



## 1. Application details and outcomes

### 1.1. Permit application details

Permit number:	10325/1
Permit type:	Purpose permit
Applicant name:	IGO Newsearch Pty Ltd
Application received:	16 November 2023
Application area:	2.7 hectares
Purpose of clearing:	A road
Method of clearing:	Mechanical removal
Tenure:	Exploration Licence 80/4608 Exploration Licence 80/5199
Location (LGA area/s):	Shire of Halls Creek
Colloquial name:	Osmond Valley exploration project

### 1.2. Description of clearing activities

IGO Newsearch Pty Ltd proposes to clear up to 2.7 hectares of native vegetation within a boundary of approximately 7.98 hectares, for a road. The project is located approximately 125 kilometres northeast of Halls Creek, within the Shire of Halls Creek.

The application is to allow for the reinstatement of an existing road which is in poor condition due to infrequent use and wet season damage.

### 1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	7 March 2024
Decision area:	2.7 hectares of native vegetation

### 1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) on 16 November 2023. 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, 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;
- impacts to conservation significant flora;
- impacts to riparian vegetation.

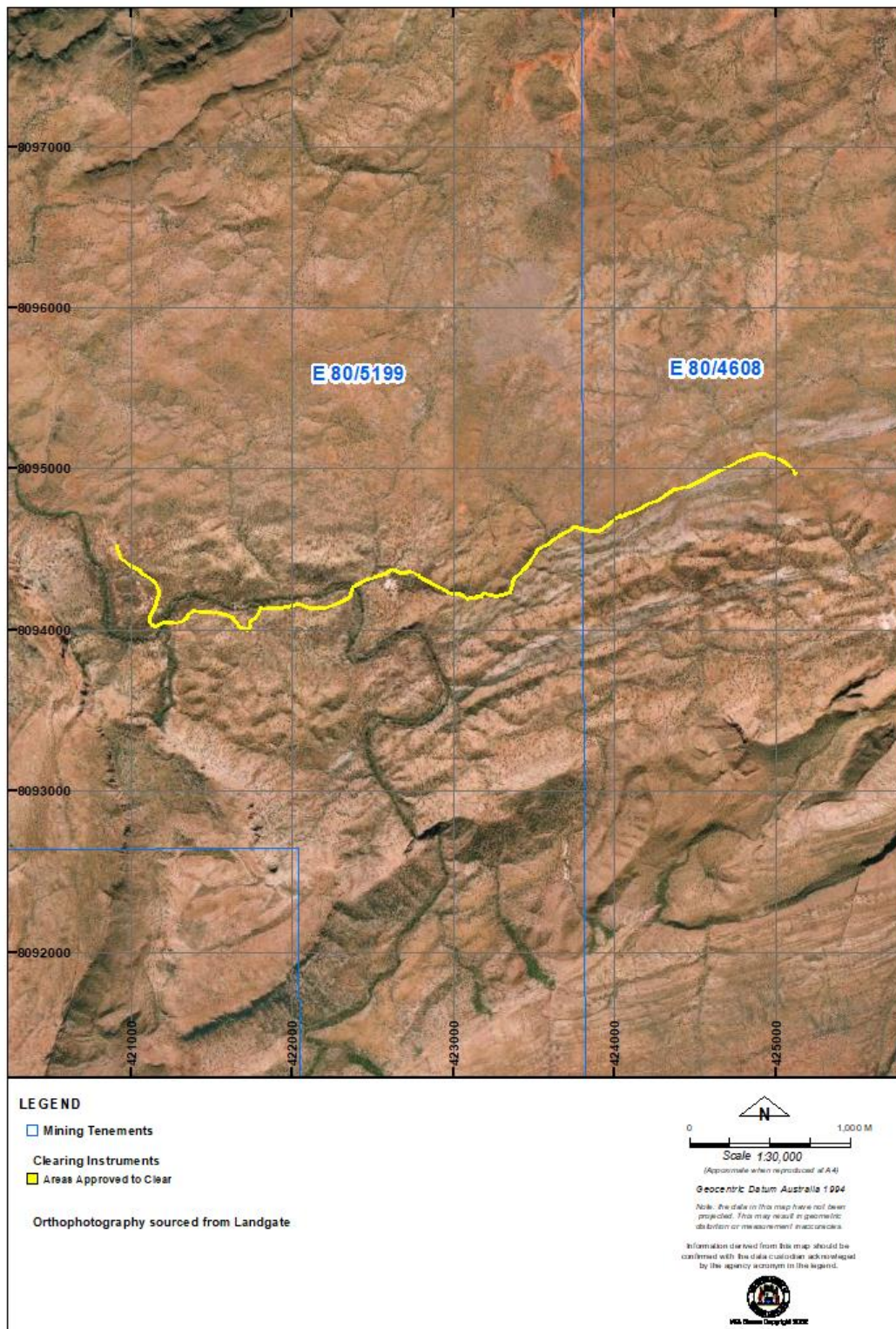
After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing is unlikely to have long-term adverse impacts on environmental values.

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;
- avoid impacts to the ephemeral drainage line, and consequently on surface water flow.

## 1.5. Site map

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



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

## 2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)

### **3. Detailed assessment of application**

#### **3.1. Avoidance and mitigation measures**

Evidence was submitted by the applicant, demonstrating that avoidance and mitigation measures such as those listed below will be undertaken:

- The clearing will follow the pre-existing road alignment;
- Clearing will be limited to within windrows of the existing road and avoid disturbance to adjacent vegetation as much as possible;
- Follow tracks which have the least number of drainage line crossings and avoid disturbance to riparian vegetation;
- Prior to clearing, an IGO environment team representative with botanical experience will conduct a search along the road corridor for any conservation significant species, which will be avoided if possible;
- All earth moving machinery will be cleaned of soil and vegetation prior to undertaking the clearing activities;
- Clearing will be conducted in a slow, progressive manner in one direction to allow fauna to move into adjacent native vegetation.

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

#### **3.2. Assessment of impacts on environmental values**

In assessing the application, the Delegated Officer has had regard for the site characteristics (see Appendix A) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

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

##### **3.2.1. Biological values (flora) - Clearing Principle (a)**

###### Assessment

There has been no flora surveys conducted over the application area. Based on known records and habitat preferences, the application area has the potential to support several species of priority flora (see section A.3 for specific species) (GIS Database). A targeted flora survey was undertaken in July 2023 for clearing permit 10130/1 which is directly adjacent to this application (Ecologia, 2023). This survey also identified suitable habitat for priority flora species however, none were recorded during the survey (Ecologia, 2023). The vegetation within the permit boundary of clearing permit 10130/1 is similar to that within this application area (GIS Database). The vegetation and landforms within the application area are not restricted and the species likely to be present are also generally found across a broader area or common habitats (Western Australian Herbarium, 1998-, GIS Database). Whilst the vegetation within the application area has the potential to support priority flora, the proposed clearing is for the re-establishment of an existing road where clearing will largely be limited to the existing disturbance footprint.

###### Conclusion

Based on the above assessment, the proposed clearing will result in the clearing of vegetation with the potential to support conservation significant flora species. However, given the nature of the proposed clearing and the minimisation and mitigation measure proposed in section 3.1., the proposed clearing is not likely to have a significant impact on flora species in the local area.

###### Conditions

No flora management conditions required.

### 3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 1 December 2023 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim over the area under application (DPLH, 2024). This claim has been determined by the Federal Court on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2024). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

- A Programme of Work approved under the *Mining Act 1978*.

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

**End**

## Appendix A. Site characteristics

### A.1. Site characteristics

Characteristic	Details
Local context	The project is located approximately 125 kilometres northeast of Halls Creek, within the Shire of Halls Creek (GIS Database). The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia and is surrounded by similar native vegetation (GIS Database). The proposed clearing area is located within the Eastern Kimberley region of Western Australia, situated within the Ord Victorian Interim Biogeographic Regionalisation for Australia (IRBA) region (GIS Database).
Ecological linkage	According to available databases, the application area does not contain any known or mapped ecological linkages (GIS Database).
Conservation areas	The application area is not located within any conservation areas managed by the Department of Biodiversity, Conservation and Attractions (GIS Database). It is located within the Purnululu National Park, Register of National Estate listing which was inscribed on the World Heritage List for its outstanding universal natural heritage values (GIS Database).
Vegetation description	The vegetation of the application area is broadly mapped as the following Beard vegetation association: <ul style="list-style-type: none"> <li>91: Hummock grasslands, sparse tree steppe; snappy gum over soft spinifex (GIS Database).</li> </ul> <p>No vegetation surveys have been undertaken over the application area.</p>
Vegetation condition	Aerial imagery indicates the vegetation within the proposed clearing area is in excellent to poor condition (Trudgen, 1991).  The full Trudgen (1991) condition rating scale is provided in Appendix C.
Climate and landform	The application area is mapped at an elevation of 400 metres AHD (GIS Database). The annual average rainfall (Halls Creek) is 575.4 millimetres (BoM, 2024).
Soil description	The soil is mapped as the following soil types (DPIRD, 2024): 312Od5E: O'Donnell granitic rises subsystem. Gently undulating to rolling rises on granite. Red or brown sandy duplexes with minor stony soils and occasional outcrop; 312Od6E: O'Donnell granitic plains subsystem. Level to undulating plains on granite. Red or brown shallow loamy or sandy duplexes and red sandy or loamy earths; 312Od8L: O'Donnell drainage floor subsystem. Drainage floors and channels on alluvium. Alluvium soils. 314Do4Q: Dockrell low hills subsystem. Undulating to steep low hills (30-90m relief) on metamorphic, sedimentary and volcanic rocks. Shallow stony soils and bare rock; 314Do5Q: Gently undulating to rolling rises (9-30m relief) on metamorphic, sedimentary and volcanic rocks. Yellow/brown shallow sandy soils, stony soils and bare rock; 314Do8L: Drainage floors and channels on alluvium. Yellow or brown loamy or sandy earths. Stony soils in channels.
Land degradation risk	The majority of the application has been mapped as the Dockrell land system with a small area mapped as the Richenda land system (GIS Database). Drainage floors and lower slopes of the Richenda land system are moderately to highly susceptible to erosion (Schoknecht and Payne, 2010). The Dockrell land system has a low erosion risk (Schoknecht and Payne, 2010).
Waterbodies	The desktop assessment and aerial imagery indicated that two minor, non-perennial watercourses transect the area proposed to be cleared which the application area intersects in several places (GIS Database).
Hydrogeography	The application area is not mapped within a Public Drinking Water Source Area (PDWSA) (GIS Database). The mapped groundwater salinity is 500-1,000 milligrams per litre total dissolved solids which is described as marginal (GIS Database).
Flora	There are records of 36 flora of conservation significance within 50 kilometres of the application area (GIS Database).
Ecological communities	The application area is not located within a Threatened or Priority Ecological Community (GIS Database).

Characteristic	Details
Fauna	There are records of 11 fauna of conservation significance within the local area (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 Ord Victoria Plain	5,497,881.46	5,493,144.00	99.91	940,518.57	17.11
Beard vegetation associations - State (Western Australia)					
Veg Assoc No. 91	438,282.66	437,621.56	99.85	83,113.50	18.96
Beard vegetation associations - Bioregion (Ord Victoria Plain)					
Veg Assoc No. 91	168,408.21	168,408.21	100.00	83,113.50	49.35

### A.3. Flora analysis table

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

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
<i>Acacia claviveta</i>	P3	N	N	<5	N
<i>Acacia smeringa</i>	P1	Y	Y	<30	N
<i>Acacia zatrichota</i>	P2	N	N	<20	N
<i>Adiantum hispidulum</i> var. <i>hispidulum</i>	P2	N	N	<20	N
<i>Aggregiflorum longifolium</i> subsp. <i>sativum</i>	P3	N	N	<5	N
<i>Aristida polyclados</i>	P1	N	N	<50	N
<i>Blumea pungens</i>	P2	Y	Y	<15	N
<i>Boronia jucunda</i>	P1	Y	Y	<5	N
<i>Boronia minutipinna</i>	P2	Y	Y	<10	N
<i>Colocasia esculenta</i> var. <i>aquatilis</i>	P3	N	N	<20	N
<i>Cucumis</i> sp. Bastion Range (A.A. Mitchell et al. AAM 10710)	P1	N	N	<20	N
<i>Cyperus flaccidus</i>	P2	N	N	<30	N
<i>Dicarpidium</i> sp. Purnululu (K.A. Menkhorst 766)	P2	Y	Y	<15	N
<i>Doodia caudata</i>	P2	N	N	<25	N
<i>Eriachne imbricata</i>	P2	N	N	<20	N
<i>Eucalyptus ordiana</i>	P2	N	Y	<50	N
<i>Euploca uniflora</i>	P1	N	N	<10	N
<i>Fimbristylis sieberiana</i>	P3	N	N	<35	N
<i>Glycine falcata</i>	P3	N	N	<25	N
<i>Glycine pullenii</i>	P3	N	N	<15	N

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
<i>Goodenia crenata</i>	P3	Y	N	<30	N
<i>Grevillea miniata</i>	P4	Y	Y	<10	N
<i>Grevillea psilantha</i>	P2	N	N	<20	N
<i>Hibiscus squarulosus</i>	P1	Y	Y	<5	N
<i>Leichardtia racemosa</i>	P1	N	N	<10	N
<i>Lindernia eremophiloides</i>	P2	N	N	<20	N
<i>Micraira</i> sp. Purnululu (M.D. Barrett & R.L. Barrett 1507)	P1	N	N	<15	N
<i>Pentalepis trichodesmoides</i> subsp. <i>incana</i>	P1	Y	Y	<20	N
<i>Solanum carduiforme</i>	P2	N	N	<30	N
<i>Stephania japonica</i> var. <i>japonica</i>	P2	Y	Y	<15	N
<i>Synostemon rigidulus</i>	P3	Y	Y	<20	N
<i>Taenitis pinnata</i>	P2	N	N	<20	N
<i>Tephrosia</i> sp. Mistake Creek (A.C. Beaglehole 54424)	P3	Y	Y	<5	N
<i>Triodia bunglensis</i>	P2	N	N	<20	N
<i>Triumfetta aspera</i>	P2	N	N	<35	N
<i>Vittadinia</i> sp. A Kimberley Flora (R.J. Cranfield 65278)	P3	N	N	<45	N

#### A.4. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
<i>Charadrius veredus</i> (Oriental Plover)	Migratory	N	N	<35	N
<i>Chloebia gouldiae</i> (Gouldian Finch)	Priority 4	Y	Y	<25	N
<i>Falco hypoleucos</i> (Grey Falcon)	Vulnerable	Y	Y	<20	N
<i>Falco peregrinus</i> (Peregrine Falcon)	Other Specially Protected	Y	Y	<15	N
<i>Hydromys chrysogaster</i> (Water rat)	Priority 4	N	N	<50	N
<i>Leggadina lakedownensis</i> (Northern short-tailed Mouse)	Priority 4	Y	Y	<5	N
<i>Lerista bunglebungle</i> (Bungle Bungle Robust Slider)	Priority 2	N	N	<30	N
<i>Macrostis lagotis</i> (Bilby)	Vulnerable	Y	Y	<45	N
<i>Petropseudes dahlia</i> (Rock Ringtail Possum)	Priority 3	N	N	<5	N
<i>Plegadis falcenllus</i> (Glossy Ibis)	Migratory	N	N	<20	N
<i>Wyulda squamicaudata</i> (Scaly-tailed Possum)	Priority 4	N	N	<25	N

**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> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>There are no current records within the area proposed to be cleared of any locally or regionally significant flora, fauna, habitats, assemblages of plants (GIS Database). However, there has not been any flora or fauna surveys undertaken within the application area.</p> <p>Based on the vegetation within the application area and known habitat preferences, there is potential for several species of priority flora to be present (Western Australian Herbarium, 1998-, GIS Database). Whilst the proposed clearing has the potential to impact priority flora, the proposed clearing of 2.7 hectares for a road is not likely to have a significant impact on the extent or persistence of priority flora in the local area.</p>	Not likely to be at variance	Yes 3.2.1, above.
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>The area proposed to be cleared may contain habitat for conservation significant fauna. However, the habitat within the application area is common in the local area and does not contain any significant habitat features (e.g. gorges, caves, permanent water sources) (GIS Database). Any conservation significant fauna which utilise the area would only be using it as a small part of a larger range. The proposed clearing of 2.7 hectares is not likely to have a significant impact on local fauna species.</p>	Not likely to be at variance	No
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>There are no known records of Threatened flora within the application area (GIS Database).</p> <p>The vegetation associations within the application area are common and widespread within the region (GIS Database), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened flora.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>There are no known Threatened Ecological Communities (TECs) located within or in close proximity to the application area (GIS Database).</p>	Not likely to be at variance	No
<b>Environmental value: significant remnant vegetation and conservation areas</b>		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The extent of native vegetation in the local area is consistent with the national objectives and targets for biodiversity conservation in Australia. The vegetation proposed to be cleared is not considered to be part of a remnant or a significant ecological linkage in the local area.</p>	Not likely to be at variance	No
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>The application area is located within Purnululu National Park listing on the Register of National Estate which was inscribed on the World Heritage List for its outstanding</p>	Not likely to be at variance	No



Assessment against the clearing principles	Variance level	Is further consideration required?
<p>universal natural heritage values (GIS Database). However, the application is not within the gazetted boundary of Purnululu National Park (GIS Database). Despite the area being on the Register of National Estate for Indigenous heritage and natural values, it is considered that the proposed clearing will not significantly impact on the environmental values of the National Park itself which is located approximately 11 kilometres south of the application area. The Purnululu Conservation Reserve is also located approximately 4 kilometres south of the application area. Following the cessation of exploration activities and rehabilitation undertaken by the proponent, the proposed activities are not expected to significantly impact on the conservation values of the Purnululu National Park or Conservation Reserve.</p>		
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f):</u> <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>There are no permanent watercourses or wetlands within the area proposed to be cleared (GIS Database). Given two minor non-perennial watercourses (drainage line) intersect application area at several locations, the proposed clearing may lead to an impact on off-site hydrology and water quality (GIS Database). Impacts to the drainage line can be managed through a watercourse management condition.</p>	At variance	No
<p><u>Principle (g):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The application area is mapped as occurring on the Dockrell and Richenda land systems (GIS Database). The Dockrell land system is generally not prone to erosion (Schoknecht and Payne, 2010). The majority of the application area (over 90%) is comprised of the Dockrell land system (GIS Database). The drainage floors and some lower slopes of the Richenda land system are moderately to highly susceptible to erosion (Schoknecht and Payne, 2010). The application area is mostly on lower slopes with a small area of drainage floor present. Whilst this area may be susceptible to erosion, the clearing of a small area for a road is not likely to cause appreciable land degradation.</p>	May be at variance	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, however, there are two minor ephemeral watercourses within the permit area (GIS Database). Creek lines in the region are dry for most of the year, only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to result in significant changes to surface water flows.</p> <p>The groundwater salinity of the permit area has been broadly mapped as being 500 - 1,000 milligrams per litre total dissolved solids (GIS Database). The clearing of 2.7 hectares is unlikely to cause deterioration in the quality of underground water.</p>	Not likely to be at variance	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></p> <p>There are no permanent water courses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region and temporary localised flooding may occur briefly following heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.</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)):

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

- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

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)

## D.2. References

- Bureau of Meteorology (BoM) (2024) Bureau of Meteorology Website – Climate Data Online, Weather Station. Bureau of Meteorology. <https://reg.bom.gov.au/climate/data/> (Accessed 29 February 2024).
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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

**Definitions:**

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

**T            Threatened species:**

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

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

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

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

**CR            Critically endangered species**

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

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

**EN            Endangered species**

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

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

**VU            Vulnerable species**

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

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

**Extinct Species:**

**EX            Extinct species**

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

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

**EW            Extinct in the wild species**

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

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

**Specially protected species:**

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

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

- MI Migratory species**  
Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).
- Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.
- Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.
- CD Species of special conservation interest (conservation dependent fauna)**  
Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).
- Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.
- OS Other specially protected species**  
Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).
- Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.
- P Priority species:**
- Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.
- Species that are adequately known, are rare but not threatened, or meet criteria for near threatened, or that have been recently removed from the threatened species or other specially protected fauna lists for other than taxonomic reasons, are placed in Priority 4. These species require regular monitoring.
- Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.
- P1 Priority One - Poorly-known species**  
Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.
- P2 Priority Two - Poorly-known species**  
Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.
- P3 Priority Three - Poorly-known species**  
Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

**P4**

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

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

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

**Principles for clearing native vegetation:**

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