



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	7753/2
Permit type:	Purpose Permit
Applicant name:	Barto Gold Mining Pty Ltd
Application received:	25 July 2022
Application area:	187 hectares
Purpose of clearing:	Mineral Production
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 77/66, 77/109, 77/175, 77/193, 77/197, 77/225, 77/250, and 77/352 Miscellaneous Licence 77/31, 77/42, 77/51, 77/69, 77/89 and 77/114
Location (LGA area/s):	Shire of Yilgarn
Colloquial name:	Aquarius Open Pit Project

1.2. Description of clearing activities

Clearing permit CPS 7753/1/1 was granted by the Department of Mines and Petroleum (now the Department of Mines, Industry Regulation and Safety) on 2 November 2017 and was valid from 25 November 2017 to 30 November 2022. The permit authorised the clearing of up to 187 hectares of native vegetation within a boundary of approximately 624 hectares, for the purpose of mineral production.

On 25 July 2022, the Permit Holder applied to amend CPS 7753/1 to extend the permit duration for five years and to update the permit holder due to company name change.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	1 September 2022
Decision area:	187 hectares of native vegetation

1.4. Reasons for decision

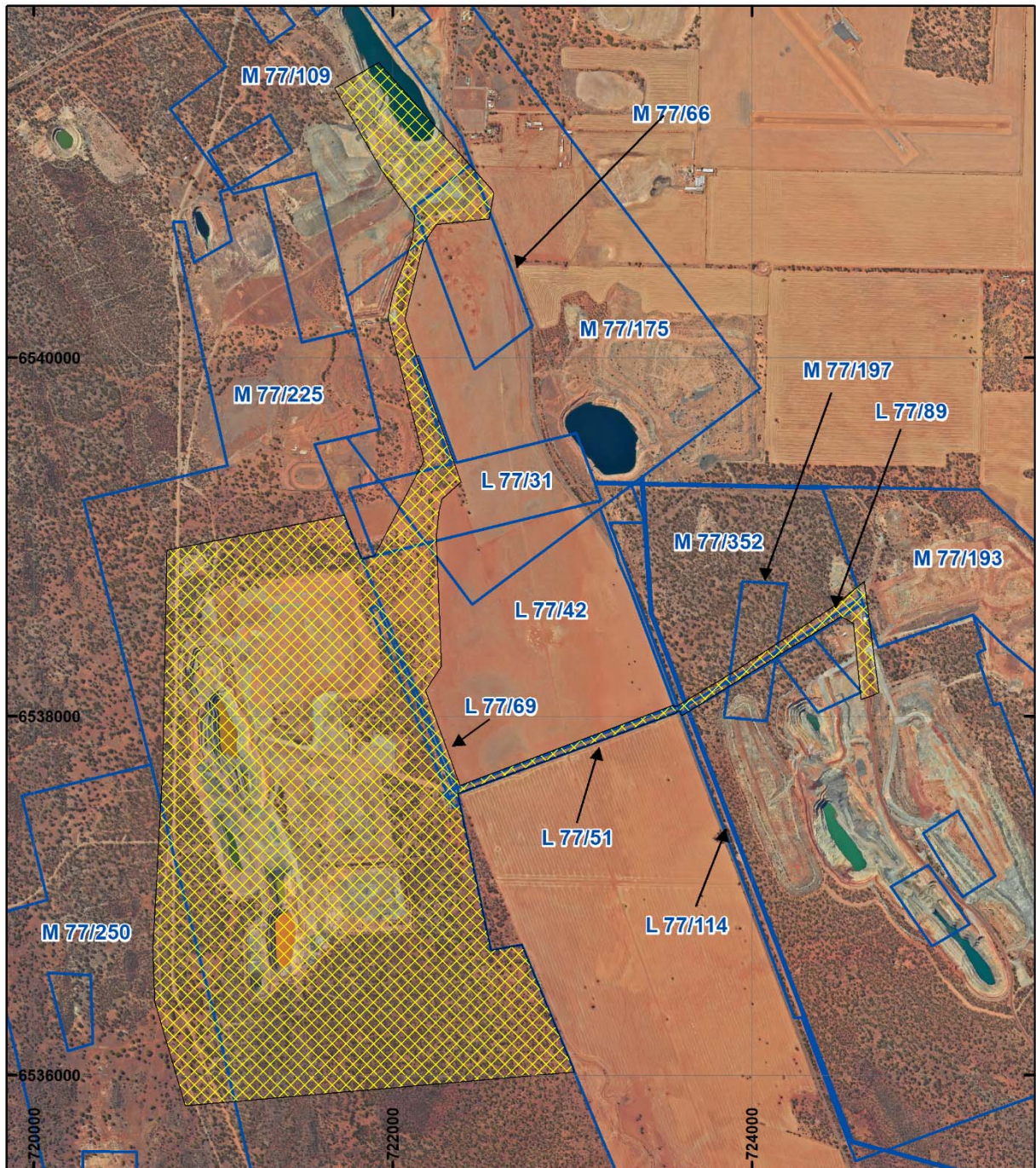
This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 25 July 2022. DMIRS advertised the application for a public comment for a period of 7 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix E), supporting information provided by the applicant (Appendix A) including the results of a flora and vegetation survey, the clearing principles set out in Schedule 5 of the EP Act (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 has not changed since the assessment for CPS 7753/1. The Delegated Officer determined that the proposed five year extension is not likely to lead to an unacceptable risk to environmental values.

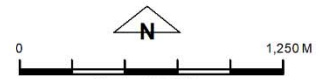
1.5. Site map

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



LEGEND

- Mining Tenements
- Clearing Instruments**
- Areas Approved to Clear
- Orthophotography sourced from Landgate



Scale 1:30,816
 (Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



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

2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *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 2013)
- *Procedure: Native vegetation clearing permits* (DWER, October 2019)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

Evidence was submitted by the applicant, demonstrating the following avoidance / mitigation measures will be implemented:

- prior to clearing, an internal Surface Disturbance Permit will be completed and signed off by the environmental department;
- clearing will only be undertaken once construction is imminent;
- all cleared vegetation, topsoil and laterite subsoil will be stockpiled and stockpiles will be located on previously cleared or disturbed areas where practicable;
- implementation of weed management procedures;
- fauna management actions will be implemented to minimise the potential impacts to fauna;
- project civil design which includes appropriate drainage requirements including erosion/degradation controls; and
- where practicable, surface water runoff will be controlled (Minjar Gold, 2017).

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

A review of current environmental information (Appendix B) reveals that the assessment against the clearing principles has not changed from the clearing permit decision report CPS 7753/1. New biological information has been provided in support of the amendment application (Stantec, 2022). The previous assessment of the clearing did not identify any significant environmental impacts and the extension of the permit by five years is unlikely to change the environmental impacts of the proposed clearing. The conditions currently imposed on clearing permit CPS 7753/1 are considered adequate to manage the impacts of the clearing.

A review of current environmental information reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 7753/1.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 2 August 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 are no native title claims over the area under application (DPLH, 2022). 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 (2022, Year). 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. Additional information provided by applicant

Summary of comments	Consideration of comment
<p>A targeted flora and vegetation survey memorandum conducted by Stantec (2022) was submitted to the Department on 3 August 2022 following a request for more information. The following provides a summary of the field survey, conducted by Stantec between 9 to 12 November 2021, which provided an updated assessment of the application area:</p> <ul style="list-style-type: none"> no Commonwealth or State-listed threatened or priority flora was confirmed in the survey area; one vegetation type, EIEsuMPAvOmAm, was described and mapped within the survey area (<i>Eucalyptus longicornis</i> and <i>E. 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); and roadside areas and areas with existing mine infrastructure were assessed as 'Completely Degraded' and areas containing remnant vegetation were assessed as 'Good' to 'Very Good'. 	<p>The latest survey provides a more up to date flora and vegetation assessment of the application area and will be considered as part of the amendment application assessment.</p>
<p>A flora and fauna desktop assessment memorandum conducted by Eco Logical in September 2017 was provided to the Department on 3 August 2022 following a request for more information. The following provides a summary:</p> <ul style="list-style-type: none"> no conservation listed flora and fauna species were recorded within the application area; five conservation listed flora species are considered to have potential to occur within the application area; and seven conservation listed fauna species are considered to have potential to occur within the application area. 	<p>The flora and fauna desktop will be considered as part of the supporting information for the amendment application assessment.</p>

Appendix B. Site characteristics

B.1. Site characteristics

Characteristic	Details
Local context	The application area is located approximately five kilometres south of Southern Cross town centre. The area proposed to be cleared is part of an expansive tract of native vegetation in the intensive land use zone of Western Australia. There is an existing mine within the application and is bounded by farmland to the east of the project extent (GIS Database).
Ecological linkage	According to available databases, the application area does not contain any known or mapped ecological linkages.
Conservation areas	The application area is not mapped within a conservation area. The closest conservation area is an un-named Nature Reserve which is located approximately six kilometres north of the application area.
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation associations:</p> <p>125: Bare areas, salt lakes, and</p> <p>1068: Medium woodland, salmon gum, morrel, gimlet & <i>Eucalyptus sheathiana</i> (GIS Database).</p> <p>A level 2 flora survey of the greater Cornishman area was undertaken by Recon Environmental in August 2007 (Read, 2008). The following vegetation communities were identified within the survey area (Minjar Gold, 2017):</p> <p>Plain <i>Eucalyptus longicornis</i> saltbush woodland (PESW-L): Open <i>Eucalyptus longicornis</i> and <i>E. melanoxylon</i> woodland with frequent <i>Melaleuca pauperiflora</i> above <i>Eremophila scoparia</i> and <i>Atriplex vesicaria</i>;</p> <p>Plain <i>Eucalyptus salubris</i> and <i>E. salmonophloia</i> saltbush woodland (PESW-S): Open <i>Eucalyptus salubris</i> and <i>E. salmonophloia</i> woodland over <i>Atriplex vesicaria</i>, <i>Scaevola spinescens</i> and <i>Eremophila scoparia</i> with emergent <i>Melaleuca pauperiflora</i> subsp. <i>fastigiata</i>;</p>

Characteristic	Details
	<p>Acacia acuminata tall shrubland on heavy clay soils (ASHC): Tall shrubland of <i>Acacia acuminata</i> with scattered shrubs in the understorey;</p> <p>Eucalyptus longicornis woodland on flats (ELWF): <i>Eucalyptus longicornis</i> Woodland on broad Flats. It generally consists of an <i>E. longicornis</i> woodland with <i>Melaleuca pauperiflora</i> and <i>Exocarpos aphyllus</i> emerging over <i>Eremophila</i> species with <i>Olearia muelleri</i> and <i>Acacia merrallii</i>;</p> <p>Eucalyptus salubris & E. salmonophloia woodland on flats (ESWF): Open <i>Eucalyptus salubris</i> and <i>E. salmonophloia</i> woodland above <i>Melaleuca pauperiflora</i> with <i>Santalum acuminatum</i> and <i>Exocarpos aphyllus</i>, over <i>Grevillea acuaria</i>, <i>Olearia muelleri</i> and <i>Acacia merrallii</i> in red clay loamy soils;</p> <p>Eucalyptus and melaleuca woodland on low hills (EMLH): Open <i>Eucalyptus longicornis</i> and <i>E. corrugata</i> woodland occurring on low hills (or rises) above low scattered shrubs frequently comprised of <i>Atriplex vesicaria</i>, <i>Olearia muelleri</i>, <i>Scaevola spinescens</i> and <i>Dodonaea microzyga</i>;</p> <p>Allocasuarina and acacia tall shrubland on low hills (TSLH): Tall shrubland on clay loam soils consisting of <i>Allocasuarina helmsii</i> with <i>Melaleuca pauperiflora</i> ssp. <i>fastigiata</i> and frequently <i>Eucalyptus corrugata</i>, <i>Acacia acuminata</i> ssp. <i>acuminata</i> and <i>Santalum acuminatum</i> over <i>Dodonaea stenozyga</i>, <i>Acacia</i> spp. and <i>Olearia muelleri</i>;</p> <p>Sandy bank shrubland (SBSH): Emergent <i>Eucalyptus</i> over <i>Melaleuca</i> with a scattered understorey of <i>Dodonaea viscosa</i> subsp. <i>angustifolia</i>, <i>Olearia pimelioides</i> and <i>Triodia scariosa</i>;</p> <p>Samphire low shrubland (SAMP): Low lying samphire shrubland in heavy red clays;</p> <p>Melaleuca low lying drainage related shrubland (MELS): Surface drainage related shrubland dominated by <i>Melaleuca uncinata</i> with <i>M. lateriflora</i> subsp. <i>lateriflora</i> in red clay soil;</p> <p>Laterite association consisting of a tall to mid level shrubland complex of acacia with allocasuarina, melaleuca and emergent mallee (LSAM): Tall to mid level shrub thickets consisting of <i>Acacia</i>, <i>Allocasuarina</i>, <i>Melaleuca</i>, <i>Dodonaea</i> and <i>Prostanthera</i>, with <i>Eucalyptus loxophleba</i> subsp. <i>lissophloia</i> frequently occurring on rocky outcrops; and</p> <p>Acacia and mallee shrubland on sandy (sandy loam) lateritic soils (AMSL): Varying mosaic habitat ranging from a closed <i>Acacia</i>/<i>Melaleuca</i> thicket to a tall <i>Acacia</i> and <i>Melaleuca</i> shrubland.</p>
Vegetation condition	Whilst there are parts of the area surveyed that show signs of disturbance, the dominant vegetation types present within the application area are considered to range from 'Very Good' to 'Excellent' condition (Keighery, 1994; Read, 2008).
Climate and landform	The application area is located in the Wheatbelt region of Western Australia and experiences an arid climate with an average annual rainfall of 292.8 millimetres (BoM, 2022).
Soil description	<p>The soils of the application area are broadly mapped as the following soil types:</p> <ul style="list-style-type: none"> • 261Gt_1Qa: alluvial flats adjacent to salt lakes with loamy earth (mostly calcareous), hard cracking clay and alkaline shallow duplex, • 261Gt_1Qc: lower slopes and footslopes adjacent to salt lakes, • 261Gr_3: rolling low hills with loamy earth (mostly calcareous) and clay, • 261GrX_MINE: disturbed mine land, • 261Ld_1sl: salt lakes, and • G261GrPE: tributary valley floors on greenstone with calcareous loamy earths and shallow duplex (DPIRD, 2022).
Land degradation risk	The application area occurs within the Southern Cross (COO2) sub-region of the Coolgardie bioregion (GIS Database). Landforms of the Coolgardie bioregion include granite rocky outcrops, low greenstone hills, laterite uplands and broad plains (Bastin and the ACRIS Management Committee, 2008).
Waterbodies	There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). Several ephemeral creek lines pass through the application area (GIS Database).
Hydrogeography	The application area is located within the proclaimed Goldfields groundwater area under the <i>Rights in Water and Irrigation Act 1914</i> (GIS Database). The mapped groundwater salinity is approximately 14,000 to 35,000 milligrams per litre total dissolved solids which is described as hypersaline (GIS Database).
Flora	There are no records of conservation significant flora within the application area.

Characteristic	Details
	<p>One Threatened Flora (<i>Daviesia macrocarpa</i>) and two Priority flora species (<i>Lissanthe scabra</i> and <i>Eremophila caerulea</i> subsp. <i>merrallii</i>) have been identified outside the application area from previous surveys (Read, 2008).</p> <p>One Declared Plant pursuant to Section 22 of the <i>Biosecurity and Agriculture Management Act 2007</i>, was observed north of the application area: <i>Carthamus lanatus</i> (Saffron thistle).</p> <p>There are records of 17 species of conservation flora within the local area (surrounding 20 kilometres) that could potentially occur within the application area (Eco Logical, 2017; Read, 2008; GIS Database).</p>
Ecological communities	There are no records of any Threatened or Priority Ecological Communities (TEC/PEC) within the application area (GIS Database). The closest PEC (Eucalypt woodlands of the Western Australian Wheatbelt) is located approximately seven kilometres north west from the application area.
Fauna	Twelve (12) conservation significant fauna species have been identified to have a 'Possible' or 'Likely' occurrence within the application area (Western Wildlife, 2008; GIS Database).

B.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent Remaining %	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA Managed Lands
IBRA Bioregion - Coolgardie	12,912,204.35	12,648,491.39	97.96	2,114,349.37	16.39
Beard vegetation associations - State					
125	3,479,612.40	3,146,294.10	90.42	265,730.15	9.30
1068	268,900.45	142,088.42	52.84	16,761.06	6.24
Beard vegetation associations - Bioregion					
125	3,485,785.49	3,146,487.22	90.27	265,740.10	9.29
1068	268,900.45	142,088.42	52.84	16,761.06	6.24

Government of Western Australia (2022)

B.3. Flora analysis table

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

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)
<i>Eremophila caerulea</i> subsp. <i>merrallii</i>	P4	Y	~4
<i>Lissanthe scabra</i>	P2	Y	~0.4
<i>Daviesia microcarpa</i>	T	Y	~1.5
<i>Millotia newbeyi</i>	P1	Y	<10
<i>Goodenia heatheriana</i>	P1	Y	<10
<i>Hydrocotyle corynophora</i>	P1	Y	<10
<i>Phlegmatospermum eremaeum</i>	P3	Y	<10
<i>Stylidium choreanthum</i>	P3	Y	<10
<i>Rinzia fimbriolata</i>	P1	Y	<10
<i>Hemigenia</i> sp. Newdegate (E. Bishop 75)	P1	Y	<10

Species name	Conservation status	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)
<i>Verticordia mitodes</i>	P3	Y	<10
<i>Hakea pendens</i>	P3	Y	<10
<i>Acacia filifolia</i>	P3	Y	<10
<i>Acacia desertorum</i> var. <i>nudipes</i>	P3	Y	<10
<i>Notisia intonsa</i>	P3	Y	<10
<i>Teucrium diabolicum</i>	P3	Y	<10
<i>Eucalyptus crucis</i> subsp. <i>crucis</i>	T	Y	<10

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

B.4. Fauna analysis table.

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

Species name	Common Name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)
<i>Merops ornatus</i>	Rainbow Bee-eater	Migratory	N	Y	Recorded in Transvaal area
<i>Aspidites ramsayi</i>	Woma Python	P1	Y	Y	Recorded in Transvaal area
<i>Pomatostomus superciliosus ashbyi</i>	White-browed Babbler	P4	Y	Y	Recorded in Transvaal area
<i>Oreoica gutturalis gutturalis</i>	Crested Bellbird	P4	Y	Y	Recorded in Transvaal area
<i>Tringa nebularia</i>	Common greenshank, greenshank	Migratory	N	Y	~1
<i>Falco peregrinus</i>	Peregrine Falcon	OS	N	Y	~2.5
<i>Leipoa ocellata</i>	Malleefowl	VU	N	Y	~2.5
<i>Dasyurus geoffroii</i>	Chuditch	VU	N	Y	~2.5
<i>Aganippe castellum</i>	Tree-stem Trapdoor Spider	P4	Y	Y	~4.5
<i>Platycercus icterotis xanthogenys</i>	Inland Western Rosella	P4	N	Y	~113
<i>Paroplocephalus atriceps</i>	Lake Cronin Snake	P3	Y	Y	~66
<i>Notamacropus irma</i>	Western Brush Wallaby	P4	Y	Y	~75

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority, OS: Other specially protected fauna

Appendix C. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p>Principle (a): "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>Flora and fauna survey identified 181 taxa of flora from 84 genera and 41 families and 15 weed species. There are no Threatened or Priority Ecological Communities located within the application area (GIS Database). There are</p>	<p>Not likely to be at variance</p> <p>(as per CPS 7753/1)</p>	<p>No</p>

Assessment against the clearing principles	Variance level	Is further consideration required?
no records of any conservation significant flora within the application (Read, 2008; Stantec, 2022; Western Wildlife, 2008). There is potential for 17 species of conservation significant flora and 12 species of conservation significant fauna species to occur within the application area however, the application area is not likely to represent significant habitat for the species (Read, 2008; Stantec, 2022; Western Wildlife, 2008; GIS Database).		
<p><u>Principle (b):</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 significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>No fauna habitats of conservation significance were recorded within the application area and 17 species of conservation significant fauna may potentially utilise the habitat within the application area. However, the application area is not likely to represent significant habitat for the species (Eco Logical, 2017; Western Wildlife, 2008; GIS Database). In addition to the fauna survey conducted in 2008, the impacts to conservation significant fauna or habitat were assessed with reference to supporting information from the adjacent project (Glendower Project (CPS 8966/1)) which has similar site characteristics (Stantec, 2020; Western Wildlife, 2008).</p>	<p>Not likely to be at variance</p> <p>(as per CPS 7753/1)</p>	<p>No</p>
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>There are no known records of Threatened flora within the application area (Read, 2008; Stantec, 2022; GIS Database). Flora surveys of the application area did not record any species of Threatened flora (Read, 2008; Stantec, 2022).</p>	<p>Not likely to be at variance</p> <p>(as per CPS 7753/1)</p>	<p>No</p>
<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 Threatened Ecological Communities (TECs) located within or in close proximity to the permit area (GIS Database). Flora and vegetation surveys previously carried out did not identify any TECs (Read, 2008; Stantec, 2022).</p>	<p>Not likely to be at variance</p> <p>(as per CPS 7753/1)</p>	<p>No</p>
Environmental value: significant remnant vegetation and conservation areas		
<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 extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia, 2001; GIS Database). The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area (GIS Database).</p>	<p>Not at variance</p> <p>(as per CPS 7753/1)</p>	<p>No</p>
<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>There are no conservation areas within the application area (GIS Database). The nearest conservation area is an un-named Nature Reserve located approximately six kilometres north of the application area (GIS Database).</p>	<p>Not likely to be at variance</p> <p>(as per CPS 7753/1)</p>	<p>No</p>

Assessment against the clearing principles	Variance level	Is further consideration required?
The proposed clearing is unlikely to impact on the environmental values of any conservation area.		
Environmental value: land and water resources		
<p><u>Principle (f):</u> “Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</p> <p><u>Assessment:</u></p> <p>There are no permanent watercourses or wetlands within the application area (GIS Database). Several ephemeral creek lines pass through the application area (GIS Database). Lake Cotton and fringes of Lake Polaris also traverse the northern extent of the project area (Minjar Gold, 2017; GIS Database). Both of these named watercourses have previously been impacted as a result of dewatering from several mining operations in the area (Transvaal, Frasers, Golden Pig and Hopes Hill).</p> <p>Potential impacts to vegetation growing in association with the watercourse may be minimised by the implementation of a watercourse management condition.</p>	<p>Not at variance</p> <p>(as per CPS 7753/1)</p>	<p>No</p>
<p><u>Principle (g):</u> “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 moderately susceptible to erosion (GIS Database). Noting the extent of the application area, the proposed clearing can potentially have an appreciable impact on land degradation. Potential degradation as a result of proposed clearing may be minimised by the implementation of a staged clearing condition.</p>	<p>May be at variance</p> <p>(as per CPS 7753/1)</p>	<p>No</p>
<p><u>Principle (i):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</p> <p><u>Assessment:</u></p> <p>The application area is not mapped within a PDWSA, however it is mapped within the proclaimed Goldfields groundwater area. There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). The proposed clearing is unlikely to result in significant changes to surface water flows or cause deterioration in the quality of surface or underground water.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 7753/1)</p>	<p>No</p>
<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>The Coolgardie region has an arid to semi-arid warm Mediterranean climate, receiving a majority of its rainfall during winter months, however, rainfall data for Southern Cross indicates the rainfall is spread throughout the year (CALM, 2002). There are no permanent water courses or waterbodies within the application area and 3-10% of the area is mapped as having moderate to high risk of flooding (GIS Database). The proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.</p>	<p>Not likely to be at variance</p> <p>(as per CPS 7753/1)</p>	<p>No</p>

Appendix D. Vegetation condition rating scale

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

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

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

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

Appendix E. Sources of information

E.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Bush Forever (Regional Scheme) (DPLH-022)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- Contours (DPIRD-073)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Local Planning Scheme – Zones and Reserves (DPLH-071)
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Interim Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)

- WA Now Aerial Imagery
- Wheatbelt Wetlands Stage 1 (DBCA-021)

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

- Barto Gold Mining (2022) Part 7: Supporting Documentation – Extension Application 7753/1. July 2022.
- Bastin and the ACRIS Management Committee (2008) Rangelands 2008 - Taking the Pulse; Coolgardie Bioregion. Published on behalf of the Australian Collaborative Rangeland Information System (ACRIS) Management Committee by the National Land and Water Resources Audit, Canberra.
- BoM (2022) Bureau of Meteorology Website – Climate Data Online, Southern Cross. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 26 August 2022).
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management
- Commonwealth of Australia (2001) *National Objectives and Targets for Biodiversity Conservation 2001-2005*, Canberra.
- Department of Environment Regulation (DER) (2013) *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf
- Department of Planning, Lands and Heritage (DPLH) (2022) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 9 August 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 9 August 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_v1.pdf
- Eco Logical (2017) Transvaal (Aquarius) Flora and Desktop Assessment Memorandum. Report prepared for Tianye SCO Gold Mining Pty Ltd, September 2017.
- Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf
- Environmental Protection Authority (EPA) (2016) Technical Guidance – Terrestrial Fauna Surveys. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.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.
- Minjar Gold (2017) Application to Clear Native Vegetation (Purpose Permit) Transvaal (Aquarius) Open Pit – Southern Cross Operations. August 2017.
- Read, T.J. (2008) Ruapehu Transvaal Vegetation Survey. Unpublished Report prepared for St Barbara Ltd by Recon Environmental. Report No. SBSX18. June 2008.
- Stantec (2020) Glendower Flora, Vegetation and Fauna Survey. Report prepared for Barto Gold Mining Pty Ltd, November 2020.
- Stantec (2022) Targeted Flora Survey Axehandle – Cornishman. Report prepared for Barto Gold Mining Pty Ltd, February 2022.
- Western Wildlife (2008) St Barbara Limited, Southern Cross Operations: Baseline Fauna Survey; Spring 2007 & Autumn 2008. Report prepared for St Barbara Limited, April 2008.

4. Glossary

Acronyms:

BC Act	<i>Biodiversity Conservation Act 2016</i> , Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DoEE	Department of the Environment and Energy (now DAWE)
DoW	Department of Water, Western Australia (now DWER)

DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

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

T **Threatened species:**

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

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

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

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

CR **Critically endangered species**

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

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

EN **Endangered species**

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

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

VU **Vulnerable species**

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

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

Extinct Species:

EX **Extinct species**

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

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

EW **Extinct in the wild species**

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

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

Specially protected species:

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

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

MI Migratory species

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

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

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

CD Species of special conservation interest (conservation dependent fauna)

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

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

OS Other specially protected species

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

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

P Priority species:

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

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

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

P1 Priority One - Poorly-known species

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

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

Principles for clearing native vegetation:

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