

Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	6576/2
Permit type:	Purpose Permit
Applicant name:	Buckski Holdings Pty Ltd
Application received:	13 September 2024
Application area:	350 hectares
Purpose of clearing:	Sand mining and associated activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 45/1242
Location (LGA area/s):	Town of Port Hedland
Colloquial name:	Pippingarra Sand Mine

1.2. Description of clearing activities

Buckski Holdings Pty Ltd proposes to clear up to 350 hectares of native vegetation within a boundary of approximately 351 hectares, for the purpose of sand mining and associated activities. The project is located approximately 11 kilometres southeast of South Hedland, within the Town of Port Hedland.

Clearing permit CPS 6756/1 was granted by the Department of Mines and Petroleum (now the Department of Energy, Mines, Industry Regulation and Safety) on 9 July 2015 and was valid from 1 August 2015 to 1 August 2025. On 13 September 2024, the proponent applied to amend the permit to extend the permit duration by five years. At the time of this application the proponent had cleared 0.49 hectares of the 350 hectares approved. No further clearing has occurred since 2020 (Brookdale, 2024).

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	22 April 2025
Decision area:	350 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with sections 51KA(1) and 51O of the *Environmental Protection Act 1986* (EP Act) The Department of Energy, Mines, Industry Regulation and Safety (DEMIRS). r advertised the application for a public comment for a period of 7 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix A), relevant datasets (Appendix E), supporting information provided by the applicant, including the results of a flora and vegetation survey (Appendix D), the clearing principles set out in Schedule 5 of the EP Act (Appendix B), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3).

The assessment has not changed since the assessment for CPS 6576/1, except in the case of principle (b) where a condition to reduce the risk of impact to northern quoll (*Dasyurus hallucatus*) has been implemented.

1.5. Site map

A site map of proposed clearing is provided in Figure 1 below. CPS 6576/2



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

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(Clearing of Native Vegetation) Regulations 2004 (Clearing Regulations).

In addition to the matters considered in accordance with section 510 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 2013)
- Procedure: Native vegetation clearing permits (DWER, October 2019)
- Technical guidance Flora and Vegetation Surveys for Environmental Impact Assessment (EPA, 2016) (Delete if flora surveys not included)
- Technical guidance Terrestrial Fauna Surveys for Environmental Impact Assessment (EPA, 2016) (Delete if fauna surveys not included)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

The proponent has committed to carry out clearing in staged campaign. Vegetation will only be cleared as required throughout the life of the operation (ENV, 2015). 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

A review of current environmental information (Appendix A) reveals most of environmental values within the application area have not changed significantly since the assessment of CPS 6576/1. However, two flora species occurring in the application area, have been subject to changes in conservation status and/or taxonomic review and one species of conservation significant fauna has continued to decline since the assessment of CPS 6019/1, carried out in 2015, these biological values will be assessed below.

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

Assessment, flora

In support of the application for CPS 6576/1 the proponent commissioned a floristic survey (ENV, 2013) of the application area, and identified one individual of *Goodenia nuda* (Priority 4) within the application area. However, this species is no longer considered of conservation significance (Western Australian Herbarium, 1998-). ENV (2013) also identified a population of the Priority 1 plant species *Heliotropium muticum* comprising a total of 630 individuals, recorded from 87 locations, within the application area. Since the time of the above survey *Heliotropium muticum* has undergone taxonomic review and is currently known as *Euploca mutica*, with the conservation status of this species now Priority 3. Given that a significant portion of the *Euploca mutica* species is confined to the Beebingarra Creek catchment (Western Australian Herbarium, 1998-), the population within the application area is still considered to be of conservation value. Therefore, the flora management condition on the amended permit will be updated. The weed grasses *Cenchrus ciliaris* (Buffel Grass) and *Cenchrus setiger* (Birdwood Grass) were recorded in the application area. These grasses are listed as 'high' ecological impact and 'rapid' invasiveness, (DBCA, 2023b) and may impact the *Euploca mutica* population within the application area, if not controlled.

Assessment, fauna

The northern quoll (*Dasyurus hallucatus*) is a solitary, medium-sized, predatory marsupial endemic to northern Australia. This species has continued to decline since European settlement and has contracted to a small number of geographic regions across northern Australia. The northern quoll (Endangered) was not detected within the application area (ENV, 2013), However there are a large number of records for the species within the local area (see Appendix A.4). The initial survey caried out by ENV (2013) was a Level 1 survey and did not involve trapping or motion sensing cameras. As northern quoll are mostly nocturnal, if present a level 1 survey may have not been sufficient to detect this species.

In Western Australia rapid declines have occurred within the Kimberly manly as a result of cane toad (*Rhinella marina*), expansion into the region, however, northern quolls have also declined or disappeared from large areas in Western Australia where cane toads have not yet reached. In the Pilbara, the distribution of quolls is fragmented, and the species is mostly confined to ironstone formations, some river systems, the Burrup Peninsula and adjacent offshore islands (DBCA, 2023a).

Although rock outcrops form the primary habitat for northern quoll, daytime den sites provide important shelter and protection from predators and weather. Shelter sites include rocky outcrops, tree hollows, hollow logs, termite mounds, goanna burrows and human dwellings (Dixon and Huxley, 1985; Braithwaite, 1990; Oakwood, 2002).

ENV (2013) identified three vegetation types within the application area two of which - CcAtAccTeCf and AiAccAtAsTiTe (see Appendix A.1) include the hollow bearing tree, *Corymbia candida*. Given the high number of northern quoll records in the local aera the presents of suitable habitat in and adjoining the application area, it is likely northern quoll may use the *Corymbia*

candida trees as daytime den sites, or additional habitat as described above, therefore the proposed clearing is likely to reduce the amount of quoll habitat in the local area.

Conclusion

Based on the above assessment, the proposed clearing will impact on a population of priority flora, and habitat which is significant for conservation significant fauna. The loss of this habitat will have a permanent impact on the local populations of conservation significant fauna. It is considered that the impacts of the proposed clearing on conservation significant flora and fauna, can be managed by avoidance, weed control, translocation and slow directional clearing to allow fauna to move into adjacent vegetation.

Conditions

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

- Flora management, including a buffer around *Euploca mutica* populations.
- Weed control.
- Fauna management including a preclearing survey within areas deemed as northern quoll habitat.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 13 December 2024 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WC1999/003) over the area under application (DPLH, 2025). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the 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 one registered Aboriginal Sites of Significance located partly within the application area (GIS Database). It is the proponent's responsibility to comply with *the Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is the proponent's responsibility to liaise with the Department of Environment Regulation, the Department of Water, and the Department of Parks and Wildlife, 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

A.1 Site characteristics

Characteristic	Details		
Local context	The project is located approximately 11 of Port Hedland in the extensive land us extensive tracts of uncleared land. The pastoralism and mining (GIS database)	kilometres southwest of se zone. The amendmen predominant land use in	South Hedland, within the Town t area is surrounded by the region is extensive
Ecological linkage	There are no mapped ecological linkage boundary of the amendment area (GIS	es in the local area a radi Database).	ius of 50 kilometres from the
Conservation areas	The application area is not located with Park is located approximately 95 kilome nearest conservation area is Mungaroo to the south-west (GIS Database).	in any conservation areas etres north-east of the am na Range Nature Reserv	s. Eighty Mile Beach Marine nendment area and second re approximately 104 kilometres
Vegetation description	The vegetation of the application area is associations:	s broadly mapped as the	following Beard vegetation
	589: Mosaic: Short bunch grassland - s grass steppe; soft spinifex; and 93: Hummock grasslands, shrub steppe	avannah /grass plain (Pil ə; kanji over soft spinifex	bara) /Hummock grasslands, (GIS Database).
	ENV Australia Pty Ltd (ENV, 2013) con area in March 2013 and mapped the fo	ducted a flora and vegeta llowing vegetation types:	ation survey of the application
	 CcAtAccTeCf: Low open wood tumida and Acacia colei var. c open tussock grassland of Chi AiAccAtAsTiTe: Scattered low over open shrubland of Acacia lamprosperma over open tuss CcChAccGICf: Scattered shru Acacia tumida over low open s grassland of Triodia lanigera a 	Iland of <i>Corymbia candid</i> olei over hummock grass rysopogon fallax. trees of <i>Corymbia candi</i> a colei var. colei over low ock grassland of <i>Chrysop</i> bs of <i>Acacia inaequilater</i> shrubland of <i>Acacia stella</i> and <i>Triodia epactia</i> .	a over shrubland of <i>Acacia</i> land of <i>Triodia epactia</i> over very da and <i>Corymbia hamersleyana</i> open shrubland of <i>Goodenia</i> oon fallax. a, <i>Acacia colei</i> var. <i>colei</i> and <i>ticeps</i> over open hummock
	See Section A.2. for an analysis of cover Extracts of the ENV Australia Pty Ltd (E Appendix D.	er and extent of native ve ENV, 2013) survey includi	getation within the local area. ing mapping are available in
Vegetation condition	The vegetation survey (ENV, 2013) cat very good (Trudgen, 1991) condition, d	egorized the vegetation v escribed as:	vithin the application area as
	 Some relatively slight signs of settlement. For example, some the presence of some relativel 	damage caused by huma e signs of damage to tree y non-aggressive weeds,	an activities since European trunks caused by repeated fire, or occasional vehicle tracks.
	The full Trudgen (1991) condition rating	g scale is provided in App	pendix C.
	Six species of weeds were recorded in rated in the table below.	the application area (EN)	√, 2013), these are listed and
	Species	Ecological Impact	Invasiveness
	Cenchrus ciliaris (Buffel Grass)	High	Rapid
	Cenchrus setiger (Birdwood Grass)	High	Rapid
	Indigofera oblongifolia	Not rated	Not rated
	Stylosanthes hamata (Verano Stylo)	High	Moderate
	Digitaria ciliaris (Summer Grass)	Low	Slow
	Portulaca oleracea (Purslane)	Unknown	Unknown
	Weed rating from the Department of Bio	odiversity, Conservation a	and Attractions (DBCA, 2023b).
Climate	 The climate of the Chichester bioregion with rainfall and temperatures falling with Airport (BoM, 2025): Mean annual rainfall: 315 milli Temperature: mean annual minimitian temperature: mean annual minimitian temperatur	is characterised as semi thin the following ranges, metres inimum: 12.5 Degrees ce aximum: 36.4 Degrees ce	i-desert-tropical (CALM, 2002), recorded at Port Headland ntigrade entigrade

Characteristic	Details
Soil description and landform	Contour mapping of the amendment area indicates elevations 30 and 40 metres Australian Hight Datum.
	The application area falls within the Uaroo System described as:
	Broad sandy plains, pebbly plains and drainage tracts supporting hard and soft spinifex hummock grasslands with scattered acacia shrubs (GIS Database).
	The soil is mapped as Red deep sandy duplex.
Land degradation risk	Limited soil risk data exists for the soil and landscape systems mapped within the application area, please refer to section A5 below.
Waterbodies	The eastern boundary of the application area is approximately 80 to 380 meters west of Beebingarra Creek, a non-perennial major creek line. No watercourses or water bodies transect the application area (GIS Database).
Hydrogeography	The application area falls within the, Pilbara RIWI Ground Water Area and does not transect any Public Drinking Water Source Areas.
Flora	There are 14 species of conservation significant flora in local area (ENV, 2013; GIS Database). The nearest record is the Priority 3, <i>Euploca mutica</i> (formerly <i>Heliotropium muticum</i>), which occurs within the application area. A flora survey conducted by ENV (2013) recorded 630 <i>Euploca mutica</i> individuals distributed across 87 locations (see Appendix D).
	See Section A.3, for a flora habitat suitability analysis of conservation significant flora recorded in the local area.
Ecological communities	There are no mapped Priority or Threatened Ecological Communities located within the application area (GIS Database). The nearest mapped Priority Ecological Community (PEC) within the local area is the Eighty Mile Land System (Priority 3), which is located approximately 30.7 kilometres northeast of the application area (GIS Database).
Fauna	A desktop assessment of available databases identified 60 conservation significant fauna within the local area (GIS Database). ENV Australia Pty Ltd (2013) conducted a fauna survey of the application area, no conservation significant fauna was recorded during the survey (ENV 2013).
	See Section A.4, for a fauna habitat suitability analysis of conservation significant fauna recorded in the local area.

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 Pilbara	17,808,657.04	17,731,764.88	99.57	1,801,714.98	10.12
Beard vegetation association	ons			-	
Veg Assoc No. 589	807,698.58	802,713.40	99.38	15,304.39	1.90
Veg Assoc No. 93	3,044,309.52	3,040,640.98	99.88	59,536.96	1.96
Beard vegetation association - Carnarvon Bioregion	ons				
Veg Assoc No. 589	78,100.80	77,834.93	99.66	0	0
Veg Assoc No. 93	3,044,293.40	3,040,639.40	99.88	1.96	1.96
Total Vegetation Cover (ha)				
Local Area (20km radius)	1,281,889.35	639354.90	99.75	0	0

Government of Western Australia (2019)

A.3 Flora analysis table

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

Species name	Conservation status	Suitable habitat features ? [Y/N]	Suitable vegetatio n type? [Y/N]	Suitable soil type? [Y/N]	Distance of closest record to applicatio n area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Euploca mutica	P3	Y	Y	Y	0	131	Y
Rothia indica subsp. australis	P3	Y	Y	Υ	2.6	11	Y
<i>Tephrosia rosea</i> var. Port Hedland (A.S. George 1114)	P1	Y	Y	Y	8.6	24	у
Abutilon sp. Pritzelianum (S. van Leeuwen 5095)	P3	Y	Y	Y	11.6	36	Y
Gymnanthera cunninghamii	P4	Ν	Y	Ν	13	7	Y
Bulbostylis burbidgeae	P4	Y	Y	Y	14.4	11	Y
Gomphrena pusilla	P2	N	N	Ν	17.1	5	Y
Ptilotus mollis	P4	N	N	Ν	19.8	1	Y
Triodia chichesterensis	P3	Ν	Ν	Ν	20.7	8	Y
Gomphrena leptophylla	P3	Ν	Ν	Ν	21.3	1	Y
Euphorbia clementii	P3	Ν	У	Ν	29.5	3	Y
Atriplex eremitis	P1	Ν	Ν	Ν	43.6	4	Y
Triodia degreyensis	P1	Ν	У	Ν	47.3	1	Y
Stylidium weeliwolli	P3	Ν	Ν	Ν	49.8	1	Y

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

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)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
northern quoll (Dasyurus hallucatus)	EN	Y	Y	2.4	1063	Ν
Brush-tailed mulgara (<i>Dasycercus blythi</i>)	P4	Y	Y	3.3	278	Ν
Grey falcon (Falco hypoleucos)	VU	Y	Y	4.4	8	Ν
Osprey (Pandion cristatus)	MI	Y	Y	5.8	59	Ν
Bilby (Macrotis lagotis)	VU	Y	Y	6.4	37	Ν
North-western free-tailed bat (Mormopterus cobourgianus)	P1	Y	Y	8.8	5	Ν
Banded hare-wallaby (Lagostrophus fasciatus fasciatus)	VU	Y	Y	11.2	1	Y
Northwestern coastal Ctenotus (Ctenotus angusticeps)	P3	N	N	12.9	15	N/A
Crest-tailed mulgara (Dasycercus cristicauda)	P4	Y	Y	13	3	Ν
Pilbara leaf-nosed bat (<i>Rhinonicteris aurantia</i> (Pilbara))	VU	Y	Y	13.3	21	N
Ghost bat (Macroderma gigas)	VU	Y	Y	13.4	65	Ν
Western pebble-mound mouse	P4	Ν	Ν	13.7	11	Y

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

A.5 Land degradation risk table

Risk categories	Uaroo System
Wind erosion	No Data
Water erosion	No Data
Salinity	<3% of the map unit has a high susceptibility
Subsurface Acidification	<3% of the map unit has a high susceptibility
Flood risk	No Data
Water logging	No Data
Phosphorus export risk	No Data

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<u>Principle (a):</u> "Native vegetation should not be cleared if it comprises a high level of biodiversity."	May be at variance	Yes Refer to Section
Assessment:	Changed	3.2.1, above.
A review of desktop data from previous assessment identified one Priority flora species.	from CPS 6576/1	
<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."	May be at variance	Yes Refer to Section 3.2.1. above.
Assessment:	Changed from CPS	
The application area may contain foraging, roosting, habitat for conservation significant fauna.	6576/1	
<u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."	Not likely to be at	No
Assessment:	variance As per CPS	
The application area is unlikely to contain habitat for flora species listed under the BC Act.	6576/1	
<u>Principle (d):</u> "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."	Not likely to be at variance	No
Assessment:	As per CPS	
A review of desk top data from the previous decision report, did not determine any changes in the distribution or conservation status of threatened ecological communities within the application area.	6576/1	
Environmental value: significant remnant vegetation and conservation are	eas	
<u>Principle (e):</u> "Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."	Not at variance	No
Assessment:	As per CPS	
The extent of the mapped native vegetation in the local area (a radius of 50 kilometres from the boundary of the application area), is with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia, 2001). The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area.	0570/1	

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (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." Assessment:	Not at variance As per CPS 6576/1	No
As the nearest conservation area is Eighty Mile Beach Marine Park, located approximately 95 kilometres north-east of the application area, the proposed clearing is unlikely to impact on the values of any or nearby conservation areas (GIS Database).		
Environmental value: land and water resources	·	
Principle (f): "Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."	Not likely to be at variance	No
The application area is between 60 to105 meters west of Beebingarra Creek, as this is a non-perennial major creek line. The proposed clearing is not expected to impact on - or off-site hydrology and water quality.	As per CPS 6576/1	
<u>Principle (g):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."	Not likely to be at	No
<u>Assessment:</u> As the proposed clearing is for the purpose of sand mining the application area may be susceptible to wind erosion. Erosion management and rehabilitation of the cleared areas under conditions imposed by the <i>Mining</i> <i>Act 1978</i> will minimise the risk of soil erosion and land degradation in the long term.	As per CPS 6576/1	
<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."	Not likely to be at variance	No
Assessment: Given there are no permanent watercourses or wetlands connecting the application area to the adjacent Beebingarra Creek, the proposed clearing is unlikely to impact surface or ground water quality. The application area is not within a Public Drinking Water Source Area.	As per CPS 6576/1	
Principle (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."	Not likely to be at variance	No
Assessment:	As per CPS	
The mapped soils and topographic contours in the surrounding area do not indicate the proposed clearing is likely to contribute to increased incidence or intensity of flooding.	6576/1	
Beebingarra Creek is between 60 to105 meters west of amendment area is non perennial drainage line, only flowing briefly following significant rainfall. Temporary localised flooding may occur during heavy rainfall events, however given the scale of the proposed clearing, it is unlikely to increase the incidence or intensity of natural flooding events.		

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.

Biological survey information excerpts (ENV 2013)



Figure 2. Vegetation types identified within the application area.

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Figure 3. Represented by yellow dots, the distribution of *Euploca mutica* P3, (formaly *Heliotropium muticum* P1) within the application area. The purple dot represents *Goodenia nuda* formerly listed as Priority 4, currently not considered a conservation significant species.

Appendix E. Sources of information

E.1.GIS database

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

- 10 Metre Contours (DPIRD-073)
- Aboriginal Heritage Places (DPLH-001)
- Aboriginal Heritage Places (DPLH-001)
- Cadastre (LGATE-218)
- Cadastre Address (LGATE-002)
- 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)
- Hydrological Zones of Western Australia (DPIRD-069)
- IBRA Vegetation Statistics
- Local Planning Scheme Zones and Reserves (DPLH-071)
- 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 Mapping Best Available (DPIRD-027)
- Soil Landscape Mapping Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- ICMS (Incident Complaints Management System) Points and Polygons
- Threatened Flora (TPFL)
- Threatened Flora (WAHerb)
- Threatened Fauna
- Threatened Ecological Communities and Priority Ecological Communities
- Threatened Ecological Communities and Priority Ecological Communities (Buffers)

E.2.References

BoM (2025) Bureau of Meteorology Website - Climate Data Online, Laverton Aero. Bureau of Meteorology.

http://www.bom.gov.au/climate/data/ (Accessed 06 February 2025).

Braithwaite R.W. (1990) Australia's unique biota: implications for ecological processes. Journal of Biogeography 17: 347-354. Brookdale (2024) Clearing Permit Report CPS 6576/1 2024, Report prepared by Buckski Holdings Pty Ltd, September 2024 For the Department of Energy Mines Industrial Regulation Saftey.

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.

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4. Glossary

Acronyms:

BC Act	Biodiversity Conservation Act 2016, Western Australia
ВоМ	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DAWE	Department of Agriculture, Water and the Environment, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DEMIRS)
DoEE	Department of the Environment and Energy (now DAWE)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	Environmental Protection Act 1986, Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
TEC	Threatened Ecological Community

Definitions:

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

T <u>Threatened species:</u>

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.