

## 1. Application details and outcomes

### 1.1. Permit application details

Permit number:	10489/1
Permit type:	Purpose Permit
Applicant name:	Kimberley Quarry Pty Ltd
Application received:	12 January 2024
Application area:	98 hectares
Purpose of clearing:	Mineral Production and Associated Activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Leases 04/21, 04/22, 04/69, 04/75
Location (LGA area/s):	Shire of Derby-West Kimberley
Colloquial name:	Nillibubbica Quarry

### 1.2. Description of clearing activities

Kimberley Quarry Pty Ltd proposes to clear up to 98 hectares of native vegetation within a boundary of approximately 392.4 hectares, for the purpose of mineral production and associated activities. The project is located approximately 89 kilometres east-northeast of Broome, within the Shire of Derby-West Kimberley.

The application is to allow for the continuation of mine site producing quarry products such as aggregates, road-base, and armour (Kimberley Quarry Pty Ltd, 2024a).

### 1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	5 November 2024
Decision area:	98 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 A), relevant datasets (Appendix D), supporting information provided by the applicant including the results of biodiversity surveys, the clearing principles set out in Schedule 5 of the EP Act (Appendix B), 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;
- potential land degradation in the form of wind or water erosion; and
- the loss of native vegetation that is suitable habitat for greater bilby.

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;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- commence construction no later than three months after undertaking clearing to reduce the risk of wind and water erosion; and

- within two weeks prior to undertaking any clearing, engage a fauna specialist to undertake clearance surveys for greater bilby.

## 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 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Guidance for the Assessment of Environmental Factors – Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia (EPA, 2004a)
- Guidance for the Assessment of Environmental Factors – Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia (EPA, 2004b)
- 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

Kimberley Quarry Pty Ltd (2024b) provided the following details regarding their avoidance and mitigation measures:

- Disturbance is limited to the economic mineral deposit that supports the production of quarry products such as aggregates, road-base and armour along with associated areas to support the mining process such as tracks, laydown, stockpile areas, et cetera.
- Where possible these areas will be minimised to limit environmental impact to the extent needed for safe and adequate mining operations.
- Dust will be minimised by the use of dust suppression techniques such as water carts.

#### Fauna Management

The following fauna management processes are in place to ensure no impacts to the greater bilby (*Marcrotis lagotis*, VU) noting that there has been no evidence of greater bilby activity with the permit area although some burrows were located within Mining Lease 04/17 which is approximately 4 kilometres south of the permit area:

- Within two weeks prior to undertaking any clearing, the permit holder shall engage an appropriately qualified fauna specialist to undertake clearance surveys for the greater bilby.
- Where greater bilby burrows are identified, Kimberley Quarry shall engage an appropriately qualified fauna specialist to determine if the burrow is occupied.
- If a greater bilby burrow is occupied, Kimberley Quarry will consider whether the area should be disturbed or whether disturbance should be undertaken elsewhere within the mining tenements and an appropriate exclusion zone will be determined in consultation with an appropriately qualified fauna specialist.
- If Kimberley Quarry determine that clearing of the area is required then within two weeks prior to undertaking such clearing, Kimberley Quarry shall engage an appropriately qualified fauna specialist to relocate any greater bilby found within the area to be cleared.
- Kimberley Quarry shall engage a fauna spotter to traverse the project area ahead of clearing machinery, at the time of clearing and alert machinery operators to avoid greater bilby injury or mortality.

A targeted fauna survey was undertaken within Mining Leases 04/22, 04/69 and 04/75 in June 2023 which reconfirmed no evidence of the greater bilby was detected.

#### Weed Management

The following weed management process are in place through the mining leases areas to minimise the introduction and spread of weeds:

- a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared.
- b) ensure that no weed-affected soil, mulch, fill or other material is brought into the area to be cleared.
- c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

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

### 3.2. Assessment of impacts on environmental values

The assessment against the clearing principles identified that the impacts of the proposed clearing present a risk to greater bilby. The consideration of these impacts, and the extent to which they can be managed through conditions applied in line with sections 51H and 51I of the EP Act, is set out below.

#### 3.2.1. Biological values (fauna) - Clearing Principles (a) and (b)

##### Assessment

Numerous field assessments have been conducted over portions of the application area in July 2012, June 2013, and June 2023 (Astron, 2012; EcOz, 2013; Zootopia, 2023). Astron (2012) and Zootopia (2023) recorded the following fauna habitats respectively:

- plains with red-brown loamy sand – scattered *Corymbia* trees over *Acacia* woodland over hummock and tussock grassland
- sandstone outcrops with shallow grey-brown loam – scattered *Corymbia* trees over sparse *Acacia* shrubland over hummock and tussock grasses
- open grassland with scattered *Corymbia* and shrubs on rocks
- tall shrubland/shrubland over a grassland with scattered small eucalypts on thin loamy sand
- regrowth tall shrubland over bare ground in previously cleared areas on thin loamy sand

Astron (2012) observed several conical shaped diggings in the sandy plain habitat within the application area, all located at the base of spinifex hummock. These diggings were noted to be characteristic of foraging greater bilby (*Macrotis lagotis*, VU), given the shape and dimensions (Astron, 2012).

The surveys conducted by EcOz (2013) and Zootopia (2023) did not record further evidence of greater bilby within the application area, however, there have been 845 greater bilby observations within a 50 kilometre radius of the application area since 2001 (GIS Database). Based on satellite imagery, it appears there is suitable habitat for greater bilby in areas that have not been surveyed (GIS Database). Suitable greater bilby habitat exists in the areas immediately surrounding the application area, and while the proposed clearing is unlikely to significantly reduce available habitat, there is a potential for individuals to be directly impacted.

The applicant however proposes to engage a fauna specialist to undertake clearance surveys for greater bilby within two weeks prior to commencing clearing. If greater bilby individuals are located, the applicant will consider:

- i) whether the area should be disturbed or whether disturbance should be undertaken elsewhere within the mining tenements and an appropriate exclusion zone be implemented; and
- ii) if clearing of the area is required then within two weeks prior to undertaking such clearing, the applicant shall engage an appropriately qualified fauna specialist to relocate any greater bilby found within the area to be cleared.

In addition, the application proposes to engage a fauna spotter to traverse the area ahead of clearing to avoid injury or mortality.

##### Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on greater bilby habitat can be managed by the implementation of a slow, directional clearing condition, and a pre-clearance survey for greater bilby and their burrows.

##### 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
- fauna management requiring clearance surveys for greater bilby within two weeks prior to undertaking any clearing.

### 3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 19 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 (WCD2014/003 - Nyikina Mangala) over the area under application (DPLH, 2024). This claim has been determined by the Federal Court on behalf of the claimant group. 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.

It is noted that the proposed clearing may impact on greater bilby, which is a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Federal) Department of Climate Change, Environment and Water for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of Climate Change, Energy, the Environment and Water and the Environment for further information regarding notification and referral responsibilities under the EPBC Act.

Other relevant authorisations required for the proposed land use include:

- A Mining Proposal / Mine Closure Plan approved under the *Mining Act 1978*.

It is the proponent's responsibility to liaise with the Department of Water and Environmental Regulation and the Department of Biodiversity, Conservation and Attractions, to determine whether a Works Approval, Water Licence, Bed and Banks Permit, or any other licences or approvals are required for the proposed works.

**End**

## Appendix A. Site characteristics

### A.1. Site characteristics

Characteristic	Details										
Local context	<p>The area proposed to be cleared is located within the Pindanland subregion of the Dampierland bioregion (GIS Database). The predominant land use within the Pindanland subregion consists of native pasture grazing and Unallocated Crown Land and Crown Reserves (GIS Database).</p> <p>The application area is located within the Yeeda pastoral station and is surrounded by other mining operations targeting construction materials or speciality metals (GIS Database).</p> <p>Approximately 99% of the local area (50 kilometre radius from the area proposed to be cleared) remains uncleared (GIS Database).</p>										
Ecological linkage	<p>The application area is not considered an ecological linkage, as the majority of the surrounding vegetation remains uncleared (GIS Database).</p>										
Conservation areas	<p>The application area is not located within any legislated conservation area (GIS Database). The nearest legislated conservation area is an unnamed CALM Act section 5(1)(h) Reserve, located approximately 69.2 kilometres southwest of the application area (GIS Database).</p>										
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation associations:</p> <p>750: Shrublands, pindan; <i>Acacia tumida</i> shrubland with grey box &amp; cabbage gum medium woodland over ribbon grass &amp; curly spinifex; and</p> <p>751: Shrublands, pindan; <i>Acacia eriopoda</i> &amp; <i>Acacia tumida</i> shrubland with scattered low <i>Eucalyptus confertifolia</i> over curly spinifex (GIS Database).</p> <p>Two flora and vegetation surveys have been conducted over various parts of the application area by Astron (2012) during 23-24 July 2012 and EcOz (2013) during 4-6 June 2013. Approximately 105.5 hectares of the 392.4 hectare application area was covered by both of these field assessments.</p> <p>The following vegetation associations were recorded within the application area (Astron, 2012; EcOz, 2013):</p> <table border="1"> <thead> <tr> <th>CODE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>SO - Sandstone outcrops</td> <td>Corymbia dendromerinx low woodland over Terminalia canescens low open woodland over Acacia monticola, Grevillea refracta and Grevillea pyramidalis subsp. pyramidalis tall open shrubland over Triodia schinzii open hummock grassland</td> </tr> <tr> <td>PPd - Pindan plain dense</td> <td>Corymbia dendromerinx, Corymbia polycarpa and Erythrophleum chlorostachys low open woodland over Acacia platycarpa and Acacia tumida var. tumida low woodland over Eriachne obtusa, Aristida holathera and Sorghum stipoideum tussock grassland</td> </tr> <tr> <td>PPo - Pindan plain open</td> <td>Corymbia polycarpa low woodland over Acacia tumida var. tumida, Acacia platycarpa and Erythrophleum chlorostachys low woodland over Chrysopogon pallidus, Eriachne obtusa and Sorghum stipoideum tussock grassland to closed tussock grassland</td> </tr> <tr> <td>PDC - Pindan drainage channel</td> <td>Melaleuca viridiflora and Acacia tumida var. tumida tall open shrubland over Chrysopogon pallidus, Eriachne obtusa and Sorghum stipoideum tussock grassland</td> </tr> </tbody> </table>	CODE	DESCRIPTION	SO - Sandstone outcrops	Corymbia dendromerinx low woodland over Terminalia canescens low open woodland over Acacia monticola, Grevillea refracta and Grevillea pyramidalis subsp. pyramidalis tall open shrubland over Triodia schinzii open hummock grassland	PPd - Pindan plain dense	Corymbia dendromerinx, Corymbia polycarpa and Erythrophleum chlorostachys low open woodland over Acacia platycarpa and Acacia tumida var. tumida low woodland over Eriachne obtusa, Aristida holathera and Sorghum stipoideum tussock grassland	PPo - Pindan plain open	Corymbia polycarpa low woodland over Acacia tumida var. tumida, Acacia platycarpa and Erythrophleum chlorostachys low woodland over Chrysopogon pallidus, Eriachne obtusa and Sorghum stipoideum tussock grassland to closed tussock grassland	PDC - Pindan drainage channel	Melaleuca viridiflora and Acacia tumida var. tumida tall open shrubland over Chrysopogon pallidus, Eriachne obtusa and Sorghum stipoideum tussock grassland
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Vegetation condition	<p>The areas surveyed by Astron (2012) and EcOz (2013) recorded the vegetation to be in good and excellent condition. Interrogation of satellite imagery of the remaining portions of the application area indicate that the vegetation condition is also poor, degraded, and completely degraded (Trudgen, 1991; GIS Database).</p> <p>The surveys noted that there were signs of vehicle disturbance, cattle grazing, and isolated weeds within the good and excellent vegetation (Astron, 2012; EcOz, 2013).</p> <p>The full Trudgen (1991) condition rating scale is provided in Appendix C.</p>										
Climate and landform	<p>The climate of the Pindanland subregion is described as dry hot tropical and semi-arid, with the nearest weather station recording an average rainfall of approximately 698 millimetres per year (BoM, 2024; CALM, 2002).</p> <p>The application area is mapped at elevations of 80-100 metres Australian height datum (GIS Database). Landforms within the Reeves land system are broadly described as sandplain with scattered hills and minor plateaux (DPIRD, 2024; Payne and Schoknecht, 2011; GIS Database).</p>										

Characteristic	Details
Soil description	<p>The application area is broadly mapped within the Reeves land system (DPIRD, 2024; Payne and Schoknecht, 2011; GIS Database). The following soils (based on the Western Australian Soil Groups) occur within the Reeves land system, which may be present within the application area (DPIRD, 2024; Payne and Schoknecht, 2011; GIS Database):</p> <ul style="list-style-type: none"> <li>• red sandy earth</li> <li>• stony soil</li> <li>• red deep sand</li> <li>• stony soil</li> <li>• yellow sandy earth</li> <li>• grey non-cracking clay</li> <li>• undifferentiated soils</li> </ul>
Land degradation risk	The sandplains land unit of the Reeves land system has minor susceptibility to wind erosion immediately after disturbance to vegetation, but stabilises rapidly after rain (DPIRD, 2024; Payne and Schoknecht, 2011; GIS Database).
Waterbodies	There are no mapped waterbodies that intersect the application area (GIS Database).
Hydrogeography	<p>The application area is not within any legislated surface water area (GIS Database). The nearest Public Drinking Water Source Area is the Broome Water Reserve, located approximately 60.6 kilometres west of the application area (GIS Database).</p> <p>The application area is located within the Canning-Kimberley Groundwater Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (GIS Database). The mapped groundwater salinity is between 1,000-3,000 total dissolved solids milligrams per litre, which is described brackish water quality (GIS Database).</p>
Flora	There are records of 14 priority flora species within 50 kilometres of the application area (GIS Database).
Ecological communities	There are no known ecological communities within the application area (GIS Database). The nearest ecological community is the 'Kimberley Vegetation Association 767' priority ecological community (P1), located approximately 10.8 kilometres south-southeast of the application area (GIS Database).
Fauna	<p>There are records of 51 conservation significant fauna species within a 50 kilometre radius of the application area (GIS Database). There are 45 bird, one reptile, and five mammal species.</p> <p>Of these species, 35 are listed as migratory, five are priority, ten threatened, and one other specially protected species (GIS Database).</p>
Fauna habitat	<p>The following fauna habitats were recorded within the surveyed areas (Astron, 2012):</p> <ul style="list-style-type: none"> <li>• Plains with red-brown loamy sand – scattered <i>Corymbia</i> trees over <i>Acacia</i> woodland over hummock and tussock grassland</li> <li>• Sandstone outcrops with shallow grey-brown loam – scattered <i>Corymbia</i> trees over sparse <i>Acacia</i> shrubland over hummock and tussock grasses</li> </ul> <p>and (Zootopia, 2023):</p> <ul style="list-style-type: none"> <li>• open grassland with scattered <i>Corymbia</i> and shrubs on rocks</li> <li>• tall shrubland/shrubland over a grassland with scattered small eucalypts on thin loamy sand</li> <li>• regrowth tall shrubland over bare ground in previously cleared areas on thin loamy sand</li> </ul>

## 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 - Dampierland	8,343,944	8,319,879	~99	142,055.31	1.70
Beard vegetation associations - State					
750	1,231,155	1,225,687	~99	34,118.35	2.77

751	16,045	15,994	~99	NA	NA
Beard vegetation associations - Dampierland bioregion					
750	1,229,182	1,225,280	~99	34,114.53	2.78
751	16,045	15,994	~99	NA	NA

Government of Western Australia (2019)

### A.3. Flora analysis table

The following conservation significant flora species have records within a 50 kilometre radius of the application area (GIS Database). Habitat suitability and likelihood of occurrence was determined utilising biological survey information (Astron, 2012; EcOz, 2013) and the Western Australian Herbarium (WAH, 1998-; GIS Database).

Species name	Conservation status	Distance of closest record (km)	Likelihood	Habitat suitability	Are surveys adequate to identify? [Y, N, N/A]
<i>Aphyllodium parvifolium</i>	P1	9.2	possible	Limited suitable habitat; noted habitat being sand and sandhills, however commonly occurs along margins of surface water bodies	N
<i>Fuirena incrassata</i>	P3	33.1	unlikely	No suitable habitat	N
<i>Fuirena nudiflora</i>	P3	33.1	unlikely	No suitable habitat	N
<i>Goodenia sepalosa</i> var. <i>glandulosa</i>	P3	2.5	likely	Suitable habitat present	N
<i>Haemodorum capitatum</i>	P1	32.6	unlikely	Limited suitable habitat	N
<i>Nymphoides beaglensis</i>	P3	20.0	unlikely	No suitable habitat	N
<i>Paranotis halfordii</i>	P3	20.1	possible	Limited suitable habitat; noted habitat being rocky sandstone, however commonly occurs in damp soils and along margins of surface water bodies	N
<i>Rothia indica</i> subsp. <i>australis</i>	P3	47.4	unlikely	No suitable habitat	N
<i>Stylidium pindanicum</i>	P3	13.5	unlikely	No suitable habitat	N
<i>Synostemon hubbardii</i>	P3	2.2	likely	Suitable habitat present	N
<i>Tephrosia pedleyi</i>	P3	47.4	possible	Limited suitable habitat; commonly found amongst large sand dunes	N
<i>Thespidium basiflorum</i>	P1	47.5	unlikely	No suitable habitat	N
<i>Tribulopsis marliesiae</i>	P3	28.8	possible	Limited suitable habitat; commonly found amongst large sand dunes	N
<i>Utricularia byrneana</i>	P1	20.2	unlikely	No suitable habitat	N

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

### 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><b>Principle (a):</b> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><b>Assessment:</b> The area proposed to be cleared may contain habitat suitable for two priority flora species (<i>Goodenia sepalosa</i> var. <i>glandulosa</i> (P3) and <i>Synostemon hubbardii</i> (P3)) (GIS Database). The flora and vegetation surveys of parts of the application area did not record either of these species (Astron, 2012; EcOz, 2013), however the proposed clearing is unlikely to result in a significant impact to these species, given similar habitats are common and widespread in adjacent areas.</p>	Not likely to be at variance	No
<p><b>Principle (b):</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."</p>	At variance	Yes Refer to Section 3.2.1, above.

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><b>Assessment:</b> The area proposed to be cleared contains significant habitat for greater bilby (<i>Macrotis lagotis</i>, VU).</p>		
<p><b>Principle (c):</b> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><b>Assessment:</b> There are no known records of threatened flora within the application area or within a 50 kilometre radius (GIS Database).</p> <p>The flora and vegetation surveys of various parts of the application area did not identify any species of threatened flora (Astron, 2012; EcOz, 2013). These surveys did not record any habitats that have the potential to support threatened flora.</p>	Not likely to be at variance	No
<p><b>Principle (d):</b> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><b>Assessment:</b> There are no known state or federally listed threatened ecological communities (TECs) located within or in close proximity to the application area (GIS Database). The nearest known threatened ecological community is the state listed ‘<i>Species-rich faunal community of the intertidal mudflats of Roebuck Bay</i>’ (VU), located approximately 69.5 kilometres southwest of the application area (GIS Database).</p> <p>The biodiversity surveys of various parts of the application area did not record any ecological communities that could be representative of a TEC (Astron, 2012; EcOz, 2013; Zootopia, 2023).</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><b>Principle (e):</b> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><b>Assessment:</b> The application area falls within the Dampierland bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99% of the pre-European vegetation still exists in the IBRA Dampierland bioregion (Government of Western Australia, 2018). The application area is broadly mapped as Beard vegetation associations 750: Shrublands, pindan; <i>Acacia tumida</i> shrubland with grey box &amp; cabbage gum medium woodland over ribbon grass &amp; curly spinifex; and 751: Shrublands, pindan; <i>Acacia eriopoda</i> &amp; <i>Acacia tumida</i> shrubland with scattered low <i>Eucalyptus confertifolia</i> over curly spinifex (GIS Database). Approximately 99% of the pre-European extent of each of these vegetation associations remains uncleared at both the state and bioregional level (Government of Western Australia, 2018).</p> <p>The application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared.</p>	Not at variance	No
<p><b>Principle (h):</b> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><b>Assessment:</b> The application area is not located within any legislated conservation areas (GIS Database). The nearest legislated conservation area is an unnamed CALM Act section 5(1)(h) Reserve, located approximately 69.2 kilometres southwest of the application area (GIS Database).</p> <p>The proposed clearing is unlikely to have an impact on the environmental values of any conservation area.</p>	Not likely to be at variance	No
<b>Environmental value: land and water resources</b>		
<p><b>Principle (f):</b> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><b>Assessment:</b> No watercourses or wetlands are recorded within the application area; however, one vegetation association was identified as occurring in a seasonally waterlogged area (EcOz, 2013):</p> <p><b>Pindan drainage channel:</b> <i>Melaleuca viridiflora</i> and <i>Acacia tumida</i> var. <i>tumida</i> tall open shrubland over <i>Chrysopogon pallidus</i>, <i>Eriachne obtusa</i> and <i>Sorghum stipoides</i> tussock grassland.</p>	At variance	No



Assessment against the clearing principles	Variance level	Is further consideration required?
While this vegetation association is described as a drainage channel, there are no mapped drainage lines within the application area, nor does satellite imagery indicate there is a watercourse present (GIS Database). As this area is seasonally waterlogged and <i>Melaleuca viridiflora</i> is a riparian species, the proposed clearing is at variance to principle (f). The pindan drainage channel vegetation is limited within the application area and the proposed clearing is unlikely to result in significant impacts.		
<p><b>Principle (g):</b> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><b>Assessment:</b> Soils in the application area comprise red-brown loamy sand on plains and shallow grey-brown loam (skeletal soils) on rocky outcrops (Astron, 2012). The sandplains land unit of the Reeves land system has minor susceptibility to wind erosion immediately after disturbance to vegetation, but stabilises rapidly after rain (DPIRD, 2024; Payne and Schoknecht, 2011; GIS Database). The proposed clearing may result in some wind and water erosion (Astron, 2012).</p> <p>The potential impacts from the proposed clearing may be minimised by the implementation of a staged clearing condition.</p>	May be at variance	No
<p><b>Principle (i):</b> <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><b>Assessment:</b> Given no watercourses, wetlands, or Public Drinking Water Sources Areas are recorded within or within close proximity to the application area (GIS Database), the proposed clearing is unlikely to impact surface or ground water quality.</p>	Not likely to be at variance	No
<p><b>Principle (j):</b> <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><b>Assessment:</b> The application area alternates between low plains and rocky outcrops, with well-draining sandy pindan soils (Astron, 2012). 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	No

### Appendix C. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from Trudgen, M.E. (1991) *Vegetation condition scale* in National Trust (WA) 1993 Urban Bushland Policy. National Trust of Australia (WA), Wildflower Society of WA (Inc.), and the Tree Society (Inc.), Perth.

#### Measuring vegetation condition for the Eremaean and Northern Botanical Provinces (Trudgen, 1991)

Condition	Description
Excellent	Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
Very good	Some relatively slight signs of damage caused by human activities since European settlement. For example, some signs of damage to tree trunks caused by repeated fire, the presence of some relatively non-aggressive weeds, or occasional vehicle tracks.
Good	More obvious signs of damage caused by human activity since European settlement, including some obvious impact on the vegetation structure such as that caused by low levels of grazing or slightly aggressive weeds.
Poor	Still retains basic vegetation structure or ability to regenerate it after very obvious impacts of human activities since European settlement, such as grazing, partial clearing, frequent fires or aggressive weeds.
Very poor	Severely impacted by grazing, very frequent fires, clearing or a combination of these activities. Scope for some regeneration but not to a state approaching good condition without intensive management. Usually with a number of weed species present including very aggressive species.
Completely degraded	Areas that are completely or almost completely without native species in the structure of their vegetation; i.e. areas that are cleared or 'parkland cleared' with their flora comprising weed or crop species with isolated native trees or shrubs.

## 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)):

- Cadastre (LGATE-218)
- 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)
- GEODATA TOPO 250K Series 3 Topographic Data – Contours (Geoscience Australia, 2006)
- 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
- Pre-European Vegetation Statistics
- Interim Ramsar Sites (DBCA-010)
- Native Vegetation Extent (DPIRD-005)
- 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 and Priority Flora (TPFL)
- Threatened and Priority Flora (WAHERB)
- Threatened and Priority Fauna
- Threatened and Priority Ecological Communities and Priority Ecological Communities
- Threatened and Priority Ecological Communities and Priority Ecological Communities (Buffers)

### D.2. References

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- Department of Environment Regulation (DER) (2014) *A guide to the assessment of applications to clear native vegetation*. Perth. [https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2\\_assessment\\_native\\_veg.pdf](https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf)
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- Environmental Protection Authority (EPA) (2004a) Guidance for the Assessment of Environmental Factors - Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia, No. 56, June 2004.
- Environmental Protection Authority (EPA) (2004b) Guidance for the Assessment of Environmental Factors - Terrestrial Flora and Vegetation Surveys for Environmental Impact Assessment in Western Australia, No. 51, June 2004.
- Environmental Protection Authority (EPA) (2016) Technical Guidance – Terrestrial Fauna Surveys. [https://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf](https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf)

- Environmental Protection Authority (EPA) (2020) Technical Guidance – Terrestrial Fauna Surveys. [https://www.epa.wa.gov.au/sites/default/files/Policies\\_and\\_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.pdf](https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/2020.09.17%20-%20EPA%20Technical%20Guidance%20-%20Vertebrate%20Fauna%20Surveys%20-%20Final.pdf)
- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
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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 1 - 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 2 - 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 3 - 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 4 - 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.