

## 1. Application details and outcomes

### 1.1. Permit application details

Permit number:	10520/1
Permit type:	Purpose Permit
Applicant name:	Essential Metals Pty Ltd
Application received:	15 February 2024
Application area:	307.58 hectares
Purpose of clearing:	Mineral production and associated activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 15/1896
Location (LGA area/s):	Shire of Coolgardie
Colloquial name:	North Dome Project

### 1.2. Description of clearing activities

Essential Metals Pty Ltd proposes to clear up to 307.58 hectares of native vegetation within a boundary of approximately 1,405.08 hectares, for the purpose of mineral production and associated activities (Essential Metals Pty Ltd, 2024b). The project is located approximately 52 kilometres north of Norseman, within the Shire of Coolgardie.

The application is to allow for lithium extraction (Essential Metals Pty Ltd, 2024b). The project comprises of the following operational activities (Develop Global Limited, 2024):

- open pit mining of two deposits,
- two waste rock landforms,
- Run of Mine (ROM) pad,
- crushing and screening facilities,
- site access and haul roads,
- borrow pits,
- laydown and hardstand areas,
- topsoil and vegetation stockpiles, and
- associated mine infrastructure.

### 1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	29 November 2024
Decision area:	307.58 hectares of native vegetation

### 1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) advertised the application for a public comment for a period of 21 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix G), supporting information provided by the applicant (Appendix A) including the results of a flora and vegetation survey (Appendix B.2), the clearing principles set out in Schedule 5 of the EP Act (Appendix C), 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 potentially suitable breeding and foraging habitat for malleefowl (*Leipoa ocellata*);
- the loss of native vegetation that is potentially suitable habitat for arid bronze azure butterfly and Inland Hairstreak; and

- potential land degradation in the form of water erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (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;
- watercourse management to avoid riparian vegetation and maintain existing water flow;
- commence works no later than six months after undertaking clearing to reduce the risk of erosion;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity; and
- a fauna management (malleefowl) condition requiring areas proposed to be cleared between 1 September and 31 January are inspected to identify active (in use) malleefowl mounds, and to maintain a 200 metre buffer around identified active mounds.

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

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)
- Guideline for the survey of arid bronze azure butterfly (ABAB) in Western Australia (DBCA, 2020)
- Survey guidelines for Australia's threatened birds (DEWHA, 2017)

## 3. Detailed assessment of application

### 3.1. Avoidance and mitigation measures

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. Operational control measures were submitted by the applicant demonstrating (Develop Global Limited, 2024; Essential Metals Pty Ltd, 2024a):

- avoid and minimise clearing,
- environmental management system,
- environmental risk assessment and monitoring protocols,
- ground disturbance procedure inclusive of weed management,
- GPS device to ensure clearing areas remain within approved boundaries, and
- progressively rehabilitate disturbed areas, where practicable.

### 3.2. Assessment of impacts on environmental values

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix B) 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. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

#### 3.2.1. Biological values (flora) - Clearing Principles (a)

##### Assessment

A detailed flora and vegetation survey was conducted over the application area and surrounding area covering approximately 2,743 hectares by Botanica Consulting during field trips on the 22 to 23 November 2021 and 18 to 19 September 2023, along with a single day on 26 October 2023, noting a minor constraint with unfavourable climate conditions (Botanica Consulting,

2024a). The field survey identified 110 vascular flora taxa, representing 48 genera across 24 families within the survey area (Botanica Consulting, 2024a).

### **Priority flora**

The flora taxon *Eremophila acutifolia* was recorded within the application area during the flora survey (Botanica Consulting, 2024a). At the time of survey this taxon was listed as a Priority 3 flora species (Western Australian Herbarium, 1998-). The applicant provided additional information on this species with approximately 95,000 individuals recorded in the local area (Botanica Consulting, 2024a). Of these, approximately 30,000 individuals are occurring within the application area and 24,000 individuals within existing approved native vegetation clearing permits (Botanica Consulting, 2024c). The proposed clearing permit boundary was designed to reduce the amount of *Eremophila acutifolia* which would be cleared (Essential Metals Pty Ltd, 2024b). During the assessment of this application this species was delisted from the DBCA priority list due to numerous sites consisting of large populations and it no longer meeting the criteria for Threatened or Priority (Western Australian Herbarium, 1998-).

There is potentially suitable habitat for ten conservation significant flora (listed in Appendix B.2), however none were identified during field surveys and suitable habitat extends beyond the permit boundary.

### **Great Western Woodlands**

The application area occurs within the central region of the Great Western Woodlands which represents the largest and healthiest temperate woodlands (Botanica Consulting, 2024a; Watson *et al*, 2008). The Great Western Woodlands covers a total area of approximately 16 million hectares and is recognised for its flora and fauna species richness and high level of endemic flora taxa (Watson *et al*, 2008). However, given the size of the application area, the proposed clearing is unlikely to have any significant impact on the conservation values of the Great Western Woodlands.

A total of six weed species were identified within the application area (Botanica Consulting, 2024a). None of the species are listed as Weeds of National Significance or Declared Pest plants in Western Australia under the *Biosecurity and Agriculture Management Act 2007*, however weeds have potential to out-compete native flora and reduce biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

### **Conclusion**

For the reasons set out above, it is considered that the impacts of the proposed clearing on biodiversity can be managed by taking steps to minimise the risk of the introduction and spread of weeds.

### **Conditions**

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

- avoid, minimise to reduce the impacts and extent of clearing; and
- take hygiene steps to minimise the risk of the introduction and spread of weeds.

## **3.2.2. Biological values (fauna) - Clearing Principles (b)**

### **Assessment**

A basic fauna survey was conducted over the application area and surrounding area covering approximately 2,743 hectares by Botanica Consulting during field trips on the 22 to 23 November 2021 and 18 to 19 September 2023, along with a single day on 26 October 2023 (Botanica Consulting, 2024a).

### **Malleefowl**

Malleefowl (*Leipoa ocellata*, VU) is a large ground-dwelling bird that occurs in semi-arid to arid shrublands and low woodlands (3-8 metres in height) dominated by mallee and associated habitats, such as broombush (*Melaleuca uncinata*) and native pine (*Callitris* spp) scrub (DCCEEW, 2024). The nest is constructed in sandy soils and leaf litter by building a large mound for egg incubation (DCCEEW, 2024). This species favours mallee that has been long unburnt and ungrazed (DCCEEW, 2024). The application area is in very good condition with some disturbances from access tracks, low levels of grazing and historical impacts (Botanica Consulting, 2024a). Most vegetation within the application area did not appear to have been burnt in over five years and to a lesser extent over 20 years (Botanica Consulting, 2024a). There are seven records of malleefowl within the local surrounds (20 kilometres) (GIS Database). The basic fauna survey identified malleefowl to potentially occur within all the terrestrial fauna habitats mapped within the application area, however no evidence of malleefowl was identified (i.e. mounds, tracks or other signs) (Botanica Consulting, 2024a). Approximately 1,186 hectares (84.4%) of the application area consisted of soil that was moderately suitable for burrowing and contained moderate vegetation density and leaf litter (Botanica Consulting, 2024a). Approximately 112.64 hectares (8.0%) of the vegetation was dominated by mallee that was between 3-6 metres in height found in vegetation types GR-MW1 and RH-EW2 (Botanica Consulting, 2024a). To a lesser extent, the application area may support breeding habitat, while there is potential for malleefowl to utilise the majority of the application area as foraging habitat or as a transient visitor. Given there is potentially suitable breeding and foraging habitat within the application area, impacts to breeding habitat can be minimised with the implementation of a pre-clearing survey during breeding season and directional clearing conditions.

### **Arid bronze azure butterfly and Inland hairstreak**

Arid bronze azure butterfly (ABAB) (*Ogyris subterrestris petrina*) is listed as Critically Endangered under the BC Act and the EPBC Act. ABAB populations are severely fragmented, restricted in geographic range and sensitive to clearing and habitat disturbance (DBCA, 2020). The preferred habitat is described as vegetation of mature mixed gimlet (*Eucalyptus salubris*), salmon gum (*Eucalyptus salmonophloia*) woodlands on red-brown loam soils, with an open understorey (DBCA, 2020). The application area occurs within mapped potential habitat area for ABAB with potentially suitable habitat occurring in the form of *Eucalypt* open woodlands vegetation type (CLP-EW1) (Botanica Consulting, 2024a). ABAB has an obligate association with a sugar ant *Camponotus* sp. *nr. terebrans*. A targeted survey was conducted on 3 October 2024 for the host ant within the

*Eucalyptus salmonophloia* open woodland vegetation type and assessed sixty trees, with no evidence of the host ant recorded (Botanica Consulting, 2024b). Given the above, it is unlikely the proposed clearing will significantly impact the conservation status of this species.

Inland hairstreak butterfly (*Jalmenus aridus*) is listed as Priority 1 and is data deficient. This species was previously only known to 2 locations near Kalgoorlie, has been recorded from another 10 locations within an area of extending approximately 121 kilometres north to south by 42 kilometres east to west (Eastwood *et al.*, 2023). The preferred habitat for this species is summarised as open woodland, *Senna artemisioides* subsp. *filifolia*, variety of flowering shrubs (*Eremophila*, *Scaveola*, and *Maireana*) and open areas of well drained exposed ground adjoining the hostplants (Eastwood *et al.*, 2023). Inland hairstreak caterpillars feed on flowers of *Senna artemisioides* subsp. *filifolia*. Inland hairstreak has an obligate association with ant species, *Froggattella kirbii* (Eastwood *et al.*, 2023). A targeted survey was conducted on 3 October 2024 searching several *Senna artemisioides* subsp. *filifolia* and no evidence of *Jalmenus aridus* pupae or *Froggattella kirbii* were recorded (Botanica Consulting, 2024b). Given the above, it is unlikely the proposed clearing will significantly impact the conservation status of this species.

#### **Chuditch**

The chuditch (*Dasyurus geoffroi*) is listed as Vulnerable under the BC Act and the EPBC Act. Chuditch have disappeared from approximately 95 percent of their former range where they were previously found across all mainland Australian States (DEC, 2012). Most chuditch are now found in varying densities throughout the jarrah forest, south coast Western Australia and at lower densities in the goldfields and wheatbelt (DEC, 2012). This species utilised a range of habitats including forest, mallee shrublands, woodland and desert, with dense populations found in riparian jarrah forest (DEC, 2012). While records are limited, there is potential for this species to occur within the application area or surrounding area. Impacts can be minimised with the implementation of a slow directional clearing condition to allow fauna to move into adjacent vegetation.

#### **Peregrine Falcon and Grey Falcon**

The peregrine falcon (*Falco peregrinus*, OS) occurs across Australia typically nesting on rocky ledges in tall, vertical cliff faces and gorges, or in trees associated with drainage lines and forages in a range of habitat types (Australian Museum, 2019). The grey falcon (*Falco hypoleucos*, VU) occurs in arid and semi-arid Australia frequenting timbered lowland plains, particularly acacia shrublands crossed by tree-lined watercourses (TSSC, 2020). The Grey falcon generally roosts and nests in the tallest trees along watercourses, particularly River Red Gum (*Eucalyptus camaldulensis*) and Coolibah (*Eucalyptus coolabah*) (TSSC, 2020). There is one record of peregrine falcon and one record of grey falcon within 20 kilometres of the application area (GIS Database). There is potential for both these species to occur within the application area as transient visitors, however given there are no permanent watercourses or suitable breeding habitat identified within the application area, it is unlikely these species will be significantly impacted by the proposed clearing.

#### Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on conservation significant fauna habitat can be managed by a fauna management condition and slow directional clearing to allow fauna to move into adjacent vegetation.

#### Conditions

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

- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity; and
- a fauna management (malleefowl) condition requiring areas proposed to be cleared between 1 September and 31 January are inspected to identify active (in use) malleefowl mounds, and to maintain a 200 metre buffer around identified active mounds.

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

The clearing permit application was advertised on 15 March 2024 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim over the area under application (DPLH, 2024). This claim (WCD2017/002) has been determined by the Federal Court on behalf of the claimant group (Ngadju Part B). 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, 2024). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

- A Programme of Work approved under the *Mining Act 1978*.
- A Mining 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
Impact assessment for <i>Eremophila acutifolia</i> (Botanica Consulting, 2024c)	Refer to Section 3.2.2.
North Dome Project: Targeted ABAB Host Ant Survey (Botanica Consulting, 2024b)	Refer to Section 3.2.2.

## Appendix B. Site characteristics

### B.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, surrounded by native vegetation (GIS Database).
Ecological linkage	According to available databases, the application area does not contain any known or mapped ecological linkages (GIS Database).
Conservation areas	The nearest conservation area is Binaronca Nature Reserve, located approximately 7.9 kilometres northeast of the application area (GIS Database).
Vegetation description	<p>The application area occurs within the Eastern Goldfield (COO3) subregion of Coolgardie (GIS Database). The vegetation of the application area is broadly mapped as the following Beard vegetation associations:</p> <ul style="list-style-type: none"> <li>• <b>Binnering 522:</b> medium woodland; redwood (<i>Eucalyptus transcontinentalis</i>) and merrit (<i>Eucalyptus flocktoniae</i>);</li> <li>• <b>Binnering 1413:</b> shrublands; acacia, casuarina and melaleuca thicket; and</li> <li>• <b>Binnering 128:</b> bare areas; rock outcrops (GIS Database).</li> </ul> <p>A flora and vegetation survey was conducted over the application area by Botanica Consulting during November, 2021, September and October 2023 (Botanica Consulting, 2024a). The following vegetation associations were recorded across two major vegetation groups within the application area (Botanica Consulting, 2024a):</p> <p><i>Eucalyptus</i> open woodland</p> <ul style="list-style-type: none"> <li>• <b>CLP-EW1</b> (MVG 5): <i>Eucalyptus salmonophloia</i> and <i>Eremophila interstans</i> subsp. <i>interstans</i> woodland over <i>Exocarpos aphyllus</i>, <i>Eremophila dempsteri</i> and <i>Grevillea acuaria</i> shrubland over <i>Eremophila acutifolia</i>, <i>Atriplex vesicaria</i> and <i>Rhagodia eremaea</i> low shrubland.</li> <li>• <b>SCLP-EW2</b> (MVG 5): <i>Eucalyptus urna</i> and <i>Santalum acuminatum</i> woodland over <i>Melaleuca sheathiana</i>, <i>Exocarpos aphyllus</i> and <i>Scaevola spinescens</i> open shrubland over <i>Eremophila caerulea</i> and <i>Olearia muelleri</i> low open shrubland.</li> <li>• <b>CLP-EW3</b> (MVG 5): <i>Eucalyptus ravidia</i> and <i>Santalum acuminatum</i> open woodland over <i>Exocarpos aphyllus</i> and <i>Alyxia buxifolia</i> open shrubland over <i>Eremophila acutifolia</i>, <i>Ptilotus holosericeus</i> and <i>Wilsonia humilis</i> low shrubland.</li> <li>• <b>RH-EW1</b> (MVG 11): <i>Eucalyptus torquata</i> and <i>Santalum acuminatum</i> woodland over <i>Dodonaea lobulata</i>, <i>Alyxia buxifolia</i> and <i>Trymalium myrtillus</i> subsp. <i>myrtillus</i> open shrubland over <i>Westringia rigida</i> and <i>Olearia muelleri</i> low open shrubland.</li> <li>• <b>RH-EW2</b> (MVG 11): <i>Eucalyptus lesouefii</i>, <i>Eucalyptus stricklandii</i> and <i>Melaleuca pauperiflora</i> woodland over <i>Eremophila psilocalyx</i>, <i>Alyxia buxifolia</i> and <i>Acacia erinacea</i> shrubland over <i>Westringia rigida</i>, <i>Eremophila caerulea</i> and <i>Olearia muelleri</i> low open shrubland.</li> </ul> <p><i>Eucalyptus</i> mallee woodland</p> <ul style="list-style-type: none"> <li>• <b>GR-MW1</b> (MVG 14): <i>Eucalyptus loxophleba</i> subsp. <i>lissophloia</i>, <i>Acacia acuminata</i> and <i>Santalum acuminatum</i> mallee woodland over <i>Senna artemisioides</i> subsp. <i>filifolia</i>, <i>Eremophila alternifolia</i> and <i>Dodonaea adenophora</i> shrubland over <i>Ptilotus obovatus</i>, <i>Olearia pimelioides</i> and <i>Austrostipa elegantissima</i> low open shrubland/tussock grassland.</li> </ul> <p>Mapping of vegetation types is provided in Appendix E and representative photos are provided in Appendix F.</p>
Vegetation condition	<p>Aerial imagery and the vegetation survey (Botanica Consulting, 2024a) indicates the vegetation within the proposed clearing area is in very good condition (Keighery, 1994), described as 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.</p> <p>Disturbances within the application area included access tracks, presence of weeds, low levels of grazing and historical impacts (Botanica Consulting, 2024a).</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix D. Vegetation condition mapping is available in Appendix E.</p>

Climate and landform	The application area is mapped as approximately 350 metres Australian Height Datum (GIS Database). The climate for the Coolgardie bioregion is characterised as arid to semi-arid with an annual rainfall of 281.6 millimetres recorded at Norseman Aero (BoM, 2024; CALM, 2002).
Soil description and land degradation risk	<p>The application area falls within the following land systems from the Department of Primary Industries and Regional Development's rangeland survey information (DPIRD, 2024):</p> <ul style="list-style-type: none"> <li>• <b>Coolgardie:</b> described as uplands and undulating plains associated with ultramafic greenstones supporting eucalypt woodlands and halophytic shrublands. Erosional surfaces with deeply weathered uplands and rises. Where not protected by a stony mantle, footslopes and valley floors are susceptible to water erosion, particularly in areas where perennial shrub cover is substantially reduced and/or the soil surface is disturbed.</li> <li>• <b>Doney:</b> described as calcareous sheetwash plains with eucalypt woodlands and a sclerophyllous shrub understory. The landform is dominated by erosional and depositional surfaces; infrequent upland pediments, footslopes and very gentle to gently colluvial slopes. Very gently inclined to level sheetwash plains that form broad drainage tracks with negligible surface drainage development. This land system is generally not susceptible to soil erosion except the drainage tracts that are susceptible if the perennial shrub cover is removed.</li> <li>• <b>Johnston:</b> described as gently undulating plains with occasional granitic rises supporting eucalypt woodlands and sclerophyllous shrublands. Erosional surfaces with very gentle to gently inclined colluvial slopes and undulating plains. Occasional sand sheets and minor alluvial fans. Infrequent, non-directional, narrow (under 200 metres), un-channelled drainage tracts between rises and sheetwash interfluves. The alluvial fans and drainage tracks on this system are moderately susceptible to erosion. Obstruction of the natural water flows can cause water starvation and consequent loss of vigour in vegetation downslope. Disturbance of the soil surface on this unit is also likely to initiate erosion.</li> <li>• <b>Kanowna:</b> except for loamy plain landforms, is susceptible to water erosion. This is most apparent where weathered felsic volcanoclastic rocks underlie saline soils, particularly in areas where perennial shrub cover is substantially reduced and/or the soil surface is disturbed.</li> </ul> <p>All the land systems within the application area are susceptible to soil erosion when cleared of perennial vegetation (DPIRD, 2024). Land system mapping is available in Appendix E.</p>
Waterbodies	The desktop assessment and aerial imagery indicated that several minor ephemeral drainage lines transect the area proposed to be cleared (GIS Database). There are no permanent waterbodies or major watercourses that intersect the application area (Botanica Consulting, 2024a; GIS Database).
Hydrogeography	There are no Public Drinking Water Source areas, Wetlands of International Importance or Nationally Important Wetlands that occur within the application area or within close proximity (20 kilometres) (GIS Database). The application area is located within the Goldfields Groundwater Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> . The mapped groundwater salinity is between approximately 14,000 and 35,000 milligrams per litre total dissolved solids which is described as hypersaline (GIS Database).
Flora	There are no records of threatened flora within the application area or local surrounds (20 kilometres) (Botanica Consulting, 2024a; GIS Database). There are records of 10 priority flora that occur within the local surrounds (20 kilometres) (Botanica Consulting, 2024a; GIS Database).
Ecological communities	There are no records of Threatened or Priority Ecological Communities within the application area or the local surrounds (20 kilometres) (Botanica Consulting, 2024a; GIS Database).
Fauna	There are records of seven conservation significant fauna within the local area (20 kilometres) and two conservation significant invertebrates that occur within the Coolgardie bioregion (Botanica Consulting, 2024a; GIS Database).
Fauna habitat	<p>Three broad habitat types have been described within the application area (Botanica Consulting, 2024a):</p> <ul style="list-style-type: none"> <li>• <b><i>Eucalyptus</i> woodland on clay-loam plain:</b> <i>Eucalyptus</i> woodland over <i>Eremophila</i>, <i>Exocarpos</i> and <i>Grevillea</i> shrubland. Ground moderately suited to burrowing species. Moderate vegetation density and moderate leaf litter.</li> <li>• <b><i>Eucalyptus</i> low mallee woodland on granite outcrop:</b> <i>Eucalyptus</i>, <i>Acacia</i> and <i>Santalum</i> mallee woodland over <i>Senna</i> and <i>Dodonaea</i> shrubland. Ground not suited to burrowing species. Multiple rocky crevices provide fauna refuge. Low vegetation density and leaf litter.</li> <li>• <b><i>Eucalyptus</i> woodland on rocky hillslope:</b> <i>Eucalyptus</i> open woodland over <i>Eremophila</i>, <i>Acacia</i> and <i>Dodonaea</i> shrubland. Ground not suitable to burrowing species. Low vegetation density and low to moderate leaf litter.</li> </ul> <p>Mapping of fauna habitat is available in Appendix E and representative photos are provided in Appendix F.</p>

## B.2. Flora analysis table

Assessment of likelihood of occurrence for conservation significant flora species recorded within a 40 kilometre radius of the survey area (Botanica Consulting, 2024a).

EPBC	Rank		Taxon	Habitat	Likelihood
	BC Act	DBCA			
EN	EN	-	<i>Daviesia microcarpa</i>	Weathered gravel.	Unlikely
VU	VU	-	<i>Eucalyptus platydisca</i>	Granitic soils, clay. Stony hills.	Unlikely
VU	VU	-	<i>Gastrolobium graniticum</i>	Margins of large granite rock outcrops.	Unlikely
-	-	P1	<i>Acacia dorsenna</i>	Rocky sandy loam or clay loam. Low rocky hills.	Possible
-	-	P1	<i>Bossiaea aurantiaca</i>	Red sand, red clay loam. Low-lying, winter-damp sites.	Possible
-	-	P1	<i>Bossiaea saxosa</i>	Stony, red soil. Woodlands.	Unlikely
-	-	P1	<i>Calandrinia lefroyensis</i>	Extensive saline flats. Brown silty loam with some scattered quartz.	Unlikely
-	-	P1	<i>Eremophila lucida</i>	Clay loam, sandy loam. Adjacent to samphire flats & granite outcrops.	Unlikely
-	-	P1	<i>Eremophila perglandulosa</i>	-	Unlikely
-	-	P1	<i>Eucalyptus distuberosa</i> subsp. <i>aerata</i>	-	Unlikely
-	-	P1	<i>Eucalyptus jimberlanica</i>	Loam. Valley edges.	Unlikely
-	-	P1	<i>Grevillea phillipsiana</i>	Red sand, stony loam. Granite hills.	Unlikely
-	-	P1	<i>Lepidosperma lyonsii</i>	Pale orange skeletal sandy loam with banded ironstone gravel & rock, well-drained shallow stony loamy with quartz. Gentle hill slopes, upper slopes of large hill.	Unlikely
-	-	P1	<i>Philotheca apiculata</i>	Stony clay loam. Rocky outcrops, hillsides.	Unlikely
-	-	P1	<i>Prostanthera splendens</i>	Stony loam, shallow soils with ironstone pebbles. Breakaways.	Unlikely
-	-	P1	<i>Pterostylis xerampelina</i>		
-	-	P1	<i>Ptilotus rigidus</i>	Quartz hills. Near salt lakes.	Unlikely
-	-	P1	<i>Senecio microbasis</i>	Schist soils. Low hills, disturbed areas in woodlands.	Possible
-	-	P1	<i>Tecticornia flabelliformis</i>	Clay. Saline flats.	Unlikely
-	-	P2	<i>Apatelantha insignis</i>	-	Unlikely
-	-	P2	<i>Bossiaea laxa</i>	Brown loam over deep granite. Sheltered positions around outcrops.	Unlikely

Rank			Taxon	Habitat	Likelihood
EPBC	BC Act	DBCA			
-	-	P2	<i>Acacia kerryana</i>	Granitic loamy sand, stony clayey loam, or clayey sand. Low stony ridges, undulating plains.	Possible
-	-	P2	<i>Eremophila praecox</i>	Red/brown sandy loam. Undulating plains.	Unlikely
-	-	P2	<i>Goodenia corralina</i>	Brown loam, granite. Near large outcrop.	Unlikely
-	-	P2	<i>Phebalium clavatum</i>	Sandy soils. Sandplains.	Unlikely
-	-	P2	<i>Trachymene pyrophila</i>	Yellow or orange sand. Sandplains; germinating after fire or other disturbances such as mining.	Unlikely
-	-	P3	<i>Acacia dissona</i> var. <i>indoloria</i>	Sand, sandy loam. Undulating plains.	Unlikely
-	-	P3	<i>Allocasuarina eriochlamys</i> subsp. <i>grossa</i>	Stony loam, laterite clay. Granite outcrops.	Possible
-	-	P3	<i>Austrostipa blackii</i>	-	Unlikely
-	-	P3	<i>Austrostipa turbinata</i>	South south-west facing gently inclined crest of basalt and minor quartz with red-brown shallow sandy clay loam soils.	Possible
-	-	P3	<i>Chrysocephalum apiculatum</i> subsp. <i>norsemanense</i>	Well-drained, aeolian loamy sand. Moderately exposed, almost flat, broad valley floor.	Possible
-	-	P3	<i>Cyathostemon</i> sp. Salmon Gums (B. Archer 769)	Orange sand, white sand or sandy clay over granite, light brown clay with gypsum, saline soils. Flats, dry riverbeds, near claypans.	Unlikely
-	-	P3	<i>Eremophila acutifolia</i>	Red clay-loams, valley floors and flat to undulating plains	Previously Recorded
-	-	P3	<i>Eremophila annosocaulis</i>	Stoney loams, hill slopes and crests	Unlikely
-	-	P3	<i>Eremophila veronica</i>	Stony clay, clay loam. Lateritic breakaways.	Unlikely
-	-	P3	<i>Eucalyptus brockwayi</i>	Gravelly sandy loam. Low rocky hills & slopes.	Unlikely
-	-	P3	<i>Eucalyptus pterocarpa</i>	Red-brown sandy loam, yellow-brown silty loam. Creek edges, rocky slopes.	Unlikely
-	-	P3	<i>Grevillea petrophiloides</i> subsp. <i>remota</i>	Loamy sand, granite. Base of outcrops, crevices.	Unlikely
-	-	P3	<i>Melaleuca coccinea</i>	Sandy loam over granite. Granite outcrops, sandplain, river valleys.	Possible
-	-	P3	<i>Melaleuca macronychia</i> subsp. <i>trygonoides</i>	Sandy soils. Granite outcrops.	Unlikely
-	-	P3	<i>Phlegmatospermum ermaeum</i>	Stony loam.	Possible
-	-	P3	<i>Pityrodia scabra</i> subsp. <i>dendrotricha</i>	Yellow sand, lake edges	Unlikely



Rank			Taxon	Habitat	Likelihood
EPBC	BC Act	DBCA			
-	-	P3	<i>Stylidium choreanthum</i>	White/yellow or red sand. Plains.	Possible
-	-	P3	<i>Stylidium pulviniforme</i>	White sand. Winter-wet areas.	Unlikely
-	-	P4	<i>Eucalyptus kruseana</i>	Sandy loam. Granite outcrops & hills.	Unlikely
-	-	P4	<i>Eucalyptus x brachyphylla</i>	Sandy loam. Granite outcrops.	Unlikely
-	-	P4	<i>Frankenia glomerata</i>	White sand.	Unlikely
-	-	P4	<i>Myriophyllum petraeum</i>	Strictly confined to ephemeral rock pools on granite outcrops.	Unlikely

### B.3. Fauna analysis table

With consideration for the site characteristics set out above, and biological survey information, impacts to the following conservation significant fauna required further consideration (Botanica Consulting, 2024a; GIS Database).

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]
<b>Mammals</b>			
Chuditch ( <i>Dasyurus geoffroi</i> )	VU	Y	Y
<b>Birds</b>			
Malleefowl ( <i>Leipoa ocellata</i> )	VU	Y	Y
Grey falcon ( <i>Falco hypoleucos</i> )	VU	Y	Y
Peregrine falcon ( <i>Falco peregrinus</i> )	OS	Y	Y
<b>Invertebrates</b>			
Arid Bronze Azure Butterfly (ABAB) ( <i>Ogyris subterrestris petrina</i> )	CR	Y	Y
Desert Hairstreak ( <i>Jalmenus aridus</i> )	P1	Y	Y
Fairy shrimp (Balladonia-Norseman) ( <i>Branchinella basispina</i> )	P3	N	N/A

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority, OS: other specially protected species

### Appendix C. 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>There are no records of threatened or priority flora within the area proposed to be cleared (Botanica Consulting, 2024a; GIS Database).</p>	Not likely to be at variance	Yes  Refer to Section 3.2.1, above.
<p><u>Principle (b):</u> "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."</p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared contains potentially suitable breeding and foraging habitat for conservation significant fauna.</p>	May be at variance	Yes  Refer to Section 3.2.2, above.

Assessment against the clearing principles	Variance level	Is further consideration required?
<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>The area proposed to be cleared is unlikely to contain flora species listed under the BC Act. (Botanica Consulting, 2024a; GIS Database).</p>	Not likely to be at variance	No
<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 area proposed to be cleared does not contain species that indicate a Threatened Ecological Community (TEC). No TECs have been recorded within the application area or local surrounds (20 kilometres) (Botanica Consulting, 2024a; 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 extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia. The current extent of vegetation associations remaining (Government of Western Australia, 2019):</p> <ul style="list-style-type: none"> <li>• Binneringe 522: 99.93% (687,920.22 hectares)</li> <li>• Binneringe 1413: 98.24% (1,042,553.77 hectares)</li> <li>• Binneringe 128: 99.64% (183,891.19 hectares)</li> </ul> <p>The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area (GIS Database).</p>	Not at variance	No
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>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 nearby 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>There are no permanent waterbodies or watercourses within the application area, however, there are several minor ephemeral drainage lines (Botanica Consulting, 2024a; GIS Database). The vegetation type that is mostly associated with minor ephemeral drainage lines within the application area was CLP-EW1 (Botanica Consulting, 2024a). Potential impacts to this vegetation as a result of the proposed clearing may be minimised by the implementation of a watercourse management condition.</p>	At variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils are susceptible to water erosion (DPIRD, 2024). Noting the extent of the application area and the condition of the vegetation, the proposed clearing may have an appreciable impact on land degradation. Erosion that is likely to occur will be localised to the mine operations and unlikely to cause off-site degradation (DPIRD, 2024). Potential erosion impacts as a result of the proposed clearing can be minimised by the implementation of a stated clearing condition to ensure large areas are not void of vegetation cover for extended periods.</p>	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 major water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality (GIS Database).</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 waterbodies or major water courses are recorded within the application area, the proposed clearing is unlikely to contribute to waterlogging (GIS Database).</p>	Not likely to be at variance	No

#### Appendix D. Vegetation condition rating scale

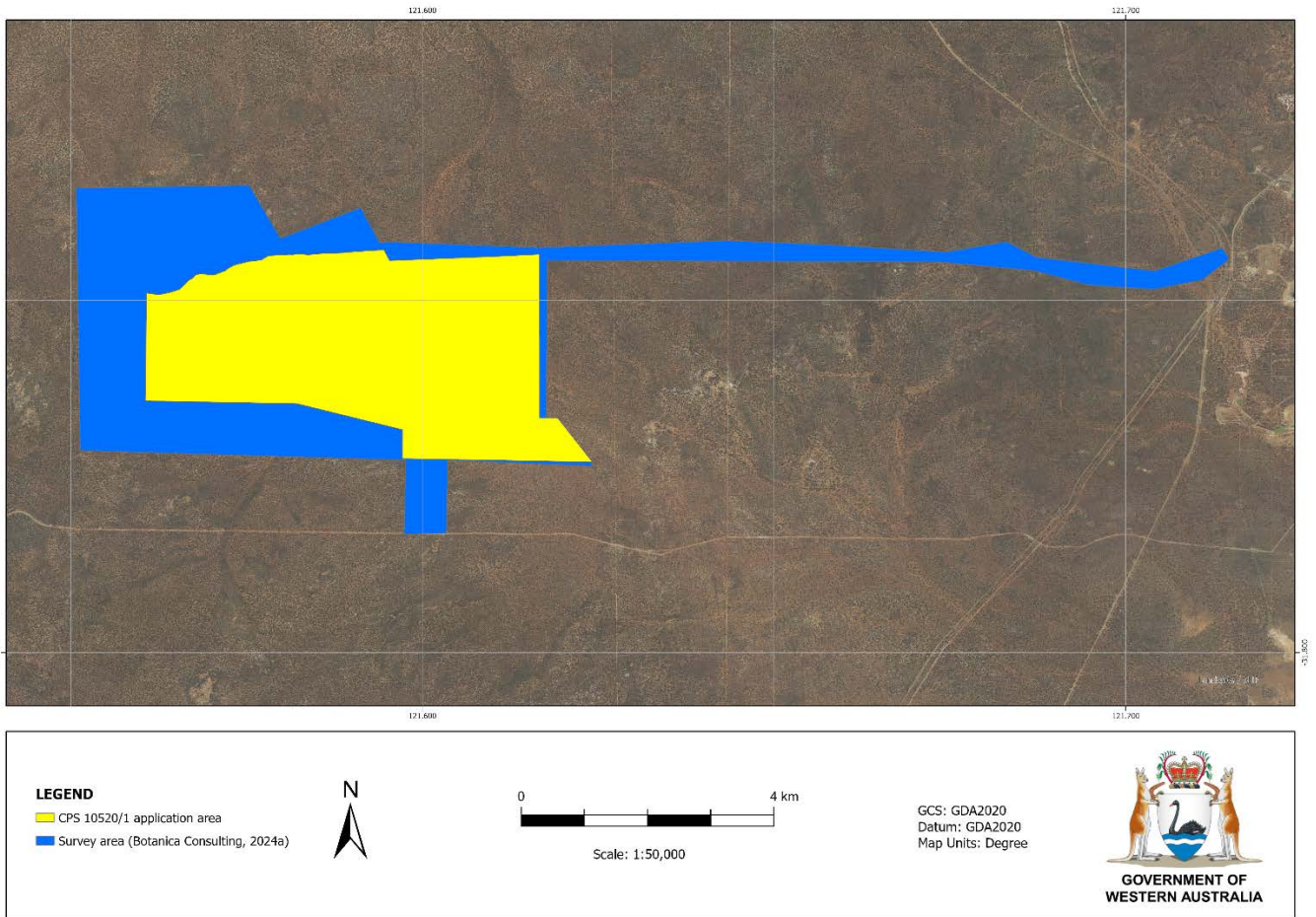
Vegetation condition is a rating given to a defined area of vegetation to categorise and rank disturbance related to human activities. The rating refers to the degree of change in the vegetation structure, density and species present in relation to undisturbed vegetation of the same type. The degree 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.

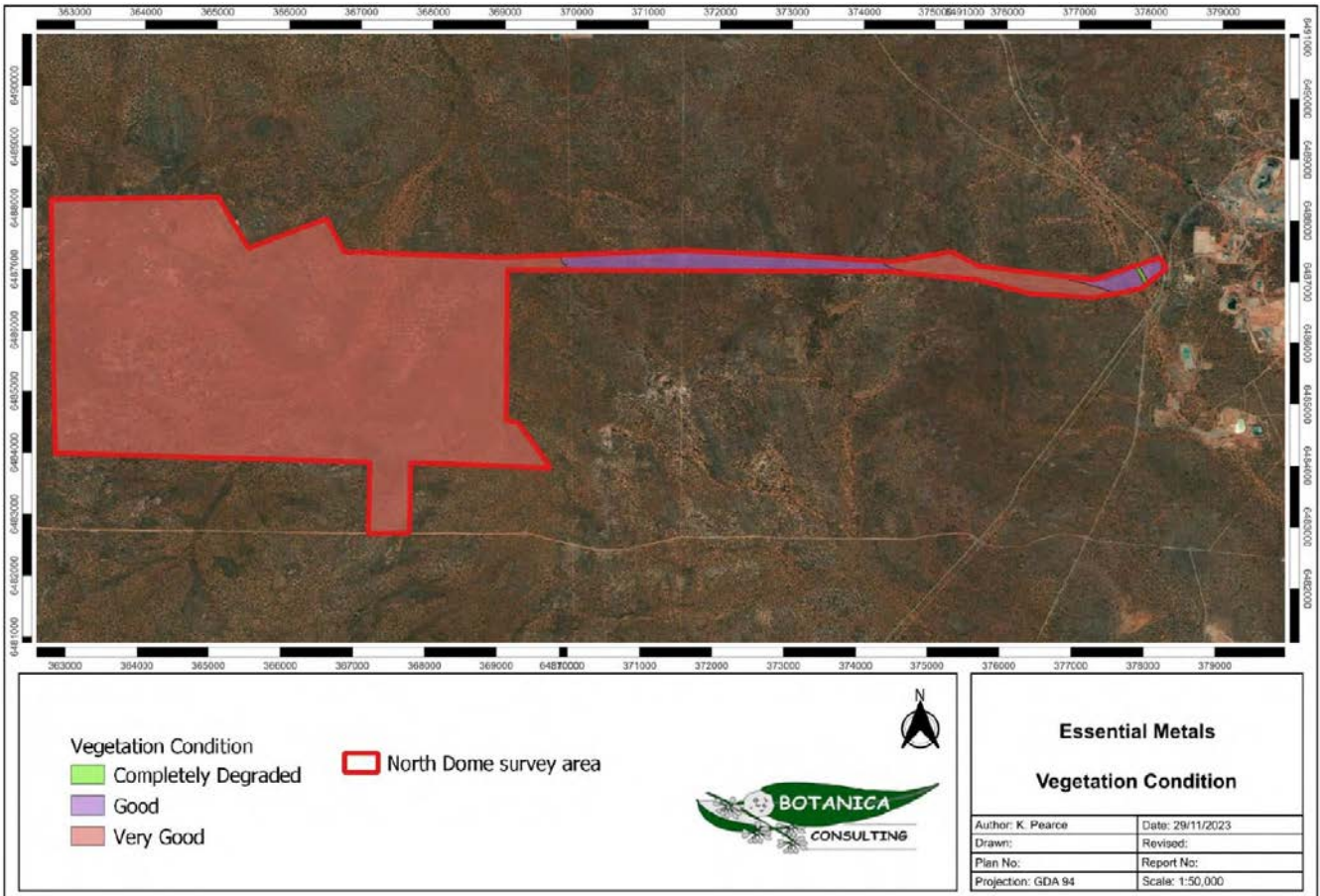
#### Measuring vegetation condition for the South West and Interzone Botanical Province (Keighery, 1994)

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. Mapping of various features within the survey area**



**Figure 1. Comparison between CPS 10520/1 application area and Botanica Consulting survey area (Botanica Consulting, 2024a).**



**Figure 2: Mapping of vegetation condition within the survey area (Botanica Consulting, 2024a).**

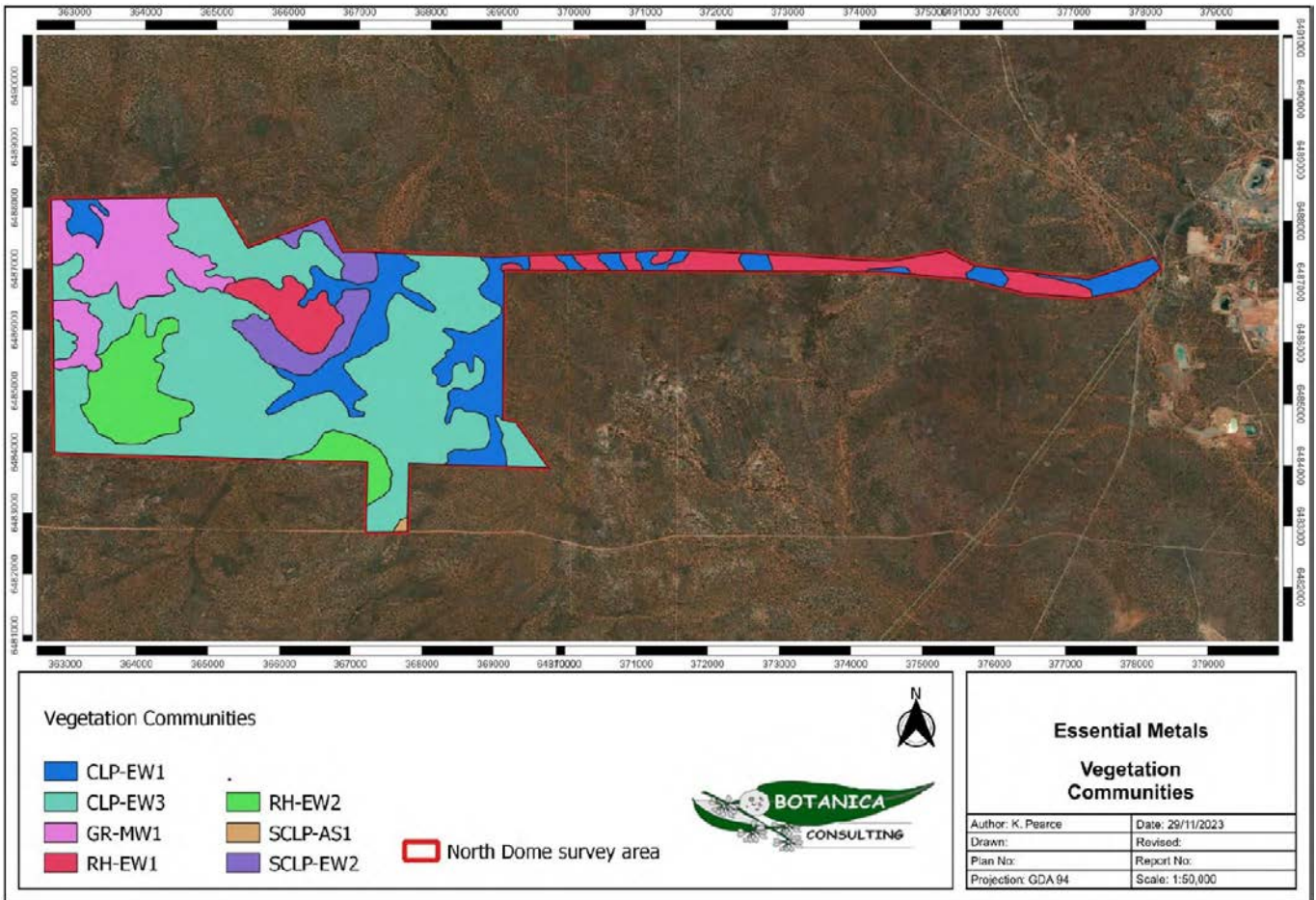


Figure 3: Mapping of vegetation communities within the survey area (Botanica Consulting, 2024a).

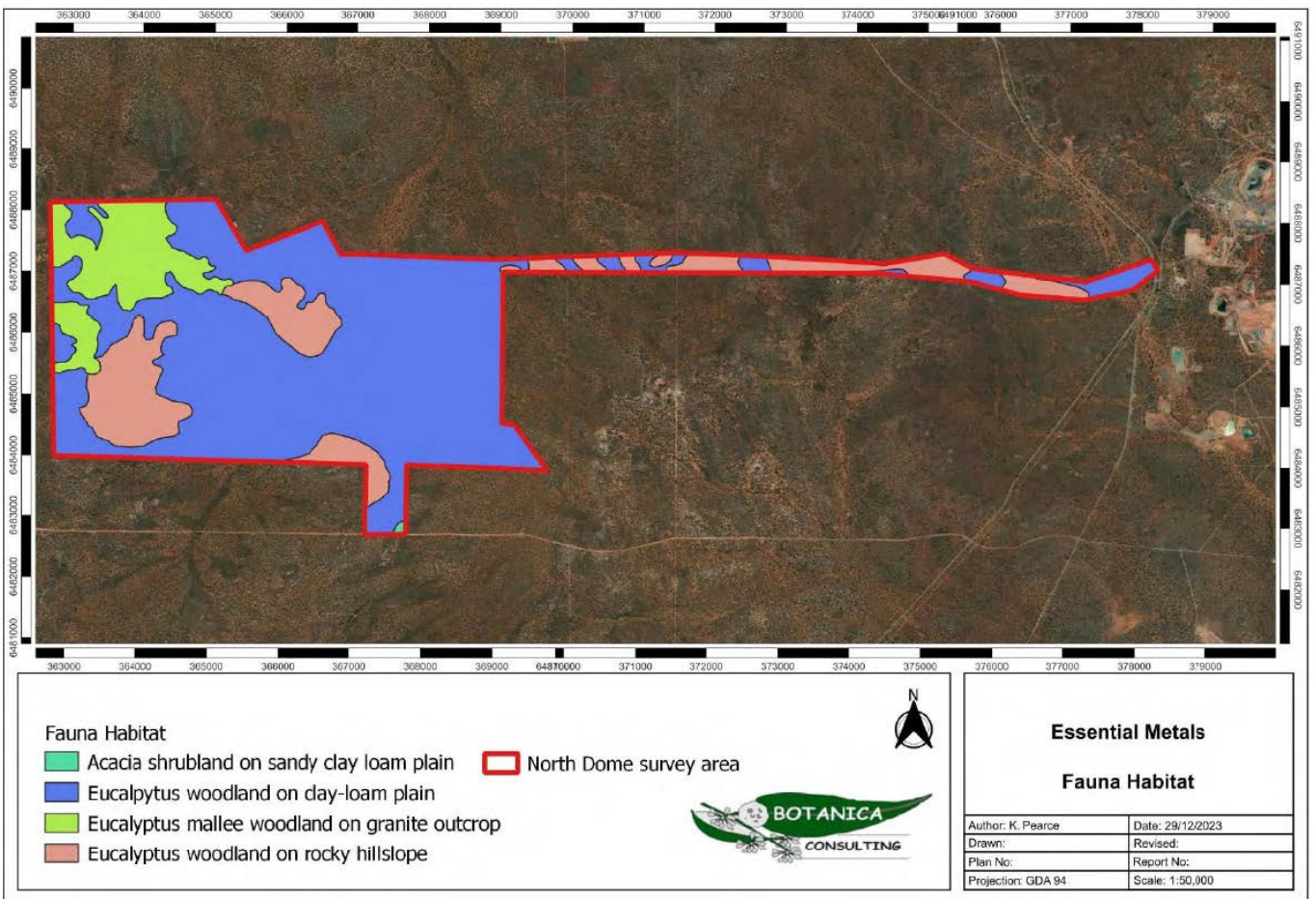


Figure 4: Mapping of fauna habitat within the survey area (Botanica Consulting, 2024a).

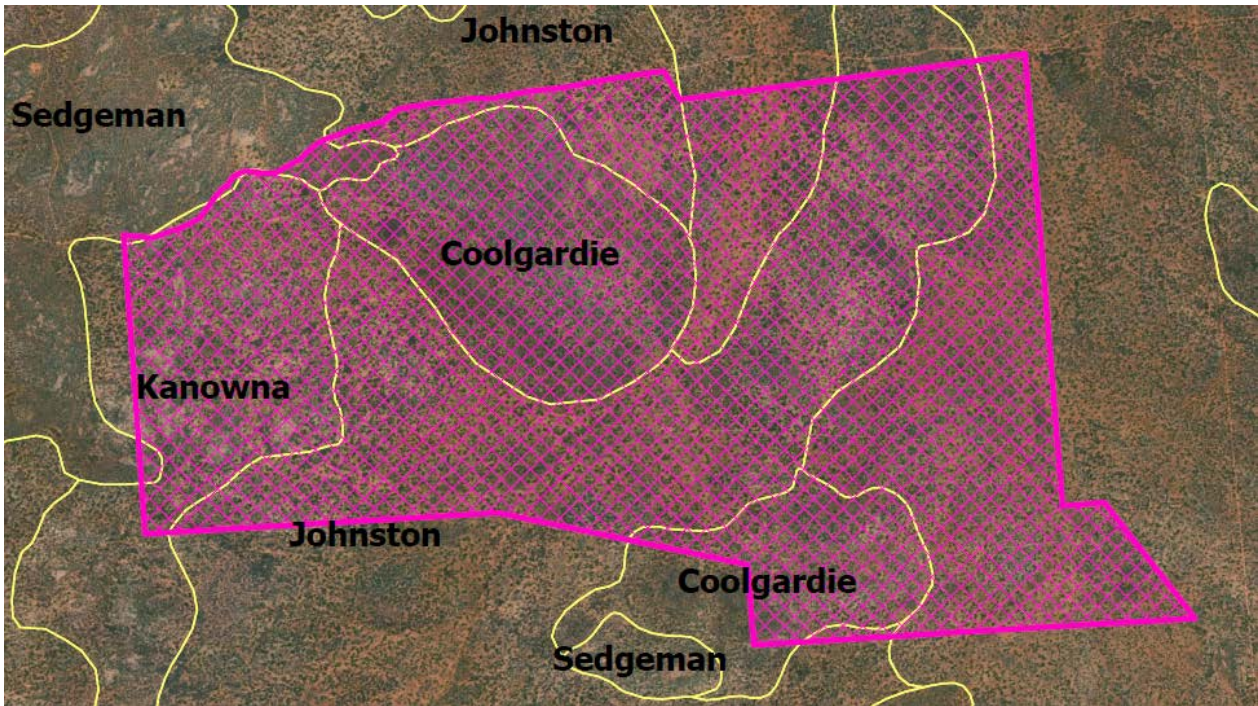


Figure 5: Mapping of land systems within the application area (DPIRD, 2024).

**Appendix F. Representative photos of vegetation types and fauna habitat within the application area**



Photo 1: Vegetation type: CLP-EW1 (Botanica Consulting, 2024a).



Photo 2: Vegetation type: SCLP-EW2 (Botanica Consulting, 2024a).



Photo 3: Vegetation type CLP-EW3 and fauna habitat *Eucalyptus* woodland on clay-loam plain (Botanica Consulting, 2024a).



Photo 4: Vegetation type GR-MW1 and fauna habitat *Eucalyptus* low mallee woodland on granite outcrop (Botanica Consulting, 2024a).



**Photo 5: Vegetation type RH-EW1 and fauna habitat *Eucalyptus* woodland on rocky hillslope (Botanica Consulting, 2024a).**



**Photo 6: Vegetation type RH-EW2 (Botanica Consulting, 2024a).**

## Appendix G. Sources of information

### G.1. GIS databases

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Bush Forever (Regional Scheme) (DPLH-022)
- 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)
- 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
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- 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 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)

### G.2. References

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- Botanica Consulting (2024a) Detailed flora basic fauna assessment. Prepared for Essential Metals Ltd, January 2024.
- Botanica Consulting (2024b) North Dome Project: Targeted ABAB Host Ant Survey, Prepared for Develop Essential Metals Ltd, November 2024.

- Botanica Consulting (2024c) Pioneer Dome Project – *Eremophila acutifolia* (P3) impact assessment. Prepared for Develop Essential Metals Ltd, July 2024.
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- Department of the Environment, Water, Heritage and the Arts (DEWHA) (2017) Survey guidelines for Australia's threatened birds. Available from: [Survey guidelines for Australia's threatened birds](#)
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## 4. Glossary

### Acronyms:

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



<b>DPIRD</b>	Department of Primary Industries and Regional Development, Western Australia
<b>DPLH</b>	Department of Planning, Lands and Heritage, Western Australia
<b>DRF</b>	Declared Rare Flora (now known as Threatened Flora)
<b>DWER</b>	Department of Water and Environmental Regulation, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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 (2023) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia):-**

### **T                    Threatened species:**

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

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

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

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

### **CR                    Critically endangered species**

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

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines.

### **EN                    Endangered species**

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

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines.

### **VU                    Vulnerable species**

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

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines.

## **Extinct Species:**

### **EX                    Extinct species**

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

### **EW                    Extinct in the wild species**

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

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild.

**Specially protected species:**

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

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

**MI**

**Migratory species**

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

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

**CD**

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

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

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

**OS**

**Other specially protected species**

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

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

**P**

**Priority species:**

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

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

Species that may possibly be threatened species that do not meet the criteria for listing under the BC Act because of insufficient survey or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of prioritisation for survey and evaluation of conservation status so that consideration can be given to potential listing as threatened.

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

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

**P1**

**Priority One - Poorly-known species – known from few locations, none on conservation lands**

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, for example, agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation.

Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements for threatened listing and appear to be under immediate threat from known threatening processes. These species are in urgent need of further survey.

**P2**

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

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, for example, national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation.

Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements for threatened listing and appear to be under threat from known threatening processes. These species are in urgent need of further survey.

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

Species that are known from several locations and the species does not appear to be under imminent threat or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat.

Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. These species need further survey.

**P4 Priority Four - Rare, Near Threatened and other species in need of monitoring**

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as a conservation dependent specially protected species.

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

(d) Other species in need of monitoring.

**Principles for clearing native vegetation:**

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