



# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

<b>Permit number:</b>	9799/1
<b>Permit type:</b>	Purpose Permit
<b>Applicant name:</b>	Barto Gold Mining Pty Ltd
<b>Application received:</b>	7 July 2022
<b>Application area:</b>	48.6 hectares
<b>Purpose of clearing:</b>	Mineral production and associated activities
<b>Method of clearing:</b>	Mechanical Removal
<b>Tenure:</b>	Mining Lease 77/133 Mining Lease 77/159 Mining Lease 77/224 Mining Lease 77/721 Mining Lease 77/722 Miscellaneous Licence 77/114
<b>Location (LGA area/s):</b>	Shire of Yilgarn
<b>Colloquial name:</b>	Achilles Project

### 1.2. Description of clearing activities

Barto Gold Mining Pty Ltd proposes to clear up to 48.6 hectares of native vegetation within a boundary of approximately 295 hectares, for the purpose of mineral production and associated activities. The project is located approximately 8.3 kilometres southeast of Southern Cross, within the Shire of Yilgarn.

The application is to allow for the construction of gold mining infrastructure, including tracks, mine pits, ROM Pads. The proposed area to be cleared has been subject to previous mining exploration activity.

### 1.3. Decision on application and key considerations

<b>Decision:</b>	Grant
<b>Decision date:</b>	13 September 2022
<b>Decision area:</b>	48.6 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 7 July 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), information from 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;
- the loss of native vegetation that is suitable habitat for conservation significant fauna; and
- potential land degradation in the form of wind erosion, salinisation, waterlogging, and acidity.

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;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- commence activities for which the permit was granted no later than three months after undertaking clearing to reduce the risk of land degradation;
- conduct a pre-clearing survey to identify Chuditch dens and individuals;
- conduct a pre-clearing survey to identify Malleefowl mounds during breeding season.

## 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)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC 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)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

## 3. Detailed assessment of application

### 3.1. Avoidance and mitigation measures

The proposed area to be cleared has been designed by the applicant to avoid any direct impact to *Rinzia fimbriolata* (P1) and an associated 50 metre buffer (Stantec, 2022a). Clearing has been minimised by utilising existing disturbed areas. In addition to these measures, the proponent committed to implement the following measures:

- Historic open pits will be backfilled with mine waste to minimise clearing required for Waste Rock Dumps;
- Where practical, existing disturbed areas will be utilised for haul/access roads and associated infrastructure to minimise clearing requirements;
- Pre-clearance surveys within the specified clearing areas will be undertaken in the morning of clearing to search for the presence of significant fauna species;
- No night time clearing is to occur to avoid impacting nocturnal species;
- Awareness training will outline the appropriate behaviour and responses in the event of contact with native fauna;
- Clearing will not be undertaken until construction is imminent, minimising erosion and dust risks; and
- Topsoil and vegetation will be stockpiled for later use in rehabilitation activities.

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 identified that the impacts of the proposed clearing present a risk to biological values (fauna habitat). 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 (fauna habitat) - Clearing Principles (b)

##### Assessment

The fauna survey conducted by Stantec (2021a) identified the Eucalyptus Woodlands as a significant faunal habitat as 'with the potential to support conservation significant fauna'. The large hollow-bearing trees provide important habitat for the Western Rosella (*Platycercus icterotis xanthogenys*) (P4). In addition, the thick vegetation at some sites may also serve as suitable foraging habitat for the Western Rosella within this habitat type (Stantec, 2021a). Large woody debris and logs present in the Eucalyptus Woodlands habitat may provide denning habitat for the Chuditch (*Dasyurus geoffroii*) (VU) (Stantec, 2021a). The Malleefowl (*Leipoa ocellata*) (VU) has been recorded recently within the Southern Cross tenements, including sightings and active mounds; however, the mounds are located approximately 29 kilometres away from the application area and primarily within Acacia Shrubland and Eucalyptus Woodland habitats (Stantec, 2021b). It is considered possible that the Malleefowl utilises the application area for foraging on occasion. The Eucalyptus Woodlands habitat is widespread and not restricted to the area proposed to be cleared (Stantec, 2022a).

#### Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on significant fauna habitats can be managed to be environmentally acceptable by conducting surveys to identify Malleefowl mounds, as well as Chuditch dens and individuals.

The applicant may have notification responsibilities under the EPBC Act for impacts to Malleefowl and Chuditch and their habitats, as set out in the EPBC Act. The applicant has been advised to contact the federal Department of Water, Agriculture and the Environment (DAWE) to discuss EPBC Act referral requirements.

#### Conditions

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

- Fauna management to identify Chuditch dens and individuals
- Fauna management to survey for malleefowl mounds during breeding season

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

The clearing permit application was advertised on 19 July 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 (WC2017/007) 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 no 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, farmland, and mining developments. Land use in the area is predominantly for agriculture purposes such as cropping and grazing as well as Unallocated Crown Land and Crown Reserves (Cowan et al., 2001). Mining is another dominant land use in the areas surrounding Southern Cross, with numerous small and abandoned mines and open shafts dotted across the Yilgarn landscape (Stantec, 2022b).
Ecological linkage	According to available databases, the application area does not form part of any mapped ecological linkages (GIS Database).
Conservation areas	The application area does not form part of any known conservation areas (GIS Database). The closest conservation area is Wockallary Nature Reserve, located approximately 18.5 kilometres southwest of the application area (GIS Database).
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation association 1068: Medium woodland; salmon gum, morrel, gimlet and <i>Eucalyptus sheathiana</i> (GIS Database).</p> <p>A flora and vegetation survey was conducted over the application area by Stantec Australia Pty Ltd during October 2020. The following vegetation association was recorded within the application area (Stantec, 2022a):</p> <p><b>EIEsuMpAvOmAm:</b> <i>Eucalyptus longicornis</i> and <i>Eucalyptus salubris</i> woodland over <i>Melaleuca pauperiflora</i> high shrubland over <i>Atriplex vesicaria</i>, <i>Olearia muelleri</i> and <i>Acacia merrallii</i> low open shrubland.</p> <p>One broad fauna habitat type was identified from a fauna habitat assessment performed by Stantec (2021a). This habitat type was described as:</p> <p><b>Eucalyptus Woodlands:</b> Gently undulating terrain dominated by a woodland of <i>Eucalyptus longicornis</i>, <i>Eucalyptus salmonophloia</i>, <i>Eucalyptus salubris</i> and <i>Eucalyptus loxophleba</i> subsp. <i>lissophloia</i> over <i>Melaleuca</i> spp. tall shrubland over low open shrubland. The habitat ranged from relatively open areas dominated by mature tall eucalypts to densely vegetated areas with immature eucalypts, regenerating after fire. Mallee forms of the eucalypts also occurred within the Eucalyptus Woodland habitat.</p>
Vegetation condition	<p>The vegetation survey (Stantec, 2022a) and aerial imagery indicate the vegetation within the proposed clearing area is in Excellent to Completely Degraded (Keighery, 1994) condition.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C. Vegetation condition mapping is available in Appendix D.</p>
Climate	The application area is located in a zone with semi-arid climate, characterised by hot summers and cool winters (Stantec, 2022b). The average annual rainfall in this region is of 301.3 millimetres (BoM, 2022).
Landform	Over 90 percent of the application area is located within the Greenmount Land System. The remainder of the application area falls within the Garret Land System. The Department of Primary Industries and Regional Development (DPIRD) (2022) described the Greenmount Land System as gently undulating rises to rolling low hills in the eastern Zone of Ancient Drainage. Loamy earth (mostly red, calcareous and clayey and stoney) and the Garret Land System as lower slopes and footslopes adjacent to salt lakes in the eaten Zone of Ancient Drainage. Loamy earth (mostly calcareous), hard cracking clay and alkaline shallow duplex.
Soil description	The soil within the application area is mapped as soil unit DD15 (GIS Database). Undulating plains with some low dunes, seasonal lakes, and clay pans: chief soils seem to be brown and greybrown calcareous earths (Northcote et al., 1960-1968).
Land degradation risk	The Greenmount land system consists of areas of ancient drainage, meaning parts of the land system may be prone to land degradation as a result of clearing, presenting as salinisation, waterlogging, soil erosion and acidity (Stantec, 2022b).

Characteristic	Details
Waterbodies	The desktop assessment and aerial imagery indicated that there are five minor, ephemeral watercourses that intersect the application area (GIS Database). Four of these watercourses are not clearly defined and are not of high importance for water flow in the area.
Hydrogeography	The application area is located in the Goldfields Groundwater Area legislated by the <i>RIWI Act 1914</i> (GIS Database). The salinity of the groundwater in the application area is of 14,000-35,000 milligrams per litre total dissolved solids which is described as highly saline (GIS Database).
Flora	There were no conservation significant flora species recorded within the application area (Stantec, 2022a). There is one Priority 1 flora species ( <i>Rinzia fimbriolata</i> ) located approximately 200 metres west of the application area (Stantec, 2022a).
Ecological communities	The application area does not intersect any known Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) (GIS Database; Stantec, 2022b). The closest TEC is the Eucalypt Woodlands of the Western Australian Wheatbelt and it is located more than 10 kilometres away from the application area (GIS Database; Stantec, 2022b).
Fauna	There were no conservation significant fauna species recorded within the application area (Stantec, 2021a). The closest record of a conservation significant fauna species was identified 22.6 kilometres from the application area (Stantec, 2021a).

## 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 biological diversity that occurs within the application area is widespread throughout the region and not considered restricted to the area proposed to be cleared (Stantec, 2022a). No conservation significant flora or fauna species occur within the application area (Stantec, 2022a; 2021a). The application area does not intersect any known Priority Ecological Communities (Stantec, 2022b; GIS Database). Five introduced flora (weed) species were recorded in the application area (Stantec, 2022a). None of these species are listed as Declared Pests or as Weeds on National Significance (Stantec, 2022a). 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 implementation of a weed management condition.</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 application area contains significant habitat for fauna of the region, including Threatened and Priority fauna species (Stantec, 2021a). However, the Eucalyptus Woodlands habitat type is common and widespread throughout the region and it is not restricted to the application area (Stantec, 2022a).</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<p><u>Principle (c):</u> “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>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
The flora survey conducted by Stantec (2022a) did not record any Threatened flora within the application area, or identify any Threatened flora species with the potential to occur within the application area.		
<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>The application area is not located within any known Threatened Ecological Communities (Stantec, 2022b; GIS Database).</p>	Not likely to be 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 Coolgardie Bioregion of the Interim Biogeographic Regionalisation for Australia (GIS Database). Over 97 per cent of the pre-European vegetation still exists in the Coolgardie Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 1068. This vegetation association has not been extensively cleared as over 50 per cent of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2019).</p>	Not at variance	No
<p><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>Given the distance to the nearest conservation area (GIS Database), the proposed clearing is not likely to have an impact on the environmental values of conservation areas.</p>	Not likely to be 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>Five ephemeral watercourses are recoded within the application area (GIS Database), however, given the small scale of the clearing compared to the size of the footprint and that some of these watercourses are located in areas that have already been disturbed and others only intersect a small section of the application area, the proposed clearing is unlikely to impact vegetation growing in, or in association with an environment associated with a watercourse.</p>	Not likely to be 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> <p>The mapped land system where the application area is located, contains areas that may be prone to salinisation, waterlogging, soil erosion and acidity (Stantec, 2022b). Noting the location of the application area, the proposed clearing is likely to have an appreciable impact on land degradation. Potential impacts to land degradation can be managed through a staged clearing condition to prevent cleared areas from being exposed for a long period of time.</p>	May be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (i):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</p> <p><u>Assessment:</u></p> <p>Given no permanent water courses, wetlands, or Public Drinking Water Sources 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><u>Principle (j):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment:</u></p> <p>Given no permanent water courses or wetlands are recorded within the application area (GIS Database), 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:

Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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

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



## Appendix D. Biological survey vegetation condition map

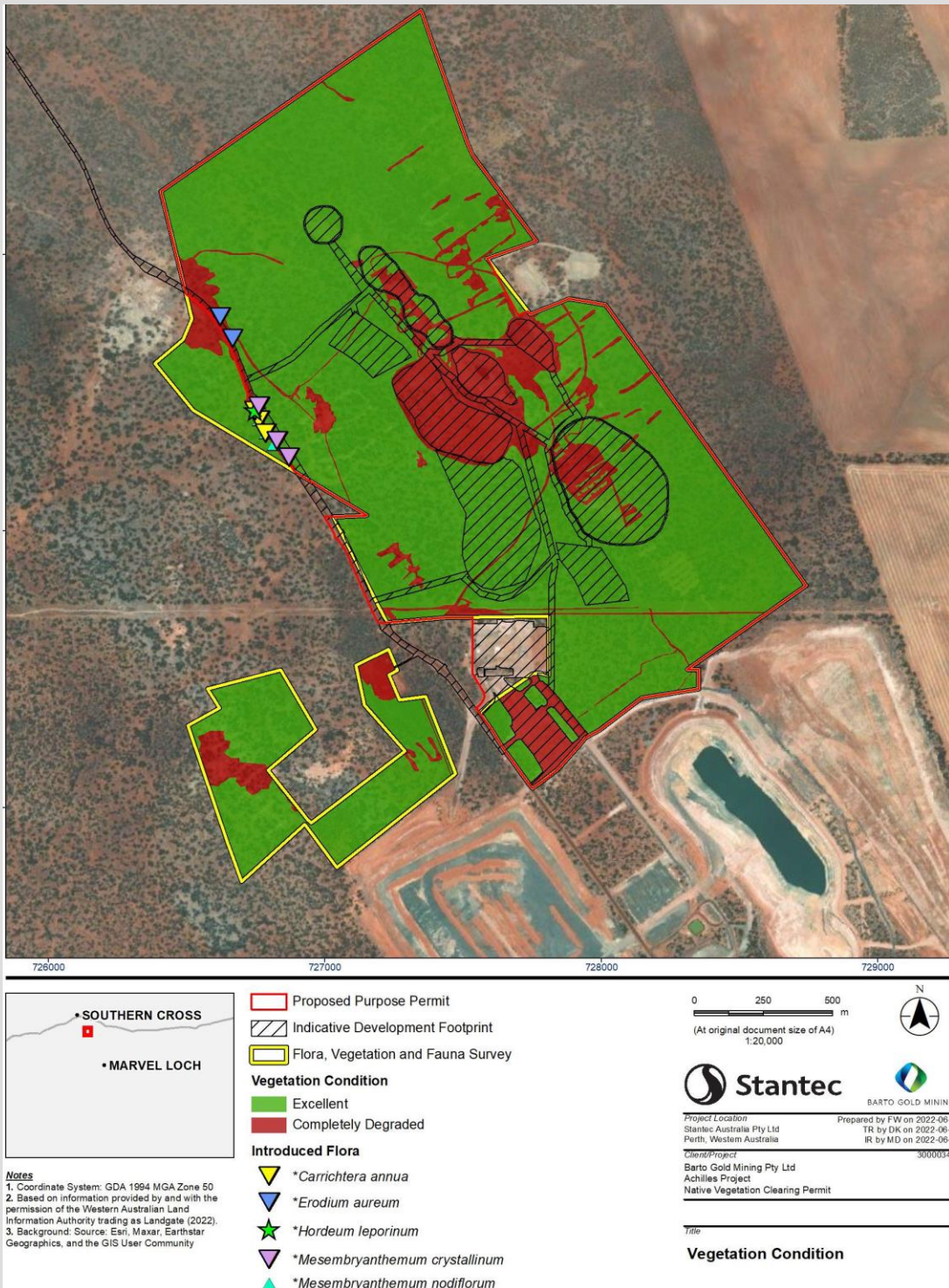


Figure 1. Condition of the vegetation in the application area

## Appendix E. Sources of information

### E.1. GIS databases

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 Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- 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

- BoM (2022) Bureau of Meteorology Website – Climate Data Online. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 15 August 2022).
- Cowan, M., Graham, G. and McKenzie, N. (2001) Coolgardie 2 (COO2 - Southern Cross Subregion). Department of Conservation and Land Management, Perth.
- 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 2 September 2022).
- Department of Primary Industries and Regional Development (DPIRD) (2022) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://maps.agric.wa.gov.au/nrm-info/> (Accessed 2 September 2022).
- 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>
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. 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.
- Stantec (2021a) Chuditch Survey Memorandum. Unpublished memorandum prepared for Barto Gold Mining Pty Ltd.
- Stantec (2021b) Phoenix, Bronco, Brumby and Zeus Targeted Malleefowl (*Leipoa ocellata*) Survey Memorandum.
- Stantec (2022a) Achilles Targeted Significant Flora Survey October 2020, February and May 2022. Unpublished memorandum prepared for Barto Gold Mining Pty Ltd.
- Stantec (2022b) Southern Cross Operations: Detailed and Targeted Flora and Vegetation Consolidation Survey. Unpublished report prepared for Barto Gold Mining Pty Ltd.

## 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>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.