



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	6019/3
Permit type:	Purpose Permit
Applicant name:	Hinckley Ridge Pty Ltd
Application received:	17 November 2023
Application area:	25 hectares
Purpose of clearing:	Groundwater Exploration
Method of clearing:	Mechanical Removal
Tenure:	Miscellaneous Licence 69/19
Location (LGA area):	Shire of Ngaanyatjarraku
Colloquial name:	Wingellina Nickel Groundwater Exploration Drilling Program

1.2. Description of clearing activities

Hinckley Ridge Pty Ltd proposes to clear up to 25 hectares of native vegetation within a boundary of approximately 21,780 hectares, for the purpose of groundwater exploration Hinckley Ridge Pty Ltd, 2023). The purpose of the clearing is to conduct groundwater exploration drilling. This will involve the drilling of up to 25 bores and pump-testing them to ascertain yield, quality, and long-term sustainability of the water supplies (Metals X, 2014). Each bore will require a drill pad area of approximately 40 metres by 40 metres. Up to 50 kilometres of track (up to four metres wide) may be necessary as no tracks exist in the area away from the Giles – Mulga Park Road (Metals X, 2014). The project is located approximately 200 kilometres northeast of Warburton, within the Shire of Ngaanyatjarraku (GIS Database).

Clearing permit CPS 6019/1 was granted by the Department of Mines and Petroleum (Now the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) on 24 April 2014 and was valid from 17 May 2014 to 17 May 2019. The Permit Holder applied to amend the clearing permit extending the permit duration by five years. The permit boundary was also amended to align with the current tenement boundary of Miscellaneous Licence 69/19, as the proponent voluntarily surrendered part of the tenement in 2015, as a result, the tenement is now smaller than the permit boundary.

The Department of Energy, Mines, Industry Regulation and Safety, granted the amendment CPS 6019/2 on 9 May 2019 and was valid from 17 May 2019 to 17 May 2024. On 7 November 2023, the proponent applied to amend the permit for the second time, extending the permit duration by five years. No clearing has occurred within the application area since the permit was originally granted in 2014, the area of clearing authorised and the permit boundaries remained unchanged.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	15 February 2024
Decision area:	25 hectares of native vegetation

1.4. Reasons for decision

This clearing permit amendment application was made in accordance with section 51KA of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) on 7 November 2023. DEMIRS advertised the application for public comment for a period of 7 days, and no submissions were received.

In undertaking the assessment, the Delegated Officer had regard for the site characteristics, relevant datasets, supporting information provided by the applicant including the results of previous flora and vegetation surveys and fauna surveys, the Clearing Principles set out in Schedule 5 of the EP Act, and any other matters considered relevant to the assessment.

The assessment has not changed since the assessment for CPS 6019/1 and 6019/2, except in the case of Principle (f), which is reviewed in section 3.2 below. The Delegated Officer determined that extending the duration of the permit by a further five years is unlikely to result in any significant additional impacts to environmental values.

1.5. Site map

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

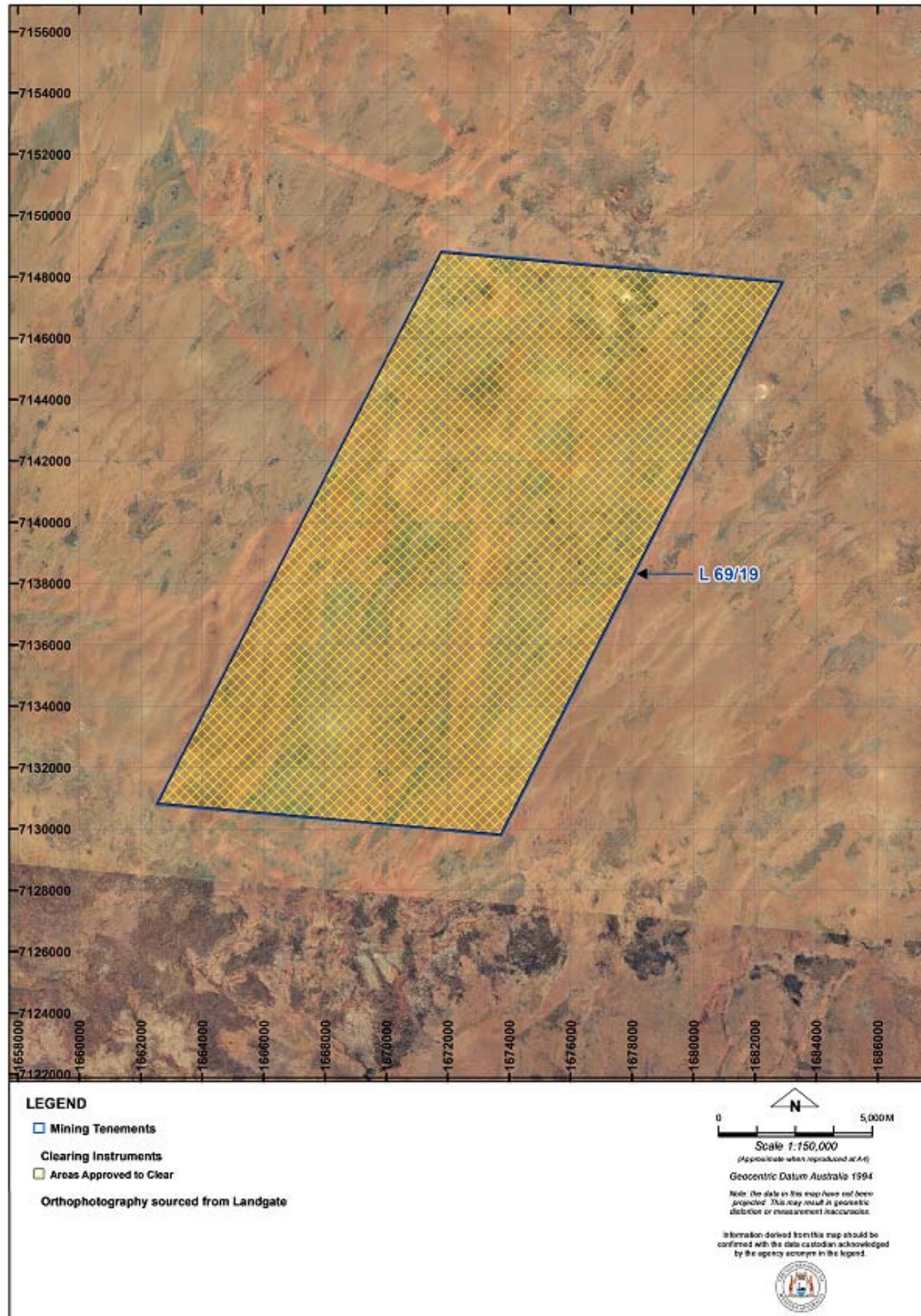


Figure 1. Map of the application area. The yellow area indicates the area within which conditional authorised clearing can occur under the granted clearing permit.

2. Legislative context

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

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

- the precautionary principle

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *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, 2016) (Delete if flora surveys not included)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

No evidence of avoidance or mitigation measures was provided to support the application.

3.2. Assessment of impacts on environmental values

A review of current environmental information (Appendix A) reveals that the assessment against the clearing principles has not changed significantly from the Clearing Permit Decision Report CPS 6019/1, and 6019/2. Both decision reports were reviewed in the following assessment. To date, the clearing authorised under CPS 6019/1 and CPS 6019/2 has not been undertaken, and the current amendment application is to increase the duration of the clearing permit by five years. Therefore, the biological surveys submitted in support of CPS 6019/1 (Outback Ecology, 2013a; 2013b) are still considered sufficient for the purpose of the current assessment.

Outback Ecology (2013a) identified three vegetation assemblages within the application area associated with dune crests, slopes and interdune plains. These assemblages fall within the vegetation types that are widespread within the region (Outback Ecology, 2013a), and according to available databases have not been identified as threatened or priority ecological communities in the interim since the CPS 6091/1 assessment (GIS Database).

Outback Ecology (2013a) identified nine Priority Flora species that may occur within the survey area. At the time of the CPS 6019/1 assessment, over half the application area was outside the survey area, therefore, there was the potential for conservation significant species to occur within the application area. To mitigate potential impacts to conservation significant flora, the implementation of a flora management condition was applied. In 2015, the tenement boundary was amended, therefore the permit boundary was amended to align with the current tenement boundary of Miscellaneous Licence 69/19. Although the application area has been reduced, a significant area of unsurveyed vegetation remains, therefore the continued implementation of a flora management condition is recommended.

At the time of the assessment for CPS 6019/1, *Calotis latiuscula* was classified as Priority 3 (Outback Ecology, 2013a) and the species was confined to occur within the local area. However, *Calotis latiuscula* is no longer considered to be of conservation significance and is no longer a priority species (Western Australian Herbarium, 1998-).

Outback Ecology (2013b) confirmed the presence of Brush-tailed Mulgara (*Dasymercus blythi*) within south-eastern portion of the application area (see Appendix C). Given the potential presence of Brush-tailed Mulgara and that the survey area only covered a portion of the application area, the fauna management condition to mitigate potential impacts to these fauna species should be retained. Informal records for Crest-tailed Mulgara (*Dasymercus cristicauda*) overlap the range of Brush-tailed Mulgara within the local area (Atlas of Living Australia, 2010), therefore fauna management condition for this species will also be retained.

Although Bilby (*Macrotis lagotis*) is not recorded in the local area, given the vulnerability of this species and the scarcity of detailed fauna surveys in the region, fauna management condition for this species will also be retained. Outback Ecology (2013b) recorded Pink Cockatoo (*Lophochroa leadbeateri*) within the local area, and at the time of survey this species was classified as S4 (Fauna that is in need of special protection) under the *Wildlife Conservation Act 1950*. The aforementioned act was replaced by the *Biodiversity Conservation Act 2016* (BC Act) and Major Mitchell's Cockatoo was de-listed under the new act.

Available databases indicated the presence of two non-permanent lakes within the application area (GIS Database). However, it has been determined that the proposed clearing is unlikely to be at variance to Principle (f), as both non-permanent lakes are located within cultural exclusion zones, as identified by the Ngaanyatjarra people (See Appendix C, Figure 5). Given that the cultural exclusion zones are to be avoided by the proponent, it is unlikely any vegetation growing in association with the above waterbodies will be significantly impacted by the proposed clearing.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 5 December 2023 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

The area under application falls within the Ngaanyatjarra Lands (Part A) native title claim (DPLH, 2024). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

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

Other relevant authorisations required for the proposed land use include:

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

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

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	<p>The application area is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia (GIS Database). The application area is located within the Central Ranges Interim Biogeographic Regionalisation for Australia (IBRA) region and Mann-Musgrave Block subregion, which comprises a portion of extensive inland dunes (GIS Database).</p> <p>Remnant vegetation within the local area (a radius of 50 kilometres from the boundary of the application area) is relatively undisturbed, except where vegetation has been clearing for the Giles-Muga Park Road running north-south through the application area.</p> <p>Aerial imagery indicates the local area (50 kilometre radius of the proposed clearing area) retains over 95 per cent of the original native vegetation cover (GIS Database).</p>
Ecological linkage	There are no mapped ecological linkages in the local area (a radius of 50 Kilometres from the boundary of the application area) (GIS Database).
Conservation areas	There are no conservation areas within the local area (GIS Database).
Vegetation description	<p>The applicant provided a level 1 (reconnaissance) floristic report that includes part of the application area, carried out by Outback Ecology in 2013 (see Appendix C for full vegetation descriptions). This report identified four vegetation types within the application area:</p> <ul style="list-style-type: none"> • AmOH: Scattered Tall Shrubs over <i>Aluta maisonneuvei</i> Heath on Dune Mid and Lower Slopes. • GsTOS: Tall Open Shrubland dominated by <i>Grevillea</i> over a tussock grassland on dune crests. • ATOSTHG: Open Acacia Shrubland/Woodland over Hummock Grassland on flats between Sand dunes. • Mulga: Mulga Woodland or Tall Shrubland of variable species. <p>The vegetation within the application area is broadly mapped as the following Beard vegetation associations:</p> <ul style="list-style-type: none"> • 18: Low woodland; mulga (<i>Acacia aneura</i>) • 230: Mosaic: Medium sparse woodland; desert oak between sand dunes / Hummock grasslands, grass steppe; hard spinifex <i>Triodia basedowii</i> (GIS Database).
Vegetation condition	Aerial imagery and a flora survey (Outback Ecology, 2013a) indicate vegetation within the application area in Excellent (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix B.
Climate and landform	<p>Climate: The annual average annual rainfall is 1032.7 millimetres (BoM, 2024). Mean annual temperature range from, 40.7 °C in December to 16.2 °C July.</p> <p>Landform: The application area is mapped with an elevation of 650 metres AHD (Australian Height Datum) and includes the landform system, AB60 Atlas system: Plains with many dunes often relatively short and of irregular shape (DPIRD, 2023).</p>
Soil description	<p>The soils within the application area are mapped as:</p> <p>AB60: Chief soils are red earthy sands (Uc5.21). Associated are red siliceous sands (Uc1.23) on the dunes and red earths (Gn2.12, Gn2.13) on the plains (Schoknecht et al., 2004).</p>
Land degradation risk	There is a paucity of data for this region, see Table A.3. Available datasets indicate that 75% of map unit has a high susceptibility to subsurface acidification (GIS Database).
Waterbodies	The desktop assessment and aerial imagery indicated that there are no water bodies intersecting the application area (GIS Database).
Hydrogeography	The application areas do not fall within any proclaimed surface or groundwater areas, Public Drinking Water Source Areas, or Country Areas Water Supply zones (GIS Database).
Flora	<p>According to available data sets the local area (50 kilometre buffer) contains records for three species of conservation significance, these include <i>Dicrastylis subterminalis</i> P1, <i>Goodenia gibbose</i> P3, <i>Vittadinia pustulata</i> P3.</p> <p>Outback Ecology (2013a) identified nine conservation significant flora that may occur within the application area. Refer to the flora analysis table section Appendix A.1 for further analysis of conservation significant flora.</p>
Ecological communities	According to available data sets there are no threatened or priority ecological communities mapped within the application area or the local area (GIS Database).

Characteristic	Details
Fauna	The applicant has provided a level 1 (reconnaissance) fauna report carried out by Outback Ecology in 2013. The survey recorded one Priority 4 species, the Brush-tailed Mulgara <i>Dasyercus blythi</i> , within the application area (Outback Ecology, 2013b). Seven conservation significant species were recorded in the local area. Informal records for Crest-tailed Mulgara (<i>Dasyercus cristicauda</i>), are recorded within the local area (Atlas of Living Australia, 2010).
Fauna habitat	Fauna habitats within the application area include, Mulga woodland, dune field tussock grassland with scatterer shrubs, hummock grassland, tussock grassland and open mulga-mallee over tussock grassland (Outback Ecology, 2013b).

A.1. Flora analysis table

The table below shows threatened and priority flora recorded within the local area that may occur within the application area based on the presence of suitable habitat.

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Suitable soil 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]
<i>Goodenia gibbosa</i>	P3	Y	Y	Y	47.1	2	N
<i>Dicrastylis subterminalis</i>	P1	Y	Y	Y	46.6	1	N
<i>Vittadinia pustulata</i>	P3	Y	Y	Y	49.8	1	N
<i>Eucalyptus sparsa</i>	P3	Y	Y	Y	49.5	7	N
<i>Goodenia modesta</i>	P3	Y	Y	Y	50	1	N
<i>Menkea lutea</i>	P1	Y	Y	Y	65.5	5	N
<i>Daviesia arthropoda</i>	P3	Y	Y	Y	67	1	N
<i>Neurachne lanigera</i>	P1	Y	Y	Y	-	*	N
<i>Thysanotus</i> sp. Desert East of Newman	P2	Y	Y	Y	-	*	N

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority *Outback Ecology (2013a) record only

A.2. Fauna analysis table

The below table shows threatened and priority fauna that may occur within the application area based on habitat suitability.

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]
Brush-tailed Mulgara (<i>Dasyercus blythi</i>)	P4	Y	Y	0	12	N
Grey falcon (<i>Falcon hypoleucos</i>)	VU	Y	Y	2	1	N
Great desert skink (<i>Liopholis kintorei</i>)	VU	N	N	30	1	N
Striated grasswren (sandplain) (<i>Amytornis striatus striatus</i>)	P4	Y	Y	30	1	N
MacDonnell Range black-footed rock-wallaby <i>Petrogale lateralis</i> subsp. MacDonnell Ranges	VU	N	N	41.2	4	N
Malleefowl (<i>Leipoa ocellata</i>)	T	Y	Y	47	1	N

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

A.3. Land degradation risk table

Risk categories	Land Unit 1
Wind erosion	No data
Water erosion	No data
Salinity	No data
Subsurface Acidification	75% of map unit has a high susceptibility
Flood risk	No data
Water logging	No data
Phosphorus export risk	No data

Appendix B. Vegetation condition rating scale

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

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

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

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

Appendix C. Biological survey information excerpts

Excerpts from Outback Ecology (2013a)

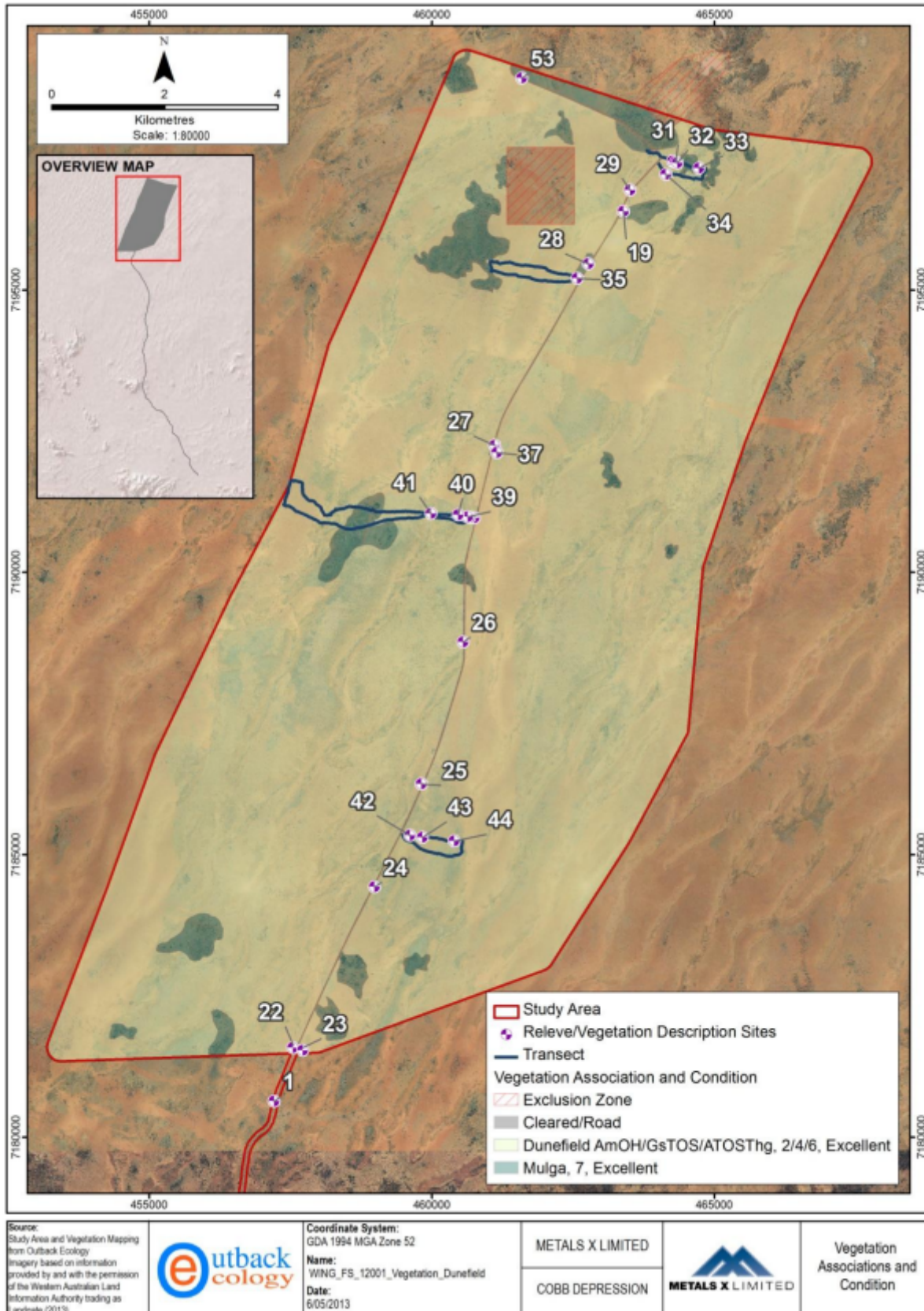






Figure 2. Map representing the vegetation types accruing within the application area.

Number	Vegetation Association	Type	Description	Notes
4	ATOSTHG	Open <i>Acacia</i> Shrubland/Woodland over Hummock Grassland on flats between Sand dunes.	Scattered Tall Shrubs to Tall Open Shrubland of <i>Acacia pruinocarpa</i> with other mixed <i>Acacia</i> species (<i>A. aneura</i> , <i>A. maitlandii</i> , <i>A. ligulata</i> , <i>A. minyura</i> , <i>A. pachyacra</i>) with occasional isolated trees or stands of <i>Allocasuarina decaisenei</i> / <i>Brachychiton gregorii</i> / <i>Corymbia opaca</i> and occasional patches of <i>Eucalyptus gamophylla</i> over a Low Open Shrubland to Scattered Shrubs of <i>Eremophila forrestii</i> subsp. <i>forrestii</i> , <i>Grevillea eriostachya</i> and +/- <i>Santalum lanceolatum</i> and <i>Aluta maisonneuvei</i> over a Hummock Grassland of <i>Triodia basedowii</i> and <i>T. schinzii</i> over an Open hermland of <i>Bonamia erecta</i> , <i>Leptosema chambersii</i> and <i>Androcalva loxophylla</i> on loam flats adjacent to sand dunes.	Occurs on the sandy loam flats between sand dunes. There is a gradual intergrade between this and AmOH where the <i>Aluta maisonneuvei</i> gradually thins out. This vegetation association is also interspersed with patches and groves of Mulga Woodland/shrubland. The density of composition of the upper storey is dependent on the frequency of fire, longer unburnt areas appeared to support a higher density of taller shrubs.
2	AmOH	Scattered Tall Shrubs over <i>Aluta maisonneuvei</i> Heath on Dune Mid and Lower Slopes	Tall Open Shrubland to Scattered Tall Shrubs of <i>Grevillea stenobotrya</i> with mixed <i>Acacia</i> (including <i>A. melleodora</i> , <i>A. ligulata</i> , <i>A. helmsiana</i> and/or <i>A. aneura</i>) and occasional stands of <i>Allocasuarina decaisneana</i> over an Open Heath to Heath of <i>Aluta maisonneuvei</i> (+/- occasional <i>Micromyrtus flavifolia</i>) over an Open Hummock Grassland of <i>Triodia schinzii</i> and <i>T. basedowii</i> with occasional tussocks of <i>Aristida holathera</i> var. <i>holathera</i> on the mid to lower slopes of sand dunes.	Consistently dominates the lower and mid slopes of dunes. The mix of shrubs present as overstorey and their density appears to depend on the frequency of fire to which the area has been exposed.
6	GsTOS	Tall Open Shrubland dominated by <i>Grevillea</i> over a tussock grassland on dune crests	Tall Open Shrubland to Scattered Shrubs of <i>Grevillea stenobotrya</i> , <i>Acacia ligulata</i> , (+/-) <i>Dodonaea viscosa</i> subsp. <i>angustissima</i> , <i>A. sericophylla</i> and <i>Corymbia chippendalei</i> over a Low Open Shrubland to Scattered Low Shrubs of <i>Santalum lanceolatum</i> and +/- <i>Indigofera georgei</i> , <i>Senna artemisioides</i> subsp. <i>x artemisioides</i> and <i>Aluta maisonneuvei</i> (which is more dominant on dune slopes, but occurs sparsely at crests) over an Open Tussock Grassland of <i>Aristida holathera</i> var. <i>holathera</i> (+/- <i>Eragrostis eriopoda</i> and <i>Triodia schinzii</i>) on crests of red sand dunes.	Consistently dominates the crests of dunes and differs from adjacent areas within the dune fields by the dominance of <i>Grevillea</i> spp. and tussock grasses rather than the <i>Triodia</i> spp.
7	Mulga	Mulga Woodland or Tall Shrubland of variable species	Mulga Woodland to Tall Shrubland of variable species including <i>Acacia aneura</i> , <i>A. aptaneura</i> , <i>A. pteraneura</i> and <i>A. minyura</i> , <i>A. ?ayersiana</i> with hybridisation of these occurring (+/- <i>A. ligulata</i> and <i>A. pruinocarpa</i>) over a Low Open Shrubland to scattered shrubs of <i>Eremophila latrobei</i> subsp. <i>latrobei</i> (+/- <i>E. clarkei</i>) over a predominantly Open Tussock Grassland of <i>Eragrostis eriopoda</i> and <i>Eriachne helmsii</i> , with some dominance by Hummock Grasses (<i>Triodia schinzii</i> and <i>T. basedowii</i>) particularly at the interface with the dominant flats community on loamy clay to clay flats.	Occurs through the study area in variable sized patches and linear groves. Prone to encroachment by <i>Triodia</i> spp. after fire.

Figure 3. Descriptions of vegetation types, occurring within the application area.

W23	<p>Open Shrubland to Scattered Shrubs of <i>Grevillea eriostachya</i> over an Open Heath of <i>Aluta maisonneuvei</i> over an Open Hummock Grassland of <i>Triodia basedowii</i> on red sand dune lower to mid slopes.</p>	
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W24	<p>Tall Open Shrubland to Open Shrubland of <i>Acacia pruinocarpa</i>, <i>A. aneura</i> and <i>A. maitlandii</i> over an Open Shrubland of <i>Aluta maisonneuvei</i> and <i>Micromyrtus flavifolia</i> over a Hummock Grassland of <i>Triodia schinzii</i>.</p>	
W25	<p>Isolated <i>Brachychiton gregorii</i> over scattered tall Shrubs of <i>Acacia pruinocarpa</i> and <i>Eucalyptus gamophylla</i> over an Open Shrubland of <i>Grevillea eriostachya</i> and <i>Aluta maisonneuvei</i> (with <i>Aluta</i> becoming more dominant towards the base of dunes) over a Low Open Shrubland of <i>Androcalva loxophylla</i> over a Hummock Grassland of <i>Triodia basedowii</i> on red loam flats between dunes.</p>	
W27	<p>Scattered Tall Shrubs of <i>Acacia pruinocarpa</i> over <i>A. pachyachra</i> and <i>A. maitlandii</i> over a Low Open Shrubland of <i>Eremophila forrestii</i> subsp. <i>forrestii</i> over a Hummock Grassland of <i>Triodia basedowii</i> on red loam flats between dunes.</p>	
W29	<p>Open Woodland of <i>Corymbia opaca</i> over a mixed <i>Acacia</i> shrubland on red loam flats (smaller shrubs and grasses have been recently burnt so unable to describe)</p>	



W32	<p>Mixed Tall Shrubland to Tall Open Shrubland of <i>Acacia pruinocarpa</i>, <i>A. aneura</i>, <i>A. ligulata</i> and <i>A. minyura</i> over a Hummock Grassland of <i>Triodia basedowii</i>.</p>	
W41	<p>Tall Open Shrubland of <i>Acacia sericophylla</i> with scattered <i>Corymbia chippendalei</i> over a Low Open Shrubland of <i>Indigofera georgei</i> and <i>Aluta maisonneuvei</i> over an Open Tussock Grassland of <i>Aristida holathera</i> var. <i>holathera</i> on red sand dunes.</p>	

Figure 4. Examples of relevé recorded in the application area. See figure 2 for relevé locations.

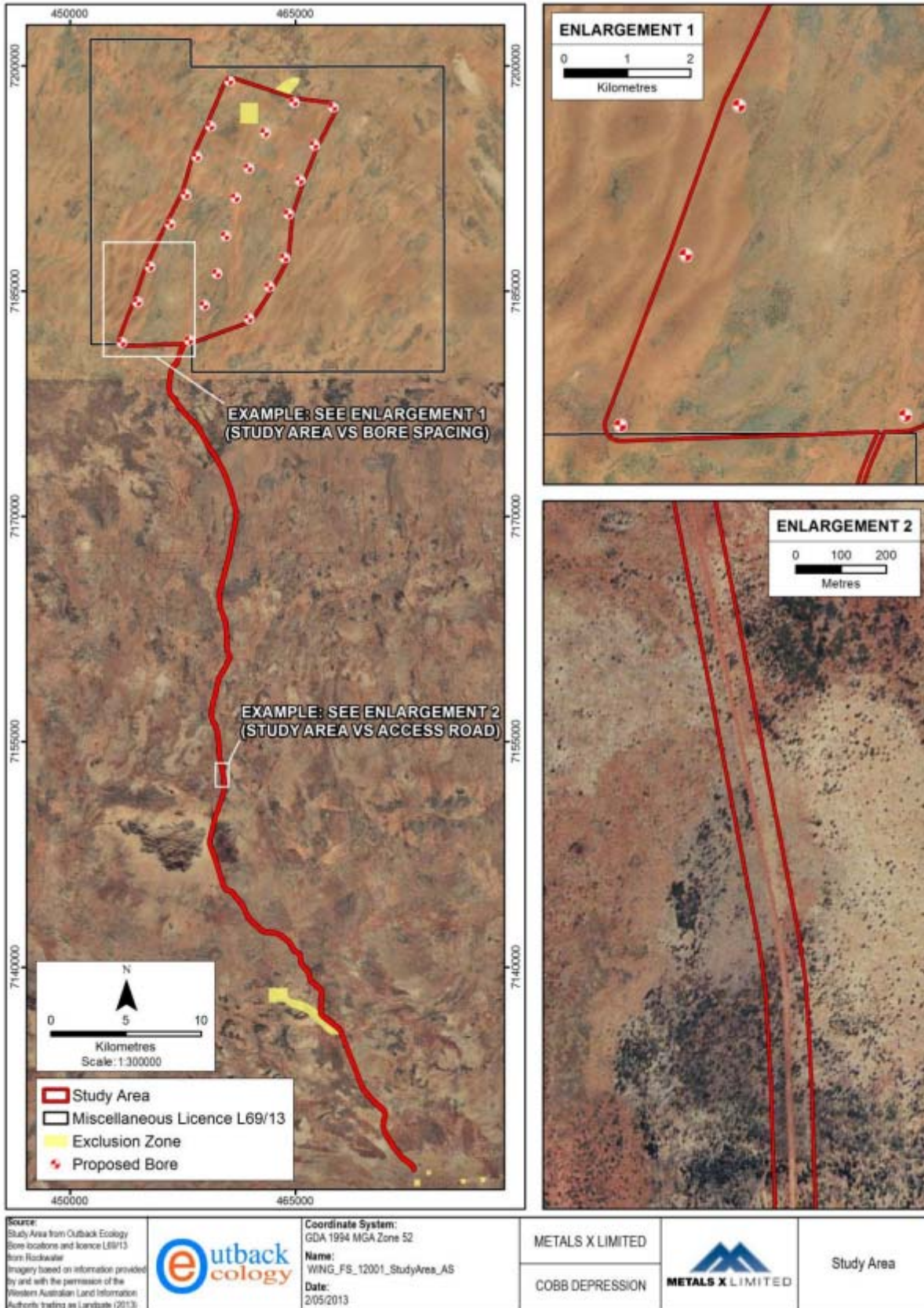


Figure 5. Cultural exclusion zones within the application area.

Appendix D. Sources of information

D.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Bush Forever (Regional Scheme) (DPLH-022)
- Clearing Regulations – Schedule One Areas (DWER-057)

- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- Flood Risk (DPIRD-007)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Interim Ramsar Sites (DBCA-010)
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

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

D.2. References

- Atlas of Living Australia (2010) CSIRO - Commonwealth Scientific and Industrial Research. [Atlas of Living Australia – Open access to Australia's biodiversity data \(ala.org.au\)](https://ala.org.au) (Accessed 23 January 2024).
- Hinckley Ridge Pty Ltd (2023) Clearing permit application form, CPS 6019/3, received 7 November 2023.
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4. Glossary

Acronyms:

BC Act	<i>Biodiversity Conservation Act 2016</i> , Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DCCEEW	Department of Climate Change, Energy, the Environment and Water, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety

DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia (now DEMIRS)
DMP	Department of Mines and Petroleum, Western Australia (now DEMIRS)
DoEE	Department of the Environment and Energy (now DCCEE)
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	<i>Environmental Protection Act 1986</i> , Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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	<i>Rights in Water and Irrigation Act 1914</i> , 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 Threatened species:

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

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

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

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

CR Critically endangered species

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

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

EN Endangered species

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

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

VU Vulnerable species

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

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

Extinct Species:

EX Extinct species

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

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

EW

Extinct in the wild species

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

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

Specially protected species:

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

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

MI

Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD

Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS

Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P

Priority species:

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

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

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

P1

Priority One - Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 Priority Two - Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 Priority Three - Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

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

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

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

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

Principles for clearing native vegetation:

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