

1. Application details and outcomes

1.1. Permit application details

Permit number:	10471/1
Permit type:	Purpose Permit
Applicant name:	Great Western Exploration Limited
Application received:	4 January 2024
Application area:	4 hectares
Purpose of clearing:	Mineral Exploration and Associated Activities
Method of clearing:	Mechanical Removal
Tenure:	Exploration Licence 69/3443
Location (LGA area/s):	Shire of Wiluna
Colloquial name:	Fairbairn Drilling Programme

1.2. Description of clearing activities

Great Western Exploration Limited proposes to clear up to 4 hectares of native vegetation within a boundary of approximately 48 hectares, for the purpose of mineral exploration and associated activities. The project is located approximately 170 kilometres north of Wiluna, within the Shire of Wiluna.

The application is to allow for the construction of a track, three drill pads, and an exploration camp (Great Western Exploration, 2024a). The proposed clearing method will be raised-blade using a mechanical front-end loader (Great Western Exploration, 2024a).

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	11 April 2024
Decision area:	4 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 E), supporting information provided by the applicant, the clearing principles set out in Schedule 5 of the EP Act (Appendix B), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3).

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- potential impacts to conservation significant flora and/or their habitats; and
- the loss of native vegetation that is suitable habitat for a number of conservation significant fauna species.

After consideration of the available information, as well as the applicant's minimisation and mitigation measures (see Section 3.1), the Delegated Officer determined the proposed clearing can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- conduct clearance surveys for conservation significant fauna species prior to clearing; and
- conduct a targeted flora survey for the presence of threatened or priority flora.

In addition to the above, it is recommended that adequate field surveys for flora, vegetation, and fauna values be undertaken prior to submitted additional clearing permits should further exploration activities be planned.

2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

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

The key guidance documents which inform this assessment are:

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

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

Great Western Exploration (2021; 2024b) have prepared an environmental policy and guideline outlining their planning and management measures to minimise adverse impacts to the environment as a result of their exploration activities. The environmental policy and guideline provide a general baseline for exploration activities but are non-specific to the application area (Great Western Exploration, 2021; 2024b).

As part of their planning procedures Great Western Exploration (2021; 2024b) will follow the subsequent principles:

- plan drill holes or proposed clearing in natural clearings to reduce need to remove native vegetation
- utilise pre-existing tracks where possible
- avoid (if possible) propose to remove substantial vegetation, e.g., trees
- avoid design drill holes within 50 metres of a stream
- avoid (if possible) proposing holes on steep terrain

During their earth disturbing activities, Great Western Exploration have stated they will follow the subsequent principles:

- use existing access tracks and clearings wherever possible
- utilise standard pad and track sizes
- use appropriately sized machinery for the required task and avoid the use of large, unnecessary equipment that will cause excessive damage to vegetation and soil
- avoid significant vegetation and plan holes, pads, camp, etc around significant vegetation
- if safe, remove branches as opposed to removing the whole tree or move the drill hole rather than clearing the only patch of scrub
- use raised blade clearing, to preserve root stock and top soil
- avoid drilling on slopes (slope greater than 5 degrees), as the 'cut and fill' process requires additional impact on the environment and difficult to remediate. Alternatives include: repositioning the hole; use rig jacks, etc
- do not over handle / compact or otherwise destroy topsoil
- ensure topsoil is stockpiled separately (not pushed into other vegetation) and left undisturbed until ready to re-spread
- where possible and without compromising safety, construct pads with the smallest possible cleared area
- where cut and fill pads are required, the estimated disturbed tonnes and area must take in to account the additional disturbance of the cut and fill
- cease drilling operations if water discharged from sumps cannot be contained to:
 - avoid killing or affecting establishment and survival of vegetation from salt or other contaminants
 - avoid soil contamination
 - avoid sedimentation that may impact vegetation or alter the dynamics of natural drainage systems
 - avoid erosion
- locate sumps away from the drip line of significant vegetation to avoid damaging root structure
- locate sumps away from drainage lines and riparian vegetation
- sumps must allow fauna egress
- regularly inspect sumps and pits to identify and assist trapped fauna
- ensure operators, including contractors undertake 'weed hygiene', such as vehicle and equipment clean down procedures
- where necessary, undertake weed eradication programs
- ensure all vehicles and equipment introduced to site must be cleaned down and free from seeds and weeds.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise general environmental impacts regard to exploration activities, however the above measures were not adequately informed by baseline environmental surveys specific to the application area.

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 presents a risk conservation significant fauna and their associated habitats. 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 (Section 3.2.1; Appendix B).

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

Assessment

No fauna surveys have been conducted over the application area. Based on a flora and vegetation desktop assessment conducted by Matiske (2024), the following fauna habitats were inferred from vegetation and landform descriptions, in addition to photographs of the application area (Appendix D):

- Sandplain
- Slopes
- Sand dunes

A database search and evaluation of the returned conservation significant fauna species (EPA, 2020; GIS Database) identified that the proposed clearing may have significant impacts on the following species (A.4):

- brush-tailed mulgara (*Dasyercus blythi*, P4)
- unpatterned robust slider (Robertson Range) (*Lerista macropisthopus remota*, P2)
- great desert skink (*Liopholis kintorei*, VU)
- greater bilby (*Macrotis lagotis*, VU)
- northern marsupial mole (*Notoryctes caurinus*, P4)

The above species were determined to be potentially impacted by the proposed clearing based on known distribution and habitat preferences, and their likelihood of occurrence within the application area, accounting for local environment, age and location of records, ecological knowledge and regional context (EPA, 2020).

Brush-tailed mulgara (*Dasyercus blythi*, P4)

Brush-tailed mulgaras are generally found on *Triodia* sandplain and swales between low dunes with an absence of dense shrubs (Körtner et al., 2007; Molyneux et al., 2017; NESP Threatened Species Recovery Hub, 2021a). Brush-tailed mulgaras have also been identified to repeatedly use great desert skink burrows; thus, it is not unreasonable to conclude that these two species may both be present within the application area (Molyneux et al., 2017).

There are 28 records of brush-tailed mulgara within 50 kilometres of the application area, with the earliest record from 2010 (GIS Database). Despite the under surveying for fauna at the Little Sandy Desert and Gascoyne bioregion interzone there is a notably higher density of records for brush-tailed mulgara when compared to the broader bioregions (GIS Database).

Great desert skink (*Liopholis kintorei*, VU)

There are six records (camera traps and secondary evidence) of great desert skink within 50 kilometres of the application area, from 2020 and 2021 (GIS Database). These records are associated with the known great desert skink population (as of 2022) within the Birriliburu Indigenous Protected Area (IPA), where more than 20 active burrows have been located (DCCEEW, 2023a; GIS Database). The Birriliburu IPA boundary is located less than 2 kilometres east of the application area (GIS Database).

Great desert skinks commonly occur on open spinifex sandplains and adjacent dune field swales (DCCEEW, 2023a). Burrows are often developed from old holes originally constructed by other burrowing animals, such as brush-tailed mulgara (DCCEEW, 2023a). Based on satellite imagery, the great desert skink records occur within comparable habitats as those found within the application area (GIS Database). Great desert skinks typically establish burrows within 0 to 9 kilometres of their parents' burrow, thus there is a potential for the Birriliburu IPA population to have dispersed into the application area (DCCEEW, 2023a; Dennison et al., 2015). Mining related development is a known threat to great desert skink populations, resulting in loss of habitat and fragmentation (DCCEEW, 2023a). Direct impacts from clearing include the destruction of burrows by heavy machinery, increased mortality due to roadkill, and potentially increasing predator activity in areas with increased human habitation (DCCEEW, 2023a).

Greater bilby (*Macrotis lagotis*, VU)

The application area is located within the current greater bilby distribution, and based on habitat modelling, greater bilbies are, or their habitat is likely to occur within the application area (DCCEEW, 2023b; GIS Database). The national recovery plan states that critical habitat to the survival of greater bilby can be considered to include any area where the species is known or likely to occur on the distribution map found on the greater bilby SPRAT profile (Commonwealth of Australia, 2008; DCCEEW, 2023b).

Bilbies occupy a range of habitats including open tussock grassland on uplands and hills, mulga woodland/shrubland growing on ridges and rises, hummock grassland on plains and in alluvial areas, and their distribution is limited by the availability of soils suitable for burrowing, such as sandy areas, where burrow excavation is easier (DCCEEW, 2023b).

There have been a number of records of greater bilby within the Little Sandy Desert, and nearby within Gascoyne and Murchison bioregions since 2000 (GIS Database). This is likely due to the reintroduction of bilbies in 2007 and 2009 within the intensively managed Matuwa Indigenous Protected Area, located approximately 120 kilometres southeast of the application area (DCCEEW, 2023b; GIS Database). Bilbies have since spread throughout most of the intensively managed area and have also colonised adjacent areas (DCCEEW, 2023b).

Threats to greater bilbies as a result of mining development include habitat loss, fragmentation, and degradation, and the introduction of weeds and pest species (DCCEEW, 2023b). The application area falls within the survey and liaison zone, which are identified as areas where further bilby surveys and consultation with land managers will be required (DCCEEW, 2023b). In addition, it is recommended that surveys for bilbies be undertaken where development or land management activities are proposed that could potentially affect the species and/or habitat suitable for the species (DBCA, 2017).

Northern marsupial mole (*Notoryctes caurinus*, P4)

Based on habitat suitability modelling, the application area is located within the medium to high suitability area for the species (NESP Threatened Species Recovery Hub; 2021b). Northern marsupial moles are most often recorded in sandy dune and sandy plain habitats; however little is known about the habitat requirements for the species (Benshemesh, 2004). Given the former habitats are present within the application area, there are recent records of the species within 50 kilometres, and there is limited knowledge regarding the ecology of the species, as a precautionary measure a pre-clearance survey is recommended.

Brush-tailed mulgara, greater bilby, and northern marsupial mole were recorded at the nearby Beyondie Sulphate of Potash Project, located approximately 40 kilometres north-northwest of the application area within analogous habitats to those within the application area (shrubland and grassland on sandplains and sand dunes) (Phoenix, 2018).

Conclusion

Brush-tailed mulgara: Given the application area primarily consists of preferred brush-tailed mulgara habitat, and there have been an abundance of records within the local area from the past 14 years, there is a potential for the species to be present. Without adequate surveying to determine their absence from the application area, it is to be assumed they may be directly and indirectly impacted from the proposed clearing.

Great desert skink: Records and known populations of great desert skink occur to the north and south of the application area. Conservation objects of the national recovery plan relevant to the proposed clearing include:

- the species range remains stable
- extent of occurrence in 2032 is equal to that in 2023
- estimated number of active burrows across the range exceeds 10,000.

Recovery strategies to help achieve the above objectives include determining the species current distribution and number of subpopulations, particularly around the edge of their range; and to protect habitat from impacts of mining (DCCEEW, 2023a). Given preferred habitat for the species is present, surveys are recommended.

Greater bilby: As there are known nearby populations and contemporary records of greater bilbies within proximity to the application area, as well as suitable sandy habitat available, the proposed clearing may potentially significantly impact bilbies. As no fauna surveys have been undertaken within the application area, a fauna management condition requiring pre-clearance surveys is recommended.

Northern marsupial mole: An absence of records within the region for the species is expected given their elusive nature and the associated difficulties in detecting their presence. The overall lack of surveys within the region has potentially contributed to the deficiency of records of northern marsupial mole. A pre-clearance survey is recommended given the application is located within the species known range, and has been modelled as having a medium to high habitat suitability.

The area proposed to be cleared and broader bioregion are under-surveyed for conservation significant flora, vegetation, and fauna values (DBCA, 2023a). In the absence of survey information, it is difficult to accurately determine the significance of potential impacts to flora, vegetation, and fauna values. Due to the deficiency of baseline biodiversity data, the proposed clearing was assessed utilising the precautionary principle, defined under section 4A of the EP Act.

The applicant may have notification responsibilities under the EPBC Act for impacts to great desert skink and greater bilby and their habitats, as set out in the EPBC Act. The applicant has been advised to contact the federal Department of Climate Change, Energy, the Environment and Water (DCCEEW) to discuss EPBC Act referral requirements.

Conditions

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

- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity;
- conduct clearance surveys for conservation significant fauna species prior to clearing.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 21 January 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 (WCD2017/011) over the area under application (DPLH, 2024). This claim has been registered determined by the Federal Court on behalf of the claimant group (Marputu). 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 area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is located within the Trainor subregion of the Little Sandy Desert bioregion, and closely borders the Carnegie and Augustus subregions of the Gascoyne bioregion (GIS Database).</p> <p>The proposed clearing area is surrounded by Crown Reserves, Unallocated Crown Land, and Pastoral Leases (GIS database). Approximately 99% of the local area (50 kilometre radius from the application area) remains uncleared (GIS Database).</p>				
Ecological linkage	The application area is not considered a significant ecological linkage. The vegetation immediately surrounding the application area and the majority of the region remains uncleared (GIS Database).				
Conservation areas	The application area is not located within any DBCA legislated conservation areas (GIS Database). The nearest legislated conservation area is the Collier Range National Park, located approximately 92 kilometres northwest of the application area (GIS Database).				
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation associations:</p> <p>18: Low woodland; mulga (<i>Acacia aneura</i>); and</p> <p>1195: Mosaic: Low woodland; mulga in valleys / Hummock grasslands, shrub steppe; <i>Acacia</i> species over <i>Triodia basedowii</i> (GIS Database).</p> <p>No flora and vegetation surveys have been conducted over the application area, however Matiske (2024) undertook a desktop assessment for flora and vegetation. Vegetation types were primarily described based on photographs taken at multiple locations throughout the application area (Great Western 2023a; 2023b; Matiske, 2024; GIS Database; Appendix D). The vegetation within the application area can be broadly described as one of the following:</p> <ul style="list-style-type: none"> • <i>Triodia</i> hummock grassland on red sand flats. • <i>Acacia aneura</i> low woodland over grasses, including <i>Triodia</i> species. • <i>Eragrostis</i> species and/or <i>Eriachne</i> species on the lower slope and <i>Triodia</i> species on the dune faces and tops. 				
Vegetation condition	<p>Photographs indicate the vegetation within the proposed clearing area is in excellent and very good condition (Trudgen, 1991), described as</p> <ul style="list-style-type: none"> • 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. <p>The full Trudgen (1991) condition rating scale is provided in Appendix C. Representative photos are available in Appendix D.</p>				
Climate and landform	<p>The climate of the Trainor subregion is described as arid, with the nearest weather station recording an average rainfall of approximately 240.6 millimetres per year (BoM, 2024; CALM, 2002).</p> <p>The application area is mapped at elevations of 600-650 metres Australian height datum (GIS Database). Broadly mapped landform units have the following descriptions (DPIRD, 2024; Northcote et al., 1960-68; GIS Database):</p> <ul style="list-style-type: none"> • upland sand plains with occasional dunes and minor inclusions of associated plains; • plains with a variable, but usually high, proportion of longitudinal sand dunes, and with some clay pans; scattered sandstone hills and laterite residuals are common; and • partially dissected pediments with some low stony hills on fine-grained sedimentary rocks and basic dykes. 				
Soil description	<p>The soils within the application area are broadly mapped as (DPIRD, 2024; Northcote et al., 1960-68; GIS Database):</p> <table border="1"> <thead> <tr> <th>SYSTEM</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>AB14 (32 ha)</td> <td>red sandy earth, red deep sand, red loamy earth, red-brown hardpan shallow loam, stony soil</td> </tr> </tbody> </table>	SYSTEM	DESCRIPTION	AB14 (32 ha)	red sandy earth, red deep sand, red loamy earth, red-brown hardpan shallow loam, stony soil
SYSTEM	DESCRIPTION				
AB14 (32 ha)	red sandy earth, red deep sand, red loamy earth, red-brown hardpan shallow loam, stony soil				

Characteristic	Details
	<p>AB44 (12.9 ha) red deep sand, red sandy earth, red loamy earth, red shallow loam, loamy gravel, red deep sandy duplex, red shallow sandy duplex</p> <hr/> <p>Oc49 (3.2 ha) red-brown hardpan shallow loam, red shallow loam, red shallow loamy duplex, red deep loamy duplex, calcareous loamy earth, stony soil, red shallow sandy duplex, calcareous shallow loam, red deep sandy duplex, red shallow sand</p> <hr/>
Land degradation risk	The soils mapped within the application area are generally not susceptible to erosion, and given no mapped watercourses intersect the application area there is little potential for water erosion to occur (DPIRD, 2024; Northcote et al., 1960-68; GIS Database).
Waterbodies	No mapped non-perennial or permanent watercourses intersect the application area (GIS Database).
Hydrogeography	<p>The application area is not within any mapped Public Drinking Water Source Areas or legislated surface water areas (GIS Database).</p> <p>The application area is located within the East Murchison Groundwater Area proclaimed under the <i>Rights in Water and Irrigation Act 1914</i> (GIS Database).</p> <p>The mapped groundwater salinity is 1,000-3,000 total dissolved solids milligrams per litre, which is described as brackish water quality (GIS Database).</p>
Flora	There are records of 41 priority and one threatened flora species within a 50 kilometre radius of the application area (GIS Database).
Ecological communities	There are no mapped threatened or priority ecological communities within the application area (GIS Database). The nearest ecological community is the 'Lee Steere Range vegetation complexes (banded ironstone formation)' priority ecological community (P1), located approximately 45.3 kilometres southeast of the application area (GIS Database).
Fauna	There are records of 13 conservation significant fauna species recorded within a 50 kilometre radius of the application area (GIS Database).

A.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent Remaining %	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA Managed Lands
IBRA Bioregion - Little Sandy Desert	11,090,276	11,088,324	~99	514,038	4.64
Beard vegetation associations - State					
18	19,892,306	19,843,148	~99	1,317,179	6.62
1195	424,642	424,642.41	~100	N/A	N/A
Beard vegetation associations - Little Sandy Desert bioregion					
18	234,593	234,593	~100	N/A	N/A
1195	413,573	413,573	~100	N/A	N/A

Government of Western Australia (2019)

A.3. Flora analysis table

The following conservation significant flora species have records within a 50 kilometre radius of the application area (GIS Database). Habitat suitability and likelihood of occurrence was determined by comparing the known or likely soils, topography, terrain, and vegetation present within the application area, with the known characters for the taxon under assessment (Mattiske, 2024; WAH, 1998-; GIS Database).

The following ranking criteria was used to determine the likelihood for any of significant flora to be present (Mattiske, 2024):

Likelihood value	Criteria
Unlikely	the combination of soil, habitat, terrain, and associated vegetation associated with the taxon being assessed is completely at variance to that known or expected to be within the survey area
Low	the combination of soil, habitat, terrain, and associated vegetation associated with the taxon being assessed exhibits a low level similarity with the assessment characters to that known or expected to be within the survey area (e.g. similar soils, but all other characters at variance)
Medium	the combination of soil, habitat, terrain, and associated vegetation associated with the taxon being assessed exhibits similarity with at least two of the assessment characters to that known or expected to be within the survey area (e.g. soil and terrain, but variance with associated vegetation)
High	the combination of soil, habitat, terrain, and associated vegetation associated with the taxon being assessed is very similar to that known or expected to be within the survey area.
Known to be present	the taxon has been recorded within the survey area

Species	Conservation status	Distance of closest record to application area (km)	Likelihood of occurrence	Habitat suitability
<i>Aristida jerichoensis</i> var. <i>subspinulifera</i>	P3	18.5	unlikely	no suitable habitat
<i>Bothriochloa decipiens</i> var. <i>cloncurrans</i>	P1	39.7	unlikely	no suitable habitat
<i>Calytrix praecipua</i>	P3	25	unlikely	no suitable habitat
<i>Comesperma sabulosum</i>	P3	22.6	high	suitable habitat present
<i>Comesperma viscidulum</i>	P4	11.4	medium	some suitable habitat present
<i>Dampiera atriplicina</i>	P3	26	medium	some suitable habitat present
<i>Daviesia arthropoda</i>	P3	21.9	medium	some suitable habitat present
<i>Eremophila anomala</i>	P1	42.5	unlikely	some suitable habitat present
<i>Eremophila arachnoides</i> subsp. <i>arachnoides</i>	P3	30.6	unlikely	no suitable habitat
<i>Eremophila laccata</i>	P1	4.2	low	very limited habitat available
<i>Eremophila shonae</i> subsp. <i>diffusa</i>	P3	48.9	unlikely	no suitable habitat
<i>Eremophila</i> sp. Katjarra South	P1	35.1	unlikely	no suitable habitat
<i>Eremophila</i> sp. Ostrina	P1	25.2	unlikely	no suitable habitat
<i>Eucalyptus semota</i>	P1	48.2	unlikely	no suitable habitat
<i>Euphorbia sarcostemmoides</i>	P1	11.3	unlikely	no suitable habitat
<i>Frankenia glomerata</i>	P4	48.9	unlikely	no suitable habitat
<i>Goodenia modesta</i>	P3	24	medium	some suitable habitat present
<i>Goodenia</i> sp. Beyondie	P1	37.1	unlikely	no suitable habitat
<i>Gunniopsis</i> sp. Blue Hills	P1	48.9	unlikely	no suitable habitat
<i>Gunniopsis</i> sp. Lake Kerrylyn	P1	26.1	unlikely	no suitable habitat
<i>Hibiscus chrysinocolla</i>	P1	9.6	low	very limited habitat available
<i>Lawrencia</i> sp. Blue Hills	P1	49	unlikely	no suitable habitat
<i>Maireana prosthecochaeta</i>	P3	21.8	unlikely	no suitable habitat
<i>Minuria</i> sp. Little Sandy Desert	P1	22.6	unlikely	no suitable habitat
<i>Mitrasacme katjarranka</i>	P1	26.6	low	very limited habitat available
<i>Oxalis</i> sp. Pilbara	P2	7.8	low	very limited habitat available
<i>Ptilotus chrysocomus</i>	P1	4.3	unlikely	no suitable habitat
<i>Ptilotus daphneae</i>	P1	30	unlikely	no suitable habitat
<i>Samolus</i> sp. Fortescue Marsh	P1	37.2	unlikely	no suitable habitat
<i>Stackhousia clementii</i>	P3	45	low	very limited habitat available
<i>Stackhousia</i> sp. Lake Mackay	P1	25.2	unlikely	no suitable habitat
<i>Swainsona katjarra</i>	P1	33.1	unlikely	no suitable habitat
<i>Tecticornia bibenda</i>	P1	38.2	unlikely	no suitable habitat
<i>Tecticornia enodis</i>	P1	26.1	unlikely	no suitable habitat
<i>Tecticornia globulifera</i>	P1	35.5	unlikely	no suitable habitat
<i>Tecticornia papillata</i>	P1	48.9	unlikely	no suitable habitat
<i>Tecticornia</i> sp. Christmas Creek	P1	31.3	unlikely	no suitable habitat

<i>Tecticornia willisii</i>	P1	29.1	unlikely	no suitable habitat
<i>Tetratheca chapmanii</i>	P1	24.9	unlikely	no suitable habitat
<i>Thryptomene wittweri</i>	T (VU)	5.2	unlikely	no suitable habitat
<i>Triodia birriliburu</i>	P3	12.6	high	suitable habitat present
<i>Vittadinia pustulata</i>	P3	7.6	medium	some suitable habitat present

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

A.4. Fauna analysis table

The following conservation significant fauna species have records within a 50 kilometre radius of the application area, or habitat modelling has indicated the species may occur (GIS Database). Habitat suitability, likelihood of occurrence, and impact was determined utilising a range of sources, and each species known distribution and habitat preferences were evaluated and compared to the available fauna habitats within the application area (Benshemesh, 2004; 2007; BirdLife Australia, 2017; Commonwealth of Australia, 2008; Dennison et al., 2015; DBCA, 2017; 2023a; 2023b; DEPW, 2021a; 2021b; DPaW, 2017; Great Western Exploration; 2023a; Hill & Ward, 2010; Johnstone & Storr, 2004; Körtner et al., 2007; Molyneux et al., 2017; NESP Threatened Species Recovery Hub, 2021a; 2021b; Storr et al., 1999; WAM, 2017; GIS Database).

Species name	Conservation status		Distance of closest record to application area (km)	Likelihood of occurrence	Rationale
	WA	EPBC			
BIRD					
<i>Amytornis striatus striatus</i> striated grasswren (sandplain)	P4		22.7	possible	Two records are within 50 kilometres, from 1990 and 1991. The preferred habitat is mainly spinifex, with or without low shrubs and herbage, on sandy or loamy plains; also, bushy <i>Acacia</i> on sand ridges and interdunes, usually with spinifex. This species has a scattered occurrence across arid Western Australia and while the application area provides suitable habitat, the loss of 4 hectares within a largely uncleared landscape is unlikely to significantly impact the species.
<i>Falco hypoleucos</i> grey falcon	VU	VU	24.1	possible	Widely distributed throughout arid and semi-arid Australia and recorded within all states. This species inhabits sparsely timbered lowland plains, typically on inland drainage systems. While this species may occur within the application area due to its highly dispersive nature, given the lack of preferred habitat within the application area, the proposed clearing is unlikely to significantly impact the species.
<i>Falco peregrinus</i> peregrine falcon	OS		25	unlikely	Found in most habitats, from rainforests to the arid zone, and at most altitudes, from the coast to alpine areas. It requires abundant prey and secure nest sites and prefers coastal and inland cliffs or open woodlands near water. Given the species' highly dispersal nature and lack of preferred habitat within the application area, the proposed clearing is unlikely to lead to a significant impact.
<i>Gelochelidon nilotica</i> gull-billed tern	MI	MI	49.2	unlikely	This record is from 1980. As there are no lakes or marshes present within the application area, it is unlikely to support habitat for this species. It is unlikely that the proposed clearing will lead to a significant impact to this species.
<i>Leipoa ocellata</i> malleefowl	VU	VU	23.4	unlikely	This record is from 1974, in addition the application area is located at the very edge of the species northern range. Based on photographs the application area is unlikely to provide sufficient leaf litter to construct mounds and is unlikely to contribute to significant breeding habitat.
<i>Pezoporus occidentalis</i> night parrot	CR	EN	null	unlikely	At the local level, roosting and nesting sites are in clumps of dense vegetation, primarily old and large spinifex clumps (often >50 years unburnt), especially hummocks that are ring-forming. Based on photographs and the estimated date of the last fire (2000-2001), the application area is unlikely to provide adequate roosting habitat for night parrot. None of the <i>Triodia</i> present are large clumps or ring forming.
<i>Polytelis alexandrae</i> princess parrot, Alexandra's parrot	P4	VU	230.6	possible	Patchy and irregular distribution in arid Australia, and usually occupies swales between sand dunes and is occasionally seen on the slopes and crests of dunes. Their sporadic presence presents difficulties in determining whether there has been a change in species distribution. Given the closest record of princess parrot is from 2002 and approximately 230 kilometres from the application area and is at the very edge of its range, the proposed clearing is unlikely to significantly impact the species or their habitat if present.
MAMMAL					
<i>Dasycercus blythi</i> brush-tailed mulgara	P4		10.2	likely	Suitable habitat present. Further discussion in Section 3.2.1.
<i>Dasyurus geoffroyi</i> chuditch, western quoll	VU	VU	39.5	unlikely	While this record is from 2015, the application area is currently outside the known range for chuditch and the record is likely to be an outlier. It is unlikely that the proposed clearing will significantly impact this species.

Species name	Conservation status		Distance of closest record to application area (km)	Likelihood of occurrence	Rationale
	WA	EPBC			
<i>Dasyurus hallucatus</i> northern quoll	EN	EN	39.5	unlikely	Rocky areas are considered critical habitat for northern quoll as these areas provide significant daytime shelter from predators and weather. While northern quolls utilise a variety of habitats, the proposed clearing is unlikely to impact northern quoll's ability to disperse, therefore unlikely to cause significant impact.
<i>Macrotis lagotis</i> bilby, dalgyte, ninu	VU	VU	10.2	likely	Suitable habitat present. Further discussion in Section 3.2.1.
<i>Notoryctes caurinus</i> northern marsupial mole, kakarratul	P4		38.2	likely	Suitable habitat present. Further discussion in Section 3.2.1.
<i>Sminthopsis longicaudata</i> long-tailed dunnart	P4		13.8	possible	Preferred habitat consists of exposed rock and stony soils with hummock grasses and shrubs, flat-topped hills, lateritic plateaus, sandstone ranges and breakaways. Given the lack of suitable habitat within the application area it is unlikely to lead to a significant impact to long-tailed dunnart.
REPTILE					
<i>Lerista macropisthopus remota</i> unpatterned robust slider (Robertson Range)	P2		39.3	possible	Little is known about the species habitat requirements; they have been recorded in leaf litter beneath a wide variety of shrubs and trees on a wide variety of soils. Additionally, there have been few records within the last 20 years. The broad habitat preference within its known range indicates that the species has a potential to occur within the application area, however the proposed clearing is unlikely to significantly impact the species or their habitat if present.
<i>Liopholis kintorei</i> great desert skink	VU	VU	13.8	likely	Suitable habitat present. Further discussion in Section 3.2.1.

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority, MI: migratory species, OS: other specially protected species

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<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 area proposed to be cleared contains habitat for a number of priority flora and conservation significant fauna species.</p> <p>To address flora concerns, a pre-clearance survey is recommended for flora species that have a high likelihood of occurrence, as per the desktop assessment conducted by Mattiske (2024; A.3).</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<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 area proposed to be cleared contains significant habitat for multiple conservation significant fauna.</p>	May be at variance	Yes <i>Refer to Section 3.2.1, above.</i>
<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>There are no known records of threatened flora species within the application area, however <i>Thryptomene wittweri</i> (VU) has one record approximately 5.2 kilometres from the application area (GIS Database).</p> <p>Despite the proximity of this record, <i>Thryptomene wittweri</i> is not expected to occur within the application area (Mattiske, 2024). Records of this species have been found in stony creek beds, water channels, or in stony screes, edges of cliffs, steep breakaways, and rock crevices (Green, 1980; WAH, 1998-). This species is noted to be closely related to <i>Thryptomene nealensis</i> which is found on lateritic breakaways (Green, 1980; WAH, 1998-).</p> <p>Given the sandplain and sand dune habitat of the application area, it is unlikely to support <i>Thryptomene wittweri</i>.</p>	Not likely to be at variance	No
<p><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.”</p> <p><u>Assessment:</u></p> <p>There are no known state or federally listed threatened ecological communities (TECs) located within or in close proximity to the application area (GIS Database). The nearest known threatened ecological community is the state listed ‘Ethel Gorge aquifer stygobiont community’ (CR), located approximately 195 kilometres north-northwest of the application area (GIS Database).</p> <p>While no flora and vegetation surveys have been conducted over the application area, photographs of vegetation within the application area do not appear to meet the descriptions of any federally or state listed TECs (DBCA, 2023b; DCCEEW, 2024; Appendix D). Given the distance from the nearest known TEC, the application area is unlikely to be representative of a threatened ecological community.</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><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.”</p> <p><u>Assessment:</u></p> <p>The application area falls within the Little Sandy Desert Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 99% of the pre-European vegetation still exists in the IBRA Little Sandy Desert Bioregion (Government of Western Australia, 2019).</p>	Not at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>The application area is broadly mapped as Beard vegetation associations 18: Low woodland; mulga (<i>Acacia aneura</i>); and 1195: Mosaic: Low woodland; mulga in valleys / Hummock grasslands, shrub steppe; <i>Acacia</i> species over <i>Triodia basedowii</i> (GIS Database).</p> <p>Approximately 99-100% of the pre-European extent of these vegetation associations remain uncleared at both the state and bioregional level (Government of Western Australia, 2019).</p> <p>The vegetation proposed to be cleared is unlikely to represent a significant area of remnant vegetation within a bioregional context (GIS Database).</p>		
<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>Given the distance to the nearest conservation area (92 kilometres), the proposed clearing is not likely to have an impact on the environmental values of any legislated conservation areas (GIS Database).</p> <p>It is noted that the application area is within an Environmentally Sensitive Area and a Schedule 1 Non-permitted area due to the area being mapped within the Carnarvon Range Proposed Reserve (GIS Database). The Carnarvon Range Proposed Reserve is listed on the Register of the National Estate (ESA) and the EPA Redbook Recommended Conservation Reserves 1976-1991 (Schedule 1) (GIS Database). While the application is within these areas, the proposed clearing is unlikely to significantly impact the environmental values of these areas.</p>	Not likely to be at variance	No
Environmental value: land and water resources		
<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>Given no water courses or wetlands are recorded the application area, the proposed clearing is unlikely to impact vegetation growing in association with a watercourse of wetland (GIS Database).</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 mapped soils are not susceptible to erosion. Noting the extent of the application area, the proposed clearing is not likely to have an appreciable impact on land degradation (DPIRD, 2024; Northcote et al., 1960-68; GIS Database).</p>	Not likely to be at variance	No
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>Given watercourses, wetlands, or Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality (GIS Database).</p>	Not likely to be at variance	No
<p><u>Principle (j):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>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. The application area is generally flat to gently undulating, and there are no watercourses or wetlands recorded within the application area. The proposed clearing is unlikely to contribute to waterlogging (DPIRD, 2024; Northcote et al., 1960-68; GIS Database).</p>	Not likely to be at variance	No

Appendix C. Vegetation condition rating scale

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

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

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

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

Appendix D. Photographs of the application area

Great Western Exploration (2023a)





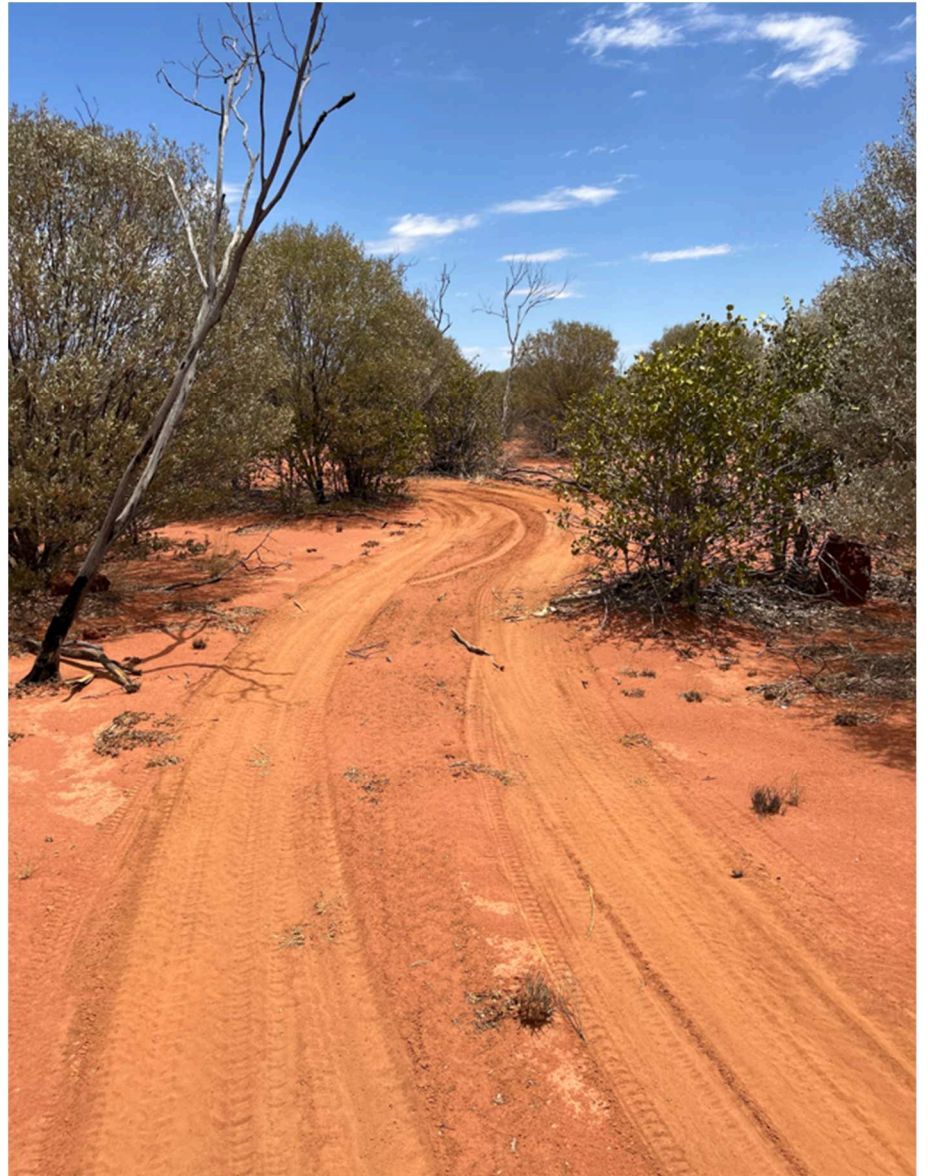


















Appendix E. Sources of information

E.1. GIS databases

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

- 10 metre contours (DPIRD-073)
- Clearing Regulations – Schedule One Areas (DWER-057)
- Collaborative Australian Protected Areas Database (CAPAD) 2022 (DCCEEW)
- DBCA - Lands of Interest (DBCA-012)
- DBCA – Lands of Interest (DBCA-012)
- DBCA - Legislated Lands and Waters (DBCA-011)
- DBCA Fire History (DBCA-060)
- DBCA Legislated Lands and Waters (DBCA-011)
- Directory of Important Wetlands in Australia – Western Australia (DBCA-045)
- Environmentally Sensitive Areas (DWER-046)
- EPA Redbook Recommended Conservation Reserves 1976-1991 (DBCA-029)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Interim Ramsar Sites (DBCA-010)
- Native Vegetation Extent (DPIRD-005)
- Pre-European Vegetation (DPIRD-006)
- Regional Parks (DBCA-026)
- Register of the National Estate (RNE) - Spatial Database (RNESDB) (DCCEEW)
- 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)
- Soil Landscape Mapping - Western Australia attributed by WA Soil Group (DPIRD-076)
- Species of National Environmental Significance Distributions (public grids) (DCCEEW)
- 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)

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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 DCCEEW)
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.