



# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

Permit number:	5409/4
Permit type:	Purpose Permit
Applicant name:	Evolution Mining (Mungari) Pty Ltd
Application received:	13 January 2023
Application area:	280 hectares
Purpose of clearing:	Mineral Production and Associated Activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 15/830
Location (LGA area/s):	Shire of Coolgardie
Colloquial name:	Mungari Well Project

### 1.2. Description of clearing activities

Evolution Mining (Mungari) Pty Ltd proposes to clear up to 280 hectares of native vegetation within a boundary of approximately 668 hectares, for the purpose of mineral production and associated activities. The project is located approximately 19 kilometres west of Kalgoorlie-Boulder in the Shire of Coolgardie.

The application is to allow for the planned White Foil pit cutback as part of the extended life of mine.

Clearing permit CPS 5409/1 was granted by the Department of Mines and Petroleum (now the Department of Mines, Industry Regulation and Safety) on 21 February 2013 and was valid from 16 March 2013 to 16 March 2018. The permit authorised the clearing of up to 280 hectares of native vegetation within a boundary of approximately 668 hectares, for the purpose of mineral production and associated activities.

CPS 5409/2 was granted on 22 September 2016, amending the permit to change the permit holder name from La Mancha Resources Australia Pty Ltd to Evolution Mining (Mungari) Pty Ltd.

CPS 5409/3 was granted on 15 March 2018, amending the permit to extend the permit duration by five years, from 16 March 2018 to 16 March 2023. The amount of clearing authorised and the permit boundary remained unchanged.

On 13 January 2023, the Permit Holder applied to amend CPS 5409/3 to extend the permit duration for five years, to 16 March 2028. The amount of clearing authorised and the permit boundary remain unchanged.

### 1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	9 March 2023
Decision area:	280 hectares of native vegetation

### 1.4. Reasons for decision

This clearing permit application was made in accordance with section 51KA(1) of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 13 January 2023. 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 A), relevant datasets (Appendix D), supporting information provided by the applicant including the results of flora and vegetation surveys, fauna surveys the clearing principles set out in Schedule 5 of the EP Act (Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3). The Delegated Officer also took into consideration that a significant amount of the authorised 280 hectares of clearing has been undertaken, with a remaining 63.5 hectares left (Evolution, 2022).

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; and
- potential land degradation from large areas of open and bare land left for extended periods of time.

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 conditions currently imposed on clearing permit CPS 5409/3 are considered adequate to manage the impacts of clearing:

- take hygiene steps to minimise the risk of the introduction and spread of weeds; and
- commence construction no later than six months after undertaking clearing to reduce the risk of erosion.

The following standard condition was not imposed on clearing permit CPS 5409/3, however will be imposed on this version:

- avoid, minimise to reduce the impacts and extent of clearing.

The assessment has not changed since the assessment for CPS 5409/3. The Delegated Officer determined that the proposed five year extension to the permit duration is not likely to lead to an unacceptable risk to environmental values.

## 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)

Relevant agreements (treaties) considered during the assessment include:

- Japan-Australia Migratory Bird Agreement
- China-Australia Migratory Bird Agreement
- Republic of Korea-Australia Migratory Bird Agreement

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 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)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

## 3. Detailed assessment of application

### 3.1. Avoidance and mitigation measures

No evidence of avoidance or mitigation measures were provided to support the application, however the impacts to environmental values are considered to be low.

### 3.2. Assessment of impacts on environmental values

The assessment against the clearing principles (see Appendix B) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with standard avoid and minimise, hygiene, and staged clearing management conditions.

A review of current environmental information (Appendix C) reveals that the assessment against the clearing principles has not changed significantly from the clearing permit decision report CPS 5409/3.

### 3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 24 January 2023 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 two native title claims (WC2017/001; WC2017/007) over the area under application (DPLH, 2023). These claims have been registered with the National Native Title Tribunal on behalf of the claimant groups. 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, 2023). 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 that may be 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. Site characteristics

### A.1. Site characteristics

Characteristic	Details
Local context	<p>The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia (GIS Database). While the Coolgardie bioregion remains largely uncleared, the application area is located approximately 19 kilometres west of Kalgoorlie-Boulder (GIS Database). The application area is one of many mining operations in the areas surrounding Kalgoorlie-Boulder (GIS Database).</p> <p>Salt lakes located within the application area form part of a much larger salt lake system in the immediate surrounds (GIS Database). The proposed clearing area has altered this system and partially fragmented this salt lake system (GIS Database).</p>
Conservation areas and ecological linkage	<p>The application area is not located within any known conservation areas (GIS Database). The nearest conservation area is Kurrawang Nature Reserve located approximately 8 kilometres southeast of the application area (GIS Database).</p> <p>The application area likely forms a small ecological linkage, however much of the proposed clearing has already been undertaken and further clearing is unlikely to cause further fragmentation to this ecological linkage (GIS Database).</p>
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;            468: Medium woodland; salmon gum &amp; goldfields blackbutt; and            540: Succulent steppe with open low woodland; sheoak over saltbush (GIS Database).</p> <p>A flora and vegetation survey of the application area was conducted by Botanical Consulting in April and September 2010. This survey identified the following for vegetation types within the application area (Botanica, 2010):</p> <p>1: Mixed <i>Eucalyptus</i> woodland;            2: <i>Eucalyptus gracilis</i> woodland;            3: Samphire vegetation; and            4: <i>Casuarina</i> shrubland.</p> <p>Another flora and vegetation survey was conducted over part of the application area and surrounds by Botanical Consulting during November 2020. The following vegetation types were recorded within the application area (Botanica, 2021):</p> <p><b>CLP-CS1 – Chenopod shrubland</b>  <i>Tecticornia disarticulata</i> and <i>Atriplex vesicaria</i> open chenopod shrubland over <i>Frankenia setosa</i>, <i>Maireana glomerata</i> and <i>Sclerolaena cuneata</i> low open chenopod shrubland; and</p> <p><b>SLP-EW1 – Eucalyptus open woodland</b>  <i>Eucalyptus clelandiorum</i>, <i>Eucalyptus griffithsii</i> and <i>Eucalyptus yilgarnensis</i> woodland over <i>Eremophila scoparia</i>, <i>Eremophila parvifolia</i> subsp. <i>auricampi</i> and <i>Scaevola spinescens</i> open shrubland over <i>Ptilotus obovatus</i> var. <i>obovatus</i>, <i>Rhagodia drummondii</i> and <i>Olearia muelleri</i> low open shrubland.</p>
Vegetation condition	<p>The vegetation survey (Botanica, 2021) and aerial imagery indicate the vegetation within the proposed clearing area is in good, degraded, and completely degraded (Keighery, 1994) condition, described as:</p> <ul style="list-style-type: none"> <li>- <b>Good:</b> 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.</li> <li>- <b>Degraded:</b> 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.</li> <li>- <b>Completely degraded:</b> 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.</li> </ul> <p>The full Keighery (1994) condition rating scale is provided in Appendix C.</p>

Characteristic	Details								
Climate and landform	The application area is mapped at an elevation of 350 metres AHD (GIS Database). The climate of the Eastern Goldfield subregion is arid to semi-arid, with the nearest weather station recording an average rainfall of approximately 264.6 millimetres per year (BoM, 2023; CALM, 2002).								
Soil description and land degradation risk	<p>The soils and landforms within the application area are mapped as (GIS Database):</p> <table border="1"> <thead> <tr> <th>NAME</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>SV15 atlas system</td> <td><b>Landform:</b> Salt lakes and their associated areas. <b>Soils:</b> Gypseous and saline loams, together with gypseous and saline soils on the lake beds.</td> </tr> <tr> <td>Mx43 atlas system</td> <td><b>Landform:</b> Gently undulating valley plains and pediments; some outcrop of basic rock. <b>Soils:</b> Alkaline red earths with limestone or limestone nodules at shallow depth on gently sloping slightly concave plains with low gentle rises of soils.</td> </tr> <tr> <td>BB5 atlas system</td> <td><b>Landform:</b> Rocky ranges and hills of greenstones-basic igneous rocks. <b>Soils:</b> Shallow calcareous loamy soils, with shallow brown and grey-brown calcareous earths, below which weathered rock occurs at shallow depths.</td> </tr> </tbody> </table> <p>Based on the mapped soils and landforms the risk of land degradation through vegetation is likely to be low.</p>	NAME	DESCRIPTION	SV15 atlas system	<b>Landform:</b> Salt lakes and their associated areas. <b>Soils:</b> Gypseous and saline loams, together with gypseous and saline soils on the lake beds.	Mx43 atlas system	<b>Landform:</b> Gently undulating valley plains and pediments; some outcrop of basic rock. <b>Soils:</b> Alkaline red earths with limestone or limestone nodules at shallow depth on gently sloping slightly concave plains with low gentle rises of soils.	BB5 atlas system	<b>Landform:</b> Rocky ranges and hills of greenstones-basic igneous rocks. <b>Soils:</b> Shallow calcareous loamy soils, with shallow brown and grey-brown calcareous earths, below which weathered rock occurs at shallow depths.
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BB5 atlas system	<b>Landform:</b> Rocky ranges and hills of greenstones-basic igneous rocks. <b>Soils:</b> Shallow calcareous loamy soils, with shallow brown and grey-brown calcareous earths, below which weathered rock occurs at shallow depths.								
Waterbodies and hydrogeography	<p>The desktop assessment and aerial imagery indicate that multiple small ephemeral salt lakes intersect the application area, and that the application area is situated between a much larger salt lake system (GIS Database).</p> <p>The application area is not within any legislated surface water area (GIS Database). The application area is located within the Goldfields Ground Water Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (GIS Database). The mapped groundwater salinity is 14,000-35,000 milligrams per litre which is described as saline water quality (GIS Database).</p>								
Flora	A database search identified 15 flora species of conservation significance that have previously been recorded within 20 kilometres of the application area (GIS Database). This includes one threatened, five priority 2, three priority 2, four priority 3, and two priority 4 flora species (GIS Database). Botanica (2021) also conducted a desktop review with a 40 kilometre radius and identified an additional two threatened, 13 priority 1, five priority 2, 15 priority 3, and two priority 4 flora species. Botanica (2021) determined that only five priority flora species that may possibly occur within the application area.								
Ecological communities	The application area is not mapped within any threatened or priority ecological communities (GIS Database). Flora and vegetation surveys that have been conducted over the application area did not identify any vegetation that would be representative of a threatened or priority ecological community (Botanica, 2010; 2021).								
Fauna	A database search identified 17 fauna species of conservation significance that have previously been recorded within a 50 kilometre radius of the application area (GIS Database). These species are comprised of 12 bird, three invertebrate, and two mammal species (GIS Database). Botanica (2020) also conducted a desktop review and identified an additional six conservation significant fauna species, including five bird and one mammal species. Many of these species are unlikely to occur within the application area based on current know distribution and available fauna habitats within the application area (Botanica, 2021; GIS Database).								

## A.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	12,648,491	~97	2,114,349.37	16.37
Beard vegetation associations - State					
125	3,485,785	3,146,487	~90	265,740.10	7.62
468	592,022	583,902	~98	135,197.44	22.84

540	202,423	200,158	~98	56,406.04	27.87
Beard vegetation associations - Coolgardie bioregion					
125	545,717	506,802	~92	6.57	6.53
468	583,357	575,360	~98	22.43	22.41
540	75,810	73,619	~97	N/A	N/A

Government of Western Australia (2019)

### A.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix D.1), and biological survey information (Botanica, 2010; 2021; Western Australian Herbarium, 1998-), the following conservation significant flora were considered to be possibly occurring, however none of these species were identified during field assessments.

Species name	Conservation status	Distance of closest record to application area (km) from Florabase	Number of known records from Florabase (total)	Likelihood determined by Botanica (2021)
<i>Acacia websteri</i>	P1	19 km	21	Within known range, however habitat unlikely to be present
<i>Angianthus prostratus</i>	P3	31 km	10	Within known range, habitat may be present
<i>Eremophila praecox</i>	P2	9 km	37	Within known range, habitat may be present
<i>Notisia intonsa</i>	P3	1.6 km	26	Within known range, habitat may be present
<i>Phebalium appressum</i>	P1	14.5 km	5	Within known range, habitat may be present
<i>Rhodanthe uniflora</i>	P1	30.3 km	2	Within known range, habitat may be present

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

### A.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix D.1), and biological survey information (Botanica, 2021; Terrestrial Ecosystems, 2010), the following conservation significant fauna were considered to be possibly occurring, however none of these species were identified during field assessments.

Species	Common name	WA con status	EPBC status
<b>Birds</b>			
<i>Falco hypoleucos</i>	grey falcon	VU	VU
<i>Leipoa ocellata</i>	malleefowl	VU	VU
<i>Falco peregrinus</i>	peregrine falcon	OS	-

VU: Vulnerable, EN: Endangered, CR: Critically Endangered, MI: Migratory, OS: Other specially protected species, P: Priority 1-4

## Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>A recent flora and vegetation survey and fauna habitat assessment of part of the application area and surrounds did not identify any conservation significant flora, fauna, habitats, or assemblages of plants (Botanica, 2021).</p>	<p>Not likely to be at variance</p> <p>as per CPS 5409/3</p>	<p>No</p>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>Prior field assessments of the application also did not identify any conservation significant flora, fauna, habitats, or assemblages of plants (Botanica, 2010; 2021; Terrestrial Ecosystems, 2010).</p> <p>While no priority flora were identified during any field assessments, there were a number of priority flora that were considered possibly occurring based on the potential of suitable habitat within the application area (Appendix A.3). As none of these species were identified, it is unlikely that they will be directly impacted by the proposed clearing. The loss of potential habitat is unlikely to impact the conservation status of any of these species as the vegetation proposed to be cleared is common and widespread within the region (Botanica, 2010; 2021). The application area is unlikely to be restricted habitat for any conservation significant flora or fauna (Botanica, 2010; 2021; Terrestrial Ecosystems, 2010).</p>		
<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> Two fauna assessments have been conducted over parts of the application area by Terrestrial Ecosystems in March 2010 and Botanica Consulting in November 2020.</p> <p>Two broad fauna habitats were identified within the application area with similar descriptions (Botanica, 2021; Terrestrial Ecosystems, 2010):</p> <ul style="list-style-type: none"> <li>- Open eucalypt woodland with an understory of shrubs on red clay soils OR Mixed Eucalyptus woodland on sand-loam plain; and</li> <li>- Samphire flats around saline low areas with low shrubs on a red sandy substrate OR Chenopod shrubland on clay-loam plain.</li> </ul> <p>No evidence of any conservation significant fauna species were identified during either field assessment (Botanica, 2021; Terrestrial Ecosystems, 2010). The species that were considered possibly occurring within the application area (Appendix A.4) are unlikely to be reliant upon the available habitats (Botanica, 2021; Terrestrial Ecosystems, 2010).</p> <p>The fauna habitats present within the application area are common and widespread within the surrounds and throughout the region. The proposed clearing is unlikely to significantly impact any fauna habitats (Botanica, 2021; Terrestrial Ecosystems, 2010).</p>	<p>Not likely to be at variance</p> <p><i>as per CPS 5409/3</i></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> There are no known records of Threatened flora within the application area (GIS Database). Flora surveys of the application area and surrounds did not record any species of Threatened flora (Botanica, 2010; 2021).</p> <p>None of the vegetation types recorded within the application area are known habitat for any species of Threatened flora, and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened flora (Botanica, 2010; 2021).</p>	<p>Not likely to be at variance</p> <p><i>as per CPS 5409/3</i></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> There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database). Flora and vegetation surveys of the application area and surrounds did not identify any vegetation representative of a TEC (Botanica, 2010; 2021).</p>	<p>Not likely to be at variance</p> <p><i>as per CPS 5409/3</i></p>	<p>No</p>
<p><b>Environmental value: significant remnant vegetation and conservation areas</b></p>		
<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> The application area falls within the Coolgardie Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 97% of the pre-European vegetation still exists in the IBRA Coolgardie Bioregion (Government of Western Australia, 2019).</p> <p>The application area is broadly mapped as Beard vegetation associations 125: Bare areas; salt lakes; 468: Medium woodland; salmon gum &amp; goldfields blackbutt; and 540: Succulent steppe with open low woodland; sheoak over saltbush (GIS</p>	<p>Not at variance</p> <p><i>as per CPS 5409/3</i></p>	<p>No</p>

Assessment against the clearing principles	Variance level	Is further consideration required?
Database). Approximately 90-98% of the pre-European extent of these vegetation associations remain uncleared at both the state and bioregional level (Government of Western Australia, 2019).		
<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> The application area is not located within any known conservation area (GIS Database). The nearest conservation area is Kurrawang Nature Reserve located approximately 8 kilometres south east of the application area (GIS Database). At this distance the proposed clearing is considered unlikely to impact on the values of any conservation areas.</p>	Not likely to be at variance <i>as per CPS 5409/3</i>	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> There are no permanent wetlands or watercourses within the application area (GIS Database). Botanica (2010) identified numerous playas within the <i>Eucalyptus gracilis</i> vegetation community, however this was not considered to be riparian vegetation.</p>	Not at variance <i>as per CPS 5409/3</i>	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> The landforms and soils mapped within the application area are unlikely to be susceptible to erosion if vegetation cover is removed (GIS Database). While the clearing of vegetation may not cause appreciable land degradation, the size of the proposed clearing (280 hectares) may lead to large areas of open and bare land for a significant amount of time. As a precaution, potential erosion may be adequately minimised through the continued implementation of a staged clearing condition that will require the permit holder to enact the purpose for which the clearing is authorised within six months of clearing.</p>	Not likely to be at variance <i>as per CPS 5409/3</i>	No
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>There are no Public Drinking Water Source Areas within or in close proximity to the application area (GIS Database). There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). The groundwater within the application area is considered saline (GIS Database). The proposed clearing is unlikely to result in significant changes to surface water flows or to cause deterioration in the quality of underground water.</p>	Not likely to be at variance <i>as per CPS 5409/3</i>	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u> The climate of the Eastern Goldfield subregion is arid to semi-arid, with the nearest weather station recording an average rainfall of approximately 264.6 millimetres per year (BoM, 2023; CALM, 2002). A number of small ephemeral wetlands associated with the surrounding salt lake system intersects the application area, however the proposed clearing is unlikely to increase waterlogging in these areas (GIS Database). The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding (GIS Database).</p>	Not likely to be at variance <i>as per CPS 5409/3</i>	No

### Appendix C. Vegetation condition rating scale

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



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

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

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

## Appendix D. Sources of information

### D.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)
- Contours (DPIRD-073)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Pre-European Vegetation Statistics
- 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 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)

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

### Definitions:

**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.