

# Clearing Permit Decision Report

## 1. Application details and outcomes

### 1.1. Permit application details

Permit number:	10812/1
Permit type:	Purpose Permit
Applicant name:	Hanson Construction Materials Pty Ltd
Application received:	25 October 2024
Application area:	3.96 hectares
Purpose of clearing:	Sand quarry and associated activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 08/510
Location (LGA area):	Shire of Exmouth
Colloquial name:	Exmouth Sand Quarry

### 1.2. Description of clearing activities

Hanson Construction Materials Pty Ltd proposes to clear up to 3.96 hectares of native vegetation within a boundary of approximately 6.35 hectares, for the purpose of constructing a sand quarry and associated activities (Hanson, 2024). The project is located approximately five kilometres north of Exmouth, within the Shire of Exmouth (GIS Database).

The application is to allow for the continuation of the existing Pindan sand extraction and operations at the site (RPS, 2024).

Clearing permit CPS 7823/1 was granted by the Department of Mines, Industry Regulation and Safety (now the Department of Energy, Mines, Industry Regulation and Safety) on 21 December 2017 and was valid from 13 January 2018 to 31 January 2023. The permit authorised the clearing of up to 6.9 hectares of native vegetation within a boundary of approximately 7.45 hectares, for the purpose of sand mining and associated activities. Approximately 1.91 hectares of native vegetation was cleared under this permit (RPS, 2024). CPS 10812/1 has been applied for, to replace this expired permit.

### 1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	26 June 2025
Decision area:	3.96 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 a flora and vegetation survey (Pilbara Ecological, 2024), 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;
- potential land degradation in the form of wind erosion.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (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.

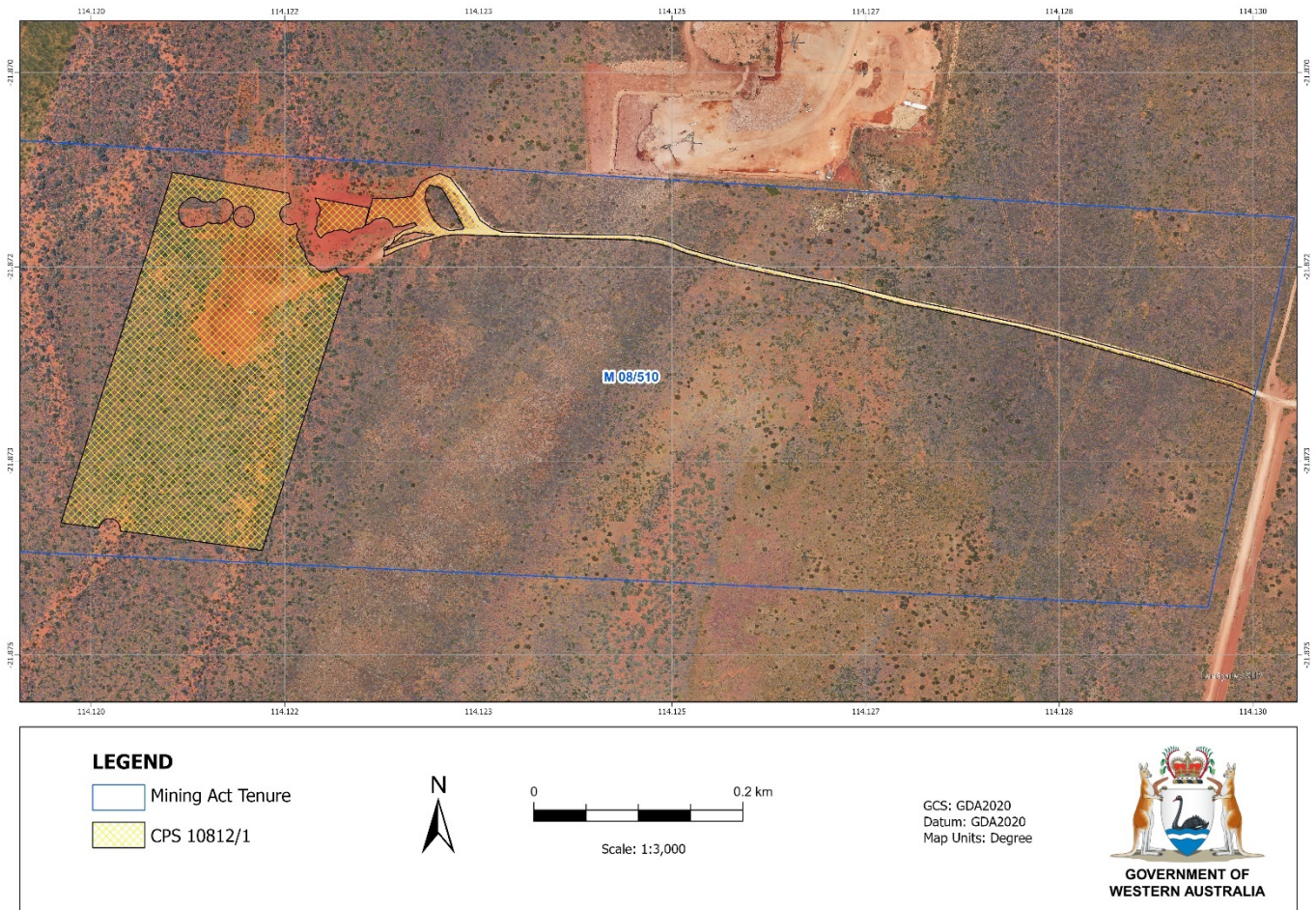
The Delegated Officer decided to grant a clearing permit subject to conditions to:

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

- take hygiene steps to minimise the risk of the introduction and spread of weeds and dieback;
- commence construction no later than three months after undertaking clearing to reduce the risk of erosion;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity; and
- no clearing of or within 10 metres of *Daviesia pleurophylla* individuals.

## 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 (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)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016b)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

### 3. Detailed assessment of application

#### 3.1. Avoidance and mitigation measures

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

Evidence was submitted by the applicant (RPS, 2024), demonstrating that the following avoidance and mitigation measures will be implemented:

- direct impacts to the conservation significant flora species, *Daviesia pleurophylla* (Priority 2) have been avoided through design of the proposed clearing. All 91 recorded locations of *Daviesia pleurophylla* (Priority 2) will be avoided;
- potential indirect impacts to *Daviesia pleurophylla* (Priority 2) have been avoided through implementation of a separation distance of at least 10 metres, and up to a maximum of 40 metres between the recorded plant locations and proposed clearing. The future mining activity area was reduced as much as possible to maximise the separation distances to the Priority 2 flora species while also providing sufficient area to source optimal sand volumes;
- existing cleared site internal access track will be used by Hanson, therefore avoiding additional clearing of native vegetation to create new access tracks;
- mining operations will be centred around the existing quarry which has been previously disturbed, therefore avoiding additional clearing of native vegetation to undertake sand mining;
- future mining area have been designed to minimise vegetation clearing is much as practicable, while still providing a sufficient area to source optimal sand volumes.
- clearing will be undertaken in stages, in line with the staged approach for sand mining which will be driven by local/regional demand for sand and concrete. Clearing will not be undertaken unless sand mining commences within three months of the clearing being undertaken;
- a water cart will be available, if required, to mitigate dust risks within the sand excavation area and along the access road;
- road speed limits for the access roads and quarry will be in place;
- vehicle hygiene and weed control measures will be implemented during all phases of the project;
- site personnel will be inducted in fire management procedures to prevent fires from starting and to control and contain any unplanned or unintentional fires within and adjacent to the tenement;
- post mining, the retained topsoil will be used in the rehabilitation of the excavated pit / access road areas to re-establish native vegetation species. Rehabilitation activities including reforming of the landform, compaction of the quarry pit and batters and the facilitating the revegetation of native species will occur post each mining stage; and
- Hanson are proposing to clear native vegetation in stages, with rehabilitation occurring progressively as sand extraction stages are completed.

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 (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 (fauna and flora). 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 & fauna) - Clearing Principles (a) & (b)

###### Assessment

###### **Flora**

The native flora and fauna of the Cape Range peninsula has been recognised as rich and diverse, in particular the limestone karst areas (EPA, 1999). The limestone karst areas support a species rich flora, one of the world's most diverse subterranean fauna, and are also rich in terrestrial fauna, particularly reptiles (EPA, 1999).

The proposed clearing area is situated on red sand dunes and plains, with no limestone ridges and minimal exposed limestone (RPS, 2024; GIS Database). The vegetation of the application area consists of mulga shrublands and hummock grasslands which have comparatively low or similar biodiversity compared to other parts of the Cape Range Province (RPS, 2024).

A detailed flora, vegetation and targeted flora survey (survey area of 7.45 hectares) was conducted over the application area by Pilbara Ecological during June 2024 (Pilbara Ecological, 2024). The flora survey recorded a total of 63 flora taxa from within the survey area, representing 24 families and 49 genera, comprising 60 native taxa and 3 introduced taxa (Pilbara Ecological, 2024). The flora survey identified one Priority flora species occurring within the study area and three Priority flora species that have the potential to occur (Pilbara Ecological, 2024).

*Daviesia pleurophylla*, Priority 2, is a divaricately branched shrub, previously identified inhabiting sand dunes from 11 records all within the Cape Range Subregion of the Carnarvon Bioregion (Western Australian Herbarium, 1998-). *Daviesia pleurophylla* was recorded by Pilbara Ecological from 91 individuals (Pilbara Ecological, 2024). Of the 91 individuals recorded by Pilbara Ecological (2024), three are located within the application area and all three individuals are intended to be avoided by the applicant (Hanson, 2024; RPS, 2024). As there is an abundance of suitable habitat within the surrounding environment and bioregion and no individuals are proposed to be cleared, the clearing of 3.96 hectares is not considered to significantly impact this species.

Three Priority flora species – *Verticordia serotina* (P2), *Corchorus congener* (P3) and *Corynotheca flexuosissima* (P3) – were identified as potentially occurring within the application area (Pilbara Ecological, 2024; Western Australian Herbarium, 1998; GIS Database). No individuals of these species were identified within the survey area during the targeted flora survey, however, since the site was recently burnt, there remains potential for them to occur during the re-establishment of vegetation (Pilbara Ecological, 2024). The clearing of 3.96 hectares of native vegetation is not considered to significantly impact these species as suitable habitat is present within the surrounding areas and bioregion.

## Fauna

Desktop fauna assessments have identified 80 conservation significant fauna species within 50 kilometres of the application area (Pilbara Ecological, 2024; GIS Database). A basic fauna survey was conducted over the application area by Pilbara Ecological during June 2024, and no significant fauna species were sighted during the field survey nor was any evidence (burrows, diggings, tracks and scats) of such fauna noted (Pilbara Ecological, 2024).

The following three conservation significant fauna species are considered to potentially occur within the study area / application area as suitable habitat / foraging habitat is present:

- *Aprasia rostrata* (Ningaloo worm lizard) (Priority 3)
- *Falco peregrinus* (peregrine falcon) (other specially protected)
- *Pandion haliaetus* (osprey) (Migratory)

The habitats present within the application area – Tall shrubland on sand dunes and Tall shrubland on coastal plain – are not considered significant habitat for these species and is present and available in the surrounding areas and bioregion (Pilbara Ecological, 2024; GIS Database). The proposed clearing of up to 3.96 hectares is not considered to significantly impact these species at a local or regional level.

## Conclusion

Based on the above assessment, the proposed clearing will result in the potential impacts to fauna and Priority flora species *Daviesia pleurophylla*. For the reasons set out above, it is considered that the impacts of the proposed clearing can be managed by implementing a flora management condition and slow directional clearing.

## Conditions

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

- slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity will minimise impact to individuals; and
- no clearing of or within 10 metres of *Daviesia pleurophylla* individuals.

## 3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 21 February 2025 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 (Gnulli, Gnulli #2 and Gnulli #3 - Yinggarda, Baiyungu and Thalanyji People) over the area under application (DPLH, 2025). 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 is no registered Aboriginal Sites of Significance within the application area (DPLH, 2025). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

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

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

**End**



## Appendix A. Site characteristics

### A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is located approximately five kilometres north of Exmouth, within the Shire of Exmouth, on the north-eastern part of the Cape Range Peninsula (GIS Database). It is mapped within the Cape Range subregion of the Carnarvon Bioregion (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 (GIS Database). The application area has been subject to previous disturbance from both fire and historical mining (RPS, 2024; 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 mapped within the Cape Range and Adjacent Coastal Plain which is listed on the Register of the National Estate (Non-statutory archive) for its natural values (GIS Database). Bundegi Coastal Park, which runs along approximately five kilometres on the eastern coast of Cape Range and is located approximately 0.7 kilometres east of the application area (GIS Database). The Bundegi Coastal Park forms part of the Ningaloo Coast World Heritage Area, which covers 604,500 hectares and spans more than 300 kilometres along the remote Western Australian coast (GIS Database).
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation association:</p> <ul style="list-style-type: none"> <li>662: Hummock grassland; shrub steppe; mixed acacia scrub &amp; dwarf scrub with soft spinifex &amp; <i>Triodia basedowii</i>. (GIS Database).</li> </ul> <p>A flora and vegetation survey was conducted over the application area by Pilbara Ecological during June, 2024. The following vegetation associations were recorded within the application area (Pilbara Ecological, 2024):</p> <ul style="list-style-type: none"> <li>VT01: <i>Banksia ashbyi</i> subsp. <i>boreoscaia</i>, <i>Duboisia hopwoodii</i>, <i>Grevillea stenobotrya</i> tall sparse shrubland over <i>Triodia ?angusta</i> sparse hummock grassland on red sand dunes; and</li> <li>VT02: <i>Acacia sclerosperma</i> subsp. <i>sclerosperma</i>, <i>Acacia coriacea</i> subsp. <i>coriacea</i>, <i>Gyrostemon ramulosus</i> tall sparse shrubland over <i>Acacia gregorii</i> low sparse shrubland over <i>Triodia ?angusta</i> sparse hummock grassland on coastal sandplain.</li> </ul>
Vegetation condition	<p>The vegetation survey (Pilbara Ecological, 2024) indicate the vegetation within the proposed clearing area is in 'Completely Degraded' to 'Very Good' (Trudgen, 1991) condition, described as</p> <ul style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>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.</li> </ul> <p>The full Trudgen (1991) condition rating scale is provided in Appendix C.</p>
Climate and landform	The application area, located within the Gascoyne region of Western Australia, experiences a moderate arid tropical climate with an average annual rainfall of 256.0 millimetres (BoM, 2025). Pilbara Ecological (2024) recorded two landforms within the application area: red sand dunes and coastal sandplains.
Soil description	<p>The soils of the application area broadly mapped as the following soil type:</p> <ul style="list-style-type: none"> <li>Range Land System: Dissected limestone plateaux, hills and ridges with gorges and steep stony slopes supporting hard spinifex, sparse shrubs and eucalypts (DPIRD, 2025).</li> </ul>
Land degradation risk	The Range Land System has erosional surfaces on a dissected anticlinal plateau of 250-300 metres relief, however it is not susceptible to accelerated erosion (Payne, et al., 1987).
Waterbodies	The desktop assessment and aerial imagery indicated that there are no surface wetlands or surface water features within the application area (GIS Database). The application area is mapped within the Cape Range Subterranean Waterways, which is listed on the Directory of Important Wetlands in Australia - Western Australia (GIS Database). The wetland is described as

Characteristic	Details
	the subterranean waterways, sinkholes, general groundwater and artificial wells of the coastal plain and foothills of Cape Range (Pilbara Ecological, 2024).
Hydrogeography	The application area is mapped within the Gascoyne Groundwater Area and the Pilbara Surface Water Area (GIS Database).
Flora	Flora surveys recorded one priority flora species within the application area (Pilbara Ecological, 2024; GIS Database).
Ecological communities	The application area is not mapped within a Threatened or Priority Ecological Community (TEC/PEC) (GIS Database).
Fauna	The basic fauna survey recorded no Threatened, Migratory or Specially protected fauna species listed under the EPBC Act or BC Act within the application area, and no evidence of such fauna species was noted (burrows, diggings, tracks and scats) (Pilbara Ecological, 2024).
Fauna habitat	<p>The basic fauna survey (Pilbara Ecological, 2024) identified two broad fauna habitats within the survey area:</p> <ul style="list-style-type: none"> <li>HT01: Tall shrubland on sand dunes: Associated with vegetation type VT01. This habitat type includes dune crest and swale vegetated with sparse spinifex hummocks and shrubs. The tall shrubs provide habitat for small birds. The red sand dunes may provide habitat for <i>Aprasia rostrata</i>, Ningaloo worm lizard (Priority 3), and other reptile species; and</li> <li>HT02: Tall shrubland on coastal plain: Associated with vegetation type VT02. This habitat type is characterised by spinifex hummocks and tall shrubs. The tall shrubs provide habitat for small birds. The red sandy plain may provide habitat for <i>Aprasia rostrata</i>, Ningaloo worm lizard (Priority 3), and other reptile species.</li> </ul>

## A.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current extent in all DBCA Managed Land (proportion of pre-European extent) (%)
IBRA Bioregion Carnarvon	8,382,890.35	8,360,801.46	99.74	1.00	0.00
Beard vegetation associations - State					
Veg Assoc No. 662	284,795.92	282,125.59	99.06	21,394.59	7.51
Beard vegetation associations - Bioregion					
Veg Assoc No. 662	282,709.68	281,679.33	99.64	1.00	0.00

Government of Western Australia (2019)

## A.3. Flora analysis table

With consideration for the site characteristics set out above and relevant datasets (see Appendix D.1), and biological survey information (Pilbara Ecological, 2024; Western Australian Herbarium, 1998-; GIS Database), impacts to the following conservation significant flora required further consideration.

Species name	Conservation status	Distance of closest record to application area (km)	Number of known records derived from Florabase (total)	Suitable habitat features? [Y/N]
<i>Acacia alexandri</i>	3	<10	24	N
<i>Acacia ryaniana</i>	2	<10	22	N
<i>Acacia startii</i>	3	<15	33	N
<i>Acanthocarpus rupestris</i>	2	<15	9	N
<i>Brachychiton obtusilobus</i>	4	<5	15	N
<i>Calandrinia</i> sp. Cape Range (F. Obbens FO 10/18)	2	<10	12	N
<i>Calytrix</i> sp. Learmonth (S. Fox EMopp 1)	1	<45	1	N
<i>Corchorus congener</i>	3	<55	28	Y

Species name	Conservation status	Distance of closest record to application area (km)	Number of known records derived from Florabase (total)	Suitable habitat features? [Y/N]
<i>Corynotheca flexuosissima</i>	3	<10	17	Y
<i>Crinum flaccidum</i>	2	<45	11	N
<i>Cucumis</i> sp. Barrow Island (D.W. Goodall 1264)	2	<10	8	N
<i>Daviesia pleurophylla</i>	2	0	11	Y
<i>Eremophila forrestii</i> subsp. <i>capensis</i>	3	<5	21	N
<i>Eremophila occidentalis</i>	2	<15	3	N
<i>Eremophila youngii</i> subsp. <i>lepidota</i>	4	<10	49	N
<i>Grevillea calcicola</i>	3	<10	18	N
<i>Gymnanthera cunninghamii</i>	3	<10	45	N
<i>Harnieria kempeana</i> subsp. <i>rhadinophylla</i>	2	<15	6	N
<i>Lepidium biplicatum</i>	3	<50	20	N
<i>Lysianthra fuernrohrrii</i>	3	<10	21	N
<i>Minuria</i> sp. Onslow (A.J. Perkins & M. Henson AJP-WA167)	3	<45	26	N
<i>Myoporum</i> sp. Ningaloo (S. Colwill 14)	1	<10	3	N
<i>Stackhousia umbellata</i>	3	<10	21	N
<i>Tephrosia</i> sp. North West Cape (G. Marsh 81)	2	<10	5	N
<i>Thryptomene dampieri</i> subsp. <i>capensis</i>	3	<15	7	N
<i>Tinospora esiangkara</i>	2	<15	8	N
<i>Verticordia serotina</i>	2	<15	3	Y

## Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
<b>Environmental value: biological values</b>		
<p><u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."</p> <p><u>Assessment:</u></p> <p>The flora survey recorded a total of 63 flora taxa from within the Survey Area, representing 24 families and 49 genera, comprising 60 native taxa and 3 introduced taxa (Pilbara Ecological, 2024). One priority flora species was recorded within the application area (Pilbara Ecological, 2024).</p>	At variance	Yes  Refer to Section 3.2.1, above
<p><u>Principle (b):</u> "Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna."</p> <p><u>Assessment:</u></p> <p>The fauna habitats within the application area are common and widespread in surrounding areas (Pilbara Ecological, 2024; GIS Database), and no fauna species are expected to be specifically dependant on the habitats found within the application area.</p>	Not likely to be at variance	Yes  Refer to Section 3.2.1, above
<p><u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."</p> <p><u>Assessment:</u></p> <p>No Threatened flora has been recorded within the application area nor within 50 kilometres of the application area (Pilbara Ecological, 2024; GIS Database).</p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<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). Flora and vegetation survey of the application area did not identify any TECs (Pilbara Ecological, 2024).</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 application area falls within the Carnarvon Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database).</p> <p>Over 99% of the pre-European vegetation still exists in the Carnarvon Bioregion IBRA (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 662 (GIS Database). This vegetation association has not been extensively cleared as over 99% of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2019). The application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared (GIS Database).</p>	Not at variance	No
<p><u>Principle (h):</u> <i>"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."</i></p> <p><u>Assessment:</u></p> <p>The site is located within the Cape Range and Adjacent Coastal Plain and is listed on the Register of the National Estate for its natural values (GIS Database). The Cape Range and Adjacent Coastal Plain is approximately 183,000 ha in size, and the proposed clearing of 3.96 hectares is unlikely to significantly impact the natural values of this ESA or any other conservation area.</p>	Not likely to be at variance	No
<b>Environmental value: land and water resources</b>		
<p><u>Principle (f):</u> <i>"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."</i></p> <p><u>Assessment:</u></p> <p>There are no surface water features within or in close proximity of the application area (GIS Database). The application area is mapped within the Cape Range Subterranean Waterways, which is listed on the Directory of Important Wetlands in Australia - Western Australia (GIS Database). The wetland is described as the subterranean waterways, sinkholes, general groundwater and artificial wells of the coastal plain and foothills of Cape Range (Pilbara Ecological, 2024). The proposed clearing is not likely to impact the Cape Range Subterranean Waterways as there will be no dewatering of the groundwater table, and all activities will remain above the groundwater table which is estimated at seven metres below the base of dunes (RPS, 2024).</p>	Not likely to be 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 vegetation proposed to be cleared is situated on low dunes and sandy plains (GIS Database). The highly permeable sandy soils of the application area reduce the likelihood of erosion due to surface water runoff. However, the sand dune areas are likely to be naturally subject to wind erosion, and removal of vegetation cover from the dunes may result in increased rates of wind erosion. Potential wind erosion as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition which restricts the timing of vegetation clearing to less than three months prior to the commencement of sand extraction activities.</p>	May be at variance	No



Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (i):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</p> <p><u>Assessment:</u></p> <p>The application area is mapped within the Cape Range Subterranean Waterways, which is listed on the Directory of Important Wetlands in Australia - Western Australia (GIS Database). The proposed clearing is not likely to impact the Cape Range Subterranean Waterways as there will be no dewatering of the groundwater table, and all activities will remain above the groundwater table which is estimated at seven metres below the base of dunes (RPS, 2024).</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> “Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</p> <p><u>Assessment:</u></p> <p>There are no Public Drinking Water Source Areas or watercourses within the application area (GIS Database). The climate of the region is arid and rainfall is likely to be rapidly absorbed by the sandy soils (RPS, 2024). Groundwater in the area is at an average depth of approximately seven metres (RPS, 2024). The proposed clearing is unlikely to increase intensity of flooding.</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)
- Cadastre (Polygon) (LGATE-217)
- Clearing Instruments Proposals (Areas Applied to Clear) (DWER-075)
- Clearing Regulations - Environmentally Sensitive Areas (DWER-046)
- Clearing Regulations - Schedule One Areas (DWER-057)

- DBCA - Lands of Interest (DBCA-012)
- DBCA - Legislated Lands and Waters (DBCA-011)
- DBCA Fire History (DBCA-060)
- Directory of Important Wetlands in Australia - Western Australia (DBCA-045)
- EPA Redbook Recommended Conservation Reserves 1976-1991 (DBCA-029)
- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- Local Government Area (LGA) Boundaries (LGATE-233)
- Localities (LGATE-234)
- Native Title (Determination) (LGATE-066)
- Native Vegetation Extent (DPIRD-005)
- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- 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-063)
- Townsites (LGATE-248)
- WRIMS - Groundwater Areas (DWER-085)
- WRIMS - Surface Water Areas (DWER-082)

Restricted GIS Databases used:

- Threatened and Priority Flora (TPFL)
- Threatened and Priority Flora (WAHerb)
- Threatened and Priority Fauna
- Threatened and Priority Ecological Communities
- Threatened and Priority Ecological Communities (Buffers)

## D.2. References

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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:

#### Threatened species

**T** 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**

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

**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**

**SP 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.

## **Priority species**

### **P Priority species**

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

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

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

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

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

### **P1 Priority One - Poorly-known species – known from few locations, none on conservation lands**

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

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

### **P2 Priority Two - Poorly-known species – known from few locations, some on conservation lands**

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

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

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

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

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

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

- (a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection but could be if present circumstances change. These species are usually represented on conservation lands.
- (b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as a conservation dependent specially protected species.
- (c) Species that have been removed from the list of threatened species or lists of conservation dependent or other specially protected species, during the past five years for reasons other than taxonomy.
- (d) Other species in need of monitoring.

## **Principles for clearing native vegetation:**

- (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
- (b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.
- (d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

- (e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.
- (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- (h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.
- (i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.
- (j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.