



Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	10252/1
Permit type:	Purpose Permit
Applicant name:	Greenmount Resources Pty Ltd
Application received:	22 June 2023
Application area:	500 hectares
Purpose of clearing:	Mineral production and associated activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 52/1070
Location (LGA area/s):	Shire of Meekatharra
Colloquial name:	Karlawinda Gold Project

1.2. Description of clearing activities

Greenmount Resources Pty Ltd proposes to clear up to 500 hectares of native vegetation within a boundary of approximately 2,982 hectares, for the purpose of mineral production and associated activities. The project is located approximately 55 kilometres southeast of Newman, within the Shire of Meekatharra.

The application is to allow for the development of key mine activities such as tailing storage facilities and waste dumps and miscellaneous mining activities such as access roads, laydowns, infrastructure, and topsoil stockpiles. The application area was previously covered by clearing permits CPS 7836/1, CPS 7836/2, CPS 7836/3, and CPS 7836/4, which have since expired. A total of 849.866 hectares were cleared under these permits (Capricorn Metals, 2023a).

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	24 August 2023
Decision area:	500 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Mines, Industry Regulation and Safety (DMIRS) on 22 June 2023. DMIRS advertised the application for a public comment for a period of 21 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix A), relevant datasets (Appendix D), the clearing principles set out in Schedule 5 of the EP Act (Appendix C), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3).

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- impacts to vegetation growing in association with a watercourse; and
- potential land degradation in the form of erosion.

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;
- commence construction no later than six months after undertaking clearing to reduce the risk of erosion; and
- avoid clearing riparian vegetation and where a watercourse is to be impacted, maintain existing surface water flow.

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)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2020)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

The applicant advised they would utilise existing transport corridors and other disturbed areas (Greenmount Resources Pty Ltd, 2023). The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

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

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

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

Assessment

A total of five individuals of *Eremophila rigida* (P3) and 16 individuals of *Rhagodia* sp. Hamersley (M Trudgen 17794) (P3) were recorded in the survey area. However, those five individuals, as well as the primary population of *E. rigida* are located outside of the application area (360 Environmental, 2016a) and they are unlikely to be impacted by the proposed clearing. As there are 76 records of this species across the Pilbara and Gascoyne bioregions with two of these records being inside protected areas, impacts to the 16 individuals of *Rhagodia* sp. present in the application area are unlikely to be significant for the conservation status of this species. Other flora species occurring within a 50 kilometre radius from the application area (see section A.2) have the possibility of occurring within the application area, based on habitat types. However, none of these species were recorded during the flora and vegetation survey (36 Environmental, 2016a). Given the amount of disturbance that has occurred under clearing permits CPS 7836/1, 7836/2, 7836/3, and 7836/4, it is now unlikely for those Priority flora to occur within the application area.

During the level 1 fauna survey, a grey falcon was recorded indicating that the project area had suitable foraging habitat (360 Environmental, 2016b). However, the project area lacks large trees suitable for nesting. Therefore the species may have used the project area to forage in but not to nest in (360 Environmental, 2016b). This foraging habitat is unlikely to remain suitable given the large amount of disturbance undertaken under by the previous clearing permits authorised over this area. A targeted fauna survey was conducted for bilby and brush-tailed mulgara by 360 Environmental in September 2016. This survey concluded that the possibility of the bilby and brush-tailed mulgara occurring in the application area is considered unlikely (360 Environmental, 2016b). The likelihood of these species being present in the application area is even lower given the historical clearing of previous permits authorised over the area. The peregrine falcon occurs mainly along rivers and ranges as well as wooded watercourses and lakes and nests primarily on cliffs, granite outcrops and quarries. The application area lacks suitable river and cliff habitat and while the species may use the project area as a part of a larger foraging area, it lacks any suitable nesting habitat (360 Environmental, 2017). Prior to the disturbance undertaken by the previous clearing permits the great desert skink was considered possible to occur within the application area. However, most of the suitable vegetation and sandy areas are now completely degraded. The proposed clearing is unlikely to significantly impact any conservation significant fauna.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing is unlikely to significantly impact any conservation significant flora or fauna.

Conditions

No flora or fauna management conditions required.

3.2.2. Water resources – Clearing Principle (f)

Assessment

The application area occurs within the Savory Creek Wild River area (GIS Database). Savory Creek is located approximately 8 kilometres south of the application area (GIS Database). In order to protect the Savory Creek Wild River area from further degradation, the following measures are some of the recommended by advice received from DWER in reference to the Karlawinda Gold Project (DWER, 2017):

- No activity shall be undertaken which results in the loss of riverbank or wetland fringing vegetation, in particular construction of vehicular access tracks. Where possible, existing tracks are to be used.
- No activity shall be undertaken that will unduly disrupt natural drainage or adversely affect the quality or quantity of water in any watercourse, dam, waterhole, spring or subterranean source of supply.
- There should be no significant alteration of the natural hydrological regime and geomorphology of waterways and the catchment.

The application area occurs in the margins of the Savory Creek Wild Rivers area, which delineates the boundary of the Wild River area. The clearing of 500 hectares of vegetation in this area is not likely to significantly alter the surface water regimes in the Wild Rivers area (1,878,884 hectares) (GIS Database). Mining activities are managed under the *Mining Act, 1978*.

Conclusion

For the reasons set out above, it is considered that the impacts of the proposed clearing on vegetation growing in association with a watercourse and waterflows can be managed through conditions placed on the clearing permit.

Conditions

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

- Vegetation management condition to avoid clearing of riparian vegetation where possible and to maintain water flows.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 1 August 2023 by the Department of 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 (WAD6280/1998) over the area under application (DPLH, 2023). This claim has been determined by the Federal Court on behalf of the claimant group (Karlka Aboriginal Corporation/Nyiyaparli People). 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 Cultural Heritage sites within the application area (DPLH, 2023). It is the proponent's responsibility to comply with the *Aboriginal Cultural Heritage Act 2021* and ensure that no Aboriginal Cultural Heritage sites are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

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

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

End

Appendix A. Site characteristics.

A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of an expansive tract of native vegetation in the extensive land use zone of Western Australia. It is surrounded by native vegetation and the landscape of the Gascoyne bioregion (GIS database).
Ecological linkage	The application area does not form part of any formal or informal ecological linkages (GIS Database).
Conservation areas	The application area is not located within any known or mapped conservation areas. The closest records of a conservation area is the Collier Range National Park, located approximately 85 kilometres southwest 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>29: Sparse low woodland; mulga, discontinuous in scattered groups; and 216: Low woodland; mulga (with spinifex) on rises (GIS Database).</p> <p>A flora and vegetation survey was conducted over the application area by 360 Environmental Pty Ltd during May, 2016. The following vegetation types were recorded within the application area (360 Environmental, 2016a):</p> <p>1- Acacia woodland (Flowline): <i>Acacia aneura</i>, <i>Corymbia candida</i> subsp. <i>dipsodes</i> (+- <i>C. hamersleyana</i>) low woodland over <i>Hakea lorea</i> subsp. <i>lorea</i> tall open shrubland over <i>Eriachne flaccida</i>, <i>Aristida inaequiglumis</i> and <i>Digitaria ammophila</i> open tussock grassland.</p> <p>2- Triodia hummock grassland (Plain): <i>Acacia aneura</i> tall sparse shrubland (to open shrubland) over <i>Eremophila forrestii</i> subsp. <i>forrestii</i> isolated shrubs over <i>Triodia schinzii</i> hummock grassland.</p> <p>3- Acacia woodland (Plain): <i>Acacia aneura</i> low woodland over <i>Eremophila forrestii</i> subsp. <i>forrestii</i> sparse shrubland over <i>Aristida inaequiglumis</i>, <i>Digitaria ammophila</i> sparse tussock grassland over <i>Fimbristylis dichotoma</i> sparse herbland.</p> <p>4- Acacia open forest (Plain): <i>Acacia aptaneura</i>, <i>Corymbia candida</i> subsp. <i>dipsodes</i>, <i>Acacia catenulata</i> subsp. <i>occidentalis</i> open forest over <i>Psydrax latifolia</i> tall sparse shrubland.</p> <p>5a- Eremophila sparse shrubland (Plain): <i>Acacia aptaneura</i> (and/or <i>A. paraneura</i>) tall isolated shrubs over <i>Eremophila fraseri</i> subsp. <i>fraseri</i> sparse shrubland over <i>Eremophila youngii</i> subsp. <i>youngii</i> low isolated shrubs over <i>Aristida contorta</i> sparse grassland and <i>Fimbristylis dichotoma</i> sparse herbs.</p> <p>6- Acacia sparse shrubland (Plain): <i>Acacia aptaneura</i> or <i>Acacia subcontorta</i> sparse shrubland over <i>Fimbristylis dichotoma</i> isolated herbs.</p> <p>7a- Triodia hummock grassland (Low Rise): <i>Acacia pruinocarpa</i> isolated shrubs over <i>Triodia schinzii</i> hummock grassland (+- <i>Triodia epactia</i>).</p> <p>8- Maireana open shrubland (Low Rise): <i>A. synchronicia</i> (+- <i>Acacia aptaneura/A. aneura</i>) tall scattered shrubs over <i>Maireana triptera</i> and <i>Eremophila cuneifolia</i> low open shrubland over <i>Aristida contorta</i> sparse grassland.</p> <p>9- Eremophila open shrubland (Low Hills): <i>Acacia aptaneura</i> tall sparse shrubland over <i>Eremophila flaccida</i> subsp. <i>flaccida</i> low open shrubland over <i>Fimbristylis dichotoma</i> and <i>Aristida contorta</i> isolated herbs and grasses.</p> <p>10- Triodia hummock grassland (Low Hills): <i>Acacia pruinocarpa</i> (+- <i>Acacia incurvaneura</i>) sparse shrubland over <i>Triodia</i> sp. Shovelanna Hill (S. van Leeuwen 3835) hummock grassland.</p> <p>11- Acacia woodland (Low Hills): <i>Acacia incurvaneura</i> and <i>Acacia ayersiana</i> low woodland over <i>Eremophila forrestii</i> subsp. <i>forrestii</i> sparse shrubland over <i>Thyridolepis xerophila</i> sparse tussock grassland (+- <i>Triodia pungens</i>).</p>
Habitat types	<p>A flora and fauna survey was conducted over the application area by 360 Environmental Pty Ltd during May, 2010. The following habitat types were recorded in the survey area (360 Environmental, 2010):</p> <p>Habitat A: Shrubs (e.g. <i>Eremophila</i> sp.) over spinifex</p> <p>Habitat B: Shrubs (e.g. <i>Eremophila</i> sp.) over gravelly ground of quartz with minimal spinifex</p> <p>Habitat C: <i>Acacia</i> (Mulga) shrubland with minimal spinifex</p> <p>Habitat D: Rocky outcrop with occasional <i>Eremophila</i> sp.</p>

Characteristic	Details
	Habitat E: Patchy shrubs over patchy spinifex over gravelly ground
Vegetation condition	The vegetation survey (360 Environmental, 2016a) and aerial imagery indicate the vegetation within the proposed clearing area is in Very Good to Completely Degraded (Trudgen, 1991) condition The full Trudgen (1991) condition rating scale is provided in Appendix C.
Climate and landform	The application area is located in an arid zone with an annual average rainfall of 323.8 millimetres (BoM, 2023).
Soil description	The soil within the application area is mapped as soil unit BE6 (GIS Database). This soil unit is described as extensive flat and gently sloping plains, which sometimes have a surface cover of gravels and on which redbrown hardpan frequently outcrops: chief soils are shallow earthy loams (Northcote et al. 1960-68).
Land degradation risk	The application area falls within the Cadgie, Jamindie, and Washplain land systems (DPIRD, 2023). These land systems are described by van Vreeswyk et al. (2004) as follows: Cadgie land system: Hardpan plains with thin sand cover and sandy banks supporting mulga shrublands with soft and hard spinifex. This land system has low erosion hazard. Jamindie land system: Stony hardpan plains and rises supporting groved mulga shrublands, occasionally with spinifex understorey. Drainage tracts are moderately susceptible to erosion, some hardpan plains are slightly susceptible and other parts are inherently resistant. Washplain land system: Hardpan plains supporting groved mulga shrublands. Some parts of alluvial plains, groves and tracts receiving more concentrated flow are moderately susceptible to erosion.
Waterbodies	The desktop assessment and aerial imagery indicated that there are multiple wash areas and five, non-perennial watercourses transecting the area proposed to be cleared (GIS Database).
Hydrogeography	The application area is located within the East Murchison Groundwater Area, which is legislated by the <i>R/VI Act 1914</i> . The mapped groundwater salinity is 500-3,000 milligrams per litre total dissolved solids which is described as marginal to brackish (GIS Database).
Flora	Two Priority flora species were recorded within the application area during the flora survey conducted by 360 Environmental (2016a).
Ecological communities	The application area is not located within any known or mapped Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) (GIS Database). None of the vegetation types recorded during the survey is considered to represent any known TECs or PECs (360 Environmental, 2016a).
Fauna	One conservation significant fauna species was recorded within the application area (360 Environmental, 2010). The decision report for CPS 7836/1 indicates there were six conservation significant fauna species within the application area. However, five of those species are no longer listed as conservation significant fauna. There are no other records of conservation significant fauna within the application area (GIS Database).

A.2. Flora analysis table

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

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable 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>Aristida jerichoensis</i> var. <i>subspinulifera</i>	P3	Y	N	Y	38 km	45	Y
<i>Comesperma sabulosum</i>	P3	Y	N	Y	41 km	18	Y
<i>Dampiera atriplicina</i>	P3	N	Y	Y	38.7 km	13	Y
<i>Eremophila capricornica</i>	P1	Y	Y	Y	37.6 km	20	Y
<i>Eremophila magnifica</i> subsp. <i>velutina</i>	P3	N	N	N	29.3 km	22	Y
<i>Eremophila rhexos</i>	P1	N	N	N	35.1 km	6	Y
<i>Eremophila rigida</i>	P3	Y	Y	Y	0.2 km	9	Y
<i>Eremophila pilosa</i>	P1	Y	Y	Y	0.8 km	9	Y
<i>Goodenia hartiana</i>	P2	N	Y	Y	40.8 km	25	Y

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 modesta</i>	P3	Y	Y	Y	46.6 km	27	Y
<i>Rhagodia</i> sp. Hamersley (M. Trudgen 17794)	P3	Y	Y	Y	0 km	73	Y
<i>Tecticornia globulifera</i>	P1	N	N	N	36 km	23	Y
<i>Tecticornia medusa</i>	P3	N	N	N	35.6 km	21	Y
<i>Triodia birriliburu</i>	P3	Y	Y	Y	38.8 km	20	Y
<i>Vallisneria</i> sp. Weelarrana (M.N. Lyons & S.D. Lyons 3050)	P1	N	N	N	35.9 km	1	Y

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority
(360 Environmental, 2016a; Western Australian Herbarium, 1998-; GIS Database)

A.3. Fauna analysis table

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Are surveys adequate to identify? [Y, N, N/A]
Bilby	VU	Y	Y	48.9 km	4233	Y
Brush-tailed mulgara	P4	Y	Y	38.5 km	1069	Y
Ghost bat	VU	N	N	47.7 km	823	N
Great desert skink	VU	Y	Y	35.3 km	134	N
Grey falcon	VU	N	N	0 km	190	Y
Peregrine falcon	OS	Y	Y	48.7 km	1756	Y
Pilbara leaf-nosed bat	VU	N	Y	68.88 km	2469	N

T: threatened, CR: critically endangered, EN: endangered, VU: vulnerable, P: priority
(360 Environmental, 2010; GIS Database)

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>Two Priority flora species were recorded within the survey area (360 Environmental, 2016a), however, only one of these is within the application area. Others were considered possible to occur within the application area. The application area does not fall within any known or mapped Priority Ecological Communities (GIS Database). One Threatened fauna species was recorded within the application area (360 Environmental, 2010). The habitats within the application area are not considered to contain high levels of faunal diversity (360 Environmental, 2010).</p>	Not likely to 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>Survey results suggest that habitat within the application area is not necessary for the maintenance of a significant habitat for fauna indigenous to Western Australia (Capricorn Metals, 2023b).</p>	Not likely to be at variance	Yes <i>Refer to Section 3.2.1, above.</i>

Assessment against the clearing principles	Variance level	Is further consideration required?
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>There are no records of Threatened flora within the application area (360 Environmental, 2016a; GIS Database).</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>The application area is not located within any known or mapped Threatened Ecological Communities (TECs) (GIS Database). None of the vegetation types recorded in the application area represent a State or Federal TEC (360 Environmental, 2016a).</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The application area falls within the Gascoyne Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Over 99 per cent of the pre-European vegetation still exists in the Gascoyne Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 29 and 126 (GIS Database). These vegetation associations have not been extensively cleared as over 99 per cent of the pre-European extent of these vegetation associations remain uncleared at both the state and bioregional level (Government of Western Australia, 2019).</p>	Not at variance	No
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>The application area is not located within any known or mapped conservation areas (GIS Database). Given the distance to the closest conservation area (85 kilometres), the proposed clearing is unlikely to impact on the environmental values of any conservation 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>The application area is located within a wild rivers area. There are no permanent watercourses or wetlands within the area proposed to clear (GIS Database). There is one minor ephemeral watercourse located within the disturbance envelope (GIS Database) which only flows briefly following significant rainfall. Impacts from the additional clearing surrounding the ephemeral watercourse are unlikely to be significant.</p>	At variance	Yes <i>Refer to Section 3.2.2, above.</i>
<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>According to the description of the land systems within the application area (section A.1), the proposed clearing has the potential to cause land degradation as the land systems within the application area have low to moderate susceptibility to erosion.</p>	May be at variance	No
<p><u>Principle (i):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p>	Not likely to be at variance	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Given there are no permanent water courses, wetlands, or Public Drinking Water Sources Areas within the application area, the proposed clearing is unlikely to impact surface or ground water quality.		
<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 application area does not contain any permanent water courses or wetlands. Creek lines in the region are dry for most of the year and it appears only minor ephemeral watercourses are located within the application area (GIS Database) only flowing briefly immediately following significant rainfall. The proposed clearing is unlikely to increase the incidence or intensity of flooding.</p>	Not likely to be at variance	No

Appendix C. Vegetation condition rating scale

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

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

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

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

Appendix D. Sources of information

D.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Pre-European Vegetation Statistics
- RIWI Act, Groundwater Areas (DWER-034)

- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

- 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 *Biodiversity Conservation Act 2016, 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
DFWA	Department of Biodiversity, Conservation and Attractions, Western Australia
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
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.