</p> <p><b>A4:</b> Open Woodland of <i>Acacia ayersiana</i> and <i>Acacia tysonii</i> over <i>Eremophila miniata</i>, <i>Cratystylis subspinescens</i>, <i>Hakea preissii</i>, <i>Atriplex vesicaria</i> and <i>Solanum lasiophyllum</i> over <i>Aristida contorta</i> in red loamy soils on ridges.</p> <p><b>A6:</b> Forest to Woodland of <i>Acacia ayersiana</i> and <i>Acacia aneura</i> var. <i>aneura</i> over <i>Eremophila margarethae</i> and <i>Acacia tetragonophylla</i> over <i>Poaceae</i> and <i>Asteraceae</i> spp. in clay with quartz and ironstone pebbles.</p> <p><b>A7:</b> Open Woodland of <i>Acacia aneura</i> var. <i>intermedia</i> with <i>Acacia aneura</i> var. <i>aneura</i>, <i>Acacia macraneura</i> and <i>Acacia ayersiana</i> over <i>Acacia ramulosa</i> var. <i>ramulosa</i>, <i>Eremophila forrestii</i> subsp. <i>forrestii</i>, <i>Eremophila margarethae</i>, <i>Maireana triptera</i> and <i>Eragrostis falcata</i>.</p> <p><b>A10:</b> Woodland of <i>Acacia aneura</i> var. <i>intermedia</i>, <i>Acacia aneura</i> var. <i>aneura</i> over <i>Acacia ramulosa</i> var. <i>ramulosa</i>, <i>Acacia tetragonophylla</i> over <i>Eremophila granitica</i>, <i>Eremophila longifolia</i>, <i>Eremophila margarethae</i>, <i>Senna artemisioides</i> subsp. <i>filifolia</i>, <i>Spartothamnella teucriflora</i>, <i>Maireana</i> spp., <i>Rhagodia spinescens</i> and <i>Ptilotus obovatus</i> var. <i>obovatus</i> on red loam sands.</p> <p><b>C1:</b> Shrubland of Chenopod species with occasional emergent <i>Acacia ayersiana</i> and <i>Acacia aneura</i> var. <i>aneura</i> over <i>Acacia kalgoorliensis</i> and <i>Hakea preissii</i> in clay loam soils.</p> <p><b>C2:</b> Shrubland of <i>Hakea preissii</i>, <i>Acacia tysonii</i>, <i>Eremophila miniata</i>, <i>Pimelea microcephala</i> subsp. <i>microcephala</i>, <i>Exocarpos aphyllus</i> and <i>Pittosporum angustifolium</i> over <i>Atriplex vesicaria</i>, <i>Maireana aphylla</i>, <i>Rhagodia drummondii</i>, <i>Cratystylis subspinescens</i> and <i>Senna artemisioides</i> subsp. <i>filifolia</i> in clay loam soils</p> <p><b>C6:</b> Low Open Shrubland of <i>Atriplex bunburyana</i>, <i>Atriplex nummularia</i> subsp. <i>spathulata</i>, <i>Frankenia setosa</i>, <i>Lawrenzia chrysoderma</i>, <i>Maireana georgei</i>, <i>Sclerolaena cuneata</i>, <i>Solanum lasiophyllum</i> and <i>Poaceae</i> spp. in orange clay.</p> <p><b>M1:</b> Low Open Woodland of <i>Melaleuca uncinata</i> over mixed annuals.</p> <p><b>CL:</b> Cleared.</p>
Vegetation condition	<p>The vegetation survey (Mattiske, 2022) and aerial imagery indicate the vegetation within the proposed clearing area is in Excellent to Completely Degraded (Trudgen, 1991) condition. Within the survey areas these areas can be delineated as follows:</p> <p><b>Very Good to Excellent:</b> Areas of vegetation where no exploration or drill tracks encroach, typically at least 20 m distant from tracks.</p> <p><b>Good:</b> Areas bordering tracks and drill lines.</p> <p><b>Degraded:</b> Old waste mounds from drilling, old abandoned features and old tracks which have had some past attempts at rehabilitation.</p> <p><b>Completely Degraded:</b> Mining activities, transport and cattle degradation.</p> <p>Considering the extent of past mining operations and the degree of impacts associated with tracks and drill lines, the absence of weed species was noteworthy and majority of the survey areas was very good to excellent (Mattiske, 2022).</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix C.</p>

Characteristic	Details
Climate and landform	The application area is located within an arid climate zone (BoM, 2022). The average annual rainfall (Laverton) is 235.2 millimetres (BoM, 2022).
Soil description	The soil is mapped as soil unit BE15 (GIS Database). This soil unit is described as gently undulating to low hilly pediments with stony and gravelly pavements, and traversed by numerous seasonal streams: chief soils seem to be shallow earthy loams with shallow red earths, both underlain by red-brown hardpan. There are small inclusions of soils common to the adjoining units (Northcote et al., 1960-1968).
Land systems	The application area falls within the Rainbow land system and the Carnegie land system (DPIRD, 2022). The Carnegie land system is described as salt lakes with extensive fringing saline plains, dunes and sandy banks, supporting low halophytic shrublands and scattered tall acacia shrublands; lake beds are highly saline, gypsiferous and mainly unvegetated (Curry et al., 1994). The Rainbow land system is described as hardpan plains supporting mulga tall shrublands (Curry et al., 1994).
Waterbodies	The desktop assessment and aerial imagery indicated that two minor, non-perennial watercourses transect the area proposed to be cleared.
Hydrogeography	The application area is located within the Goldfields Groundwater Area which is legislated by the <i>RIWI Act 1914</i> (GIS Database). The mapped groundwater salinity is 3000-7000 milligrams per litre total dissolved solids which is described as saline (GIS Database).
Flora	There were no Threatened or Priority flora recorded within the application area (GIS Database; Mattiske, 2022). Nearby records of Priority flora have been listed as highly unlikely to occur within the application area (Mattiske, 2022).
Ecological communities	The application area is not located within any mapped TECs or PECs (GIS Database; Mattiske, 2022). The closest record is a PEC located approximately 23.5 kilometres northwest of the application area (GIS Database).
Fauna	There were no Priority or Threatened fauna species recorded within the application area (GIS Database; Kingfisher, 2022). The fauna survey of a greater area recorded suitable habitat for the conservation fauna species brush-tailed mulgara ( <i>Dasyercus blythi</i> - Priority 4), long-tailed dunnart ( <i>Sminthopsis longicaudata</i> - Priority 4) and malleefowl ( <i>Leipoa ocellata</i> - Vulnerable) (Kingfisher, 2022).

## 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><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 application area does not fall within any mapped PECs (GIS Database). The area proposed to be cleared does not contain conservation significant flora or fauna (GIS Database; Kingfisher, 2022; Mattiske, 2022).</p> <p>There were several weed species recorded within the application area, however, none were identified as Declared Pests or Weeds of National Significance (AngloGold, 2022). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity as a result of the proposed clearing may be minimised by the continued implementation of the weed management condition on the permit.</p>	Not likely to 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>The area proposed to be cleared is not likely to contain significant habitat for fauna. The vegetation present in the application area is common and widespread throughout the region (Mattiske, 2022). Kingfisher Environmental (2022) identified significant habitats present in the greater survey area for conservation significant fauna species</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>brush-tailed mulgara, long-tailed dunnart and malleefowl (Appendix D). None of those habitats intersect the application area.</p> <p>Malleefowl tracks were recorded approximately 12 kilometres southeast of the application area (Kingfisher, 2022). No mounds were observed over multiple fauna assessments targeting potential malleefowl habitat (AngloGold, 2022). The vegetation covering most of the application area is generally unsuitable for breeding and/or mound construction (Kingfisher, 2022). The areas that might contain suitable vegetation for malleefowl breeding within the application area contain hardpan plains supporting mulga shrublands. The hardpan ground in these areas is not conducive to mound construction so is not considered to be breeding habitat. Such habitat has also suffered some degradation from pastoral grazing (Kingfisher, 2022). Therefore, malleefowl breeding in the application area is unlikely to occur. The peregrine falcon also occurs close to the application area but given the large home range of this species, it is not likely to be significantly impacted by the proposed clearing (AngloGold, 2022).</p>		
<p><b>Principle (c):</b> <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>The flora and vegetation survey conducted by Mattiske Consulting Pty Ltd (2022) did not identify any Threatened flora species in the area proposed to be cleared.</p>	Not likely to be at variance	No
<p><b>Principle (d):</b> <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 area proposed to be cleared is not located within any mapped threatened ecological communities (GIS Database; Mattiske, 2022).</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><b>Principle (e):</b> <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 associations 18 and 389 (GIS Database). These vegetation associations have not been extensively cleared as over 99 per cent of the pre-European extent of these vegetation association remain uncleared at both the state and bioregional level (Government of Western Australia, 2019).</p>	Not at variance	No
<p><b>Principle (h):</b> <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 (more than 100 kilometres) (GIS Database), the proposed clearing is not likely to have an impact on the environmental values of any conservation areas.</p>	Not likely to be at variance	No
<b>Environmental value: land and water resources</b>		
<p><b>Principle (f):</b> <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>There are two minor drainage lines that intersect sections of the application area (GIS Database). However, these drainage lines do not have clearly defined channels and are only discernible from inspection of the topography and the presence of somewhat denser vegetation (AngloGold, 2022). The proposed clearing is unlikely to have a significant impact on vegetation growing in an environment associated with a watercourse or wetland.</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><b>Principle (g):</b> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</p> <p><u>Assessment:</u></p> <p>The mapped soils are not generally susceptible to erosion (Curry et al., 1994). Noting the location of the application area, the proposed clearing is not likely to have an appreciable impact on land degradation.</p>	Not likely to be at variance	No
<p><b>Principle (i):</b> “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>Given no permanent water courses, wetlands, or Public Drinking Water Source Areas are recorded within the application area (GIS Database), the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No
<p><b>Principle (j):</b> “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 annual evaporation rate (2,800 millimetres) is much larger than the annual rainfall average (235.2 millimetres) (BoM, 2022), the proposed clearing is unlikely to cause, or exacerbate, 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.

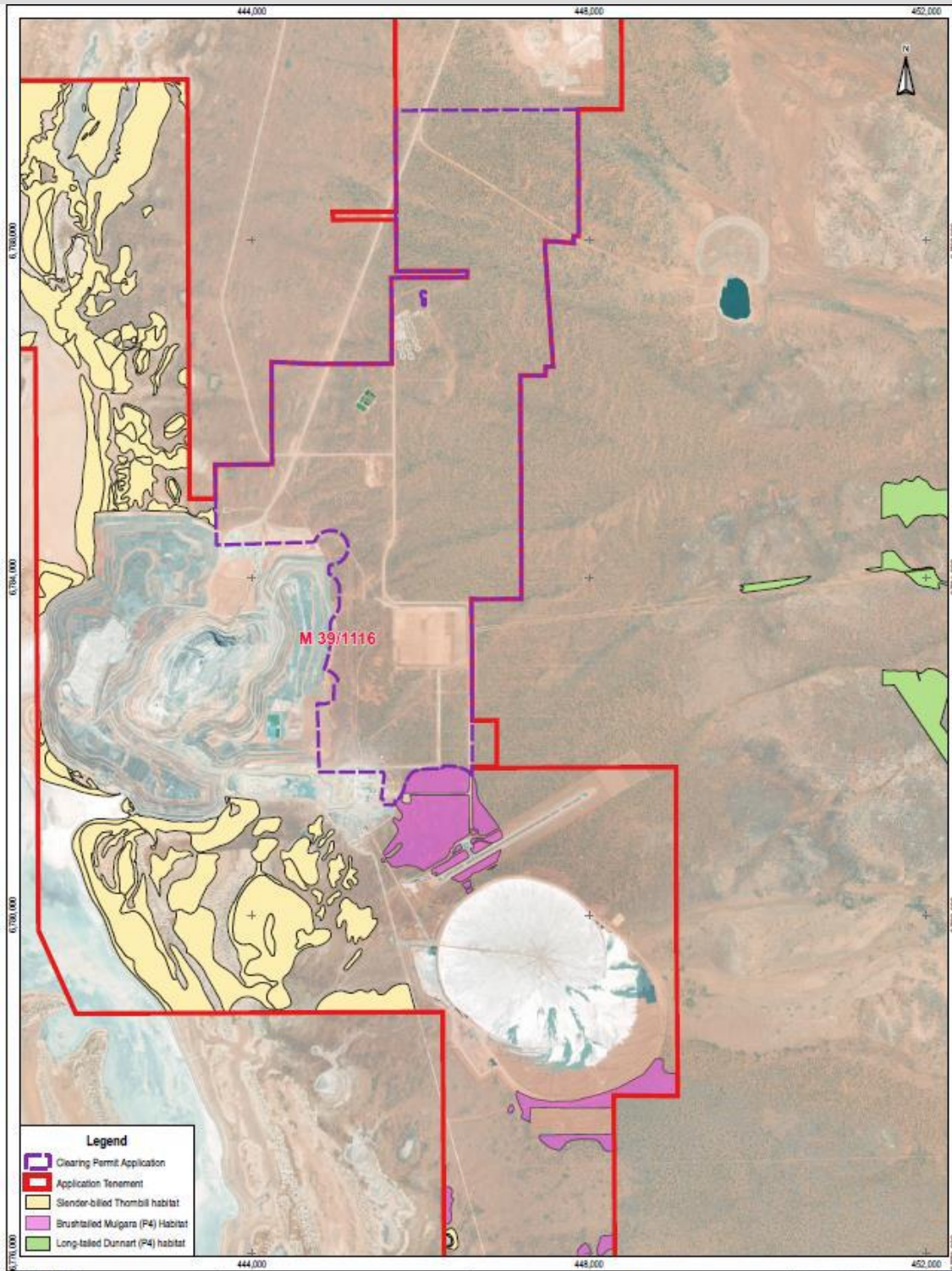


Figure 1. Map showing habitat present for conservation significant species.

Appendix E. Sources of information

E.1. GIS database

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

- Aboriginal Heritage Places (DPLH-001)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)

- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Pre-European Vegetation Statistics
- 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 Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

## E.2. References

- AngloGold (2021) Sunrise Dam Gold Mine Closure Plan (Version 5). Prepared for the Department of Mines, Industry Regulation and Safety by AngloGold Ashanti Australia Limited, December 2021.
- AngloGold (2022) Sunrise Dam Gold Mine Clearing Permit Application Supporting Documentation. AngloGold Ashanti Australia Limited, September 2022.
- BoM (2022) Bureau of Meteorology Website – Climate Data Online. Bureau of Meteorology.  
<http://www.bom.gov.au/climate/data/> (Accessed 15 August 2022).
- 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. Available from: [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 Planning, Lands and Heritage (DPLH) (2022) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 5 October 2022).
- Department of Primary Industries and Regional Development (DPIRD) (2021) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://dpird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f> (Accessed 7 October 2022).
- Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. Available from: [https://dwer.wa.gov.au/sites/default/files/Procedure\\_Native\\_vegetation\\_clearing\\_permits.pdf#:~:text=This%20Procedur e%3A%20Native%20vegetation%20clearing%20permit%20outlines%20how,%28EP%20Act%29%20and%20to%20ma nage%20granted%20clearing%20permits.](https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits.pdf#:~:text=This%20Procedur e%3A%20Native%20vegetation%20clearing%20permit%20outlines%20how,%28EP%20Act%29%20and%20to%20ma nage%20granted%20clearing%20permits.)
- Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. Available from: [http://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey\\_Dec13.pdf](http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf)
- Environmental Protection Authority (EPA) (2020) Technical Guidance – Terrestrial Vertebrate Fauna Surveys for Environmental Impact Assessment. Available from: [https://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.pdf](https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.pdf)
- 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>
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68) *Atlas of Australian Soils, Sheets 1 to 10, with explanatory data*. CSIRO and Melbourne University Press: Melbourne.
- 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.

## 4. Glossary

### Acronyms:

<b>BC Act</b>	<i>Biodiversity Conservation Act 2016, Western Australia</i>
<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>DAWE</b>	Department of Agriculture, Water and the Environment, Australian Government
<b>DBCA</b>	Department of Biodiversity, Conservation and Attractions, Western Australia



<b>DER</b>	Department of Environment Regulation, Western Australia (now DWER)
<b>DMIRS</b>	Department of Mines, Industry Regulation and Safety, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia (now DMIRS)
<b>DoEE</b>	Department of the Environment and Energy (now DAWE)
<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> (Federal 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 (2019) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia):-

#### **T** Threatened species:

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

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

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

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

#### **CR** **Critically endangered species**

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

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

#### **EN** **Endangered species**

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

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

#### **VU** **Vulnerable species**

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

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

### Extinct Species:

#### **EX** **Extinct species**

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

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

**EW**

**Extinct in the wild species**

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

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

**Specially protected species:**

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

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

**MI**

**Migratory species**

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

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

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

**CD**

**Species of special conservation interest (conservation dependent fauna)**

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

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

**OS**

**Other specially protected species**

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

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

**P**

**Priority species:**

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

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

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

- P1 Priority One - Poorly-known species**  
 Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
- P2 Priority Two - Poorly-known species**  
 Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
- P3 Priority Three - Poorly-known species**  
 Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.
- P4 Priority Four - Rare, Near Threatened and other species in need of monitoring**  
 (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.  
 (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.  
 (c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

**Principles for clearing native vegetation:**

- (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
- (b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.
- (d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.
- (e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.
- (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- (h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.
- (i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.
- (j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.