

Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number: 10129/1

Permit type: Purpose Permit

Applicant name: Barto Gold Mining Pty Ltd

Application received: 16 March 2023 **Application area:** 40 hectares

Purpose of clearing: Mineral Production and Associated Activities

Method of clearing: Mechanical Removal
Tenure: Mining Lease 77/775
Mining Lease 77/790

Mining Lease 77/791

Location (LGA area): Shire of Yilgarn Colloquial name: Rhapsody Mine

1.2. Description of clearing activities

Barto Gold Mining Pty Ltd proposes to clear up to 40 hectares of native vegetation within a boundary of approximately 40 hectares, for the purpose of mining related infrastructure. The project is located approximately 30 kilometres south of Southern Cross, within the Shire of Yilgarn (GIS Database).

The adjacent area (CPS 9409/2) includes the development of an open pit mine (Windmills open pit), an associated waste rock landform (WRL), haul road and other associated activities (Barto, 2023a; 2023b). Extension of the Windmills project includes the development of the Red Ox open pit, the Rhapsody open pit and a short haul road connecting Windmills and Rhapsody (Barto, 2023a; 2023b). Due to changes in the Rhapsody mine plan, further clearing is required to facilitate the project (Barto, 2023a; 2023b).

1.3. Decision on application and key considerations

Decision: Grant

Decision date: 9 May 2023

Decision area: 40 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 16 March 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 B), proposed avoidance and minimisation measures (Section 3.1), relevant planning instruments and any other matters considered relevant to the assessment (Section 3.3).

The assessment identified that the proposed clearing may result in:

- the potential introduction and spread of weeds into adjacent vegetation, which could impact on the quality of the adjacent vegetation and its habitat values;
- impacts to conservation significant fauna; and
- impacts to conservation significant flora.

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 is unlikely to lead to long-term adverse impacts on 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 directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity which will minimise impact to individuals;
- fauna management (Dasyurus geoffroii (Chuditch): preclearance surveys must be conducted prior to clearing and no clearing will be allowed between August and October; and
- fauna management (*Leipoa ocellata* (malleefowl): pre-clearing inspection for mounds during the breeding season, and the avoidance of any active mounds.

1.5. Site map

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



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

2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- Biodiversity Conservation Act 2016 (WA) (BC Act)
- Conservation and Land Management Act 1984 (WA) (CALM Act)
- 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

Evidence was submitted by the applicant, demonstrating that avoidance and mitigation measures such as, but not limited to, those listed below will be undertaken:

- modification of haul road design to avoid occurrences of all Rinzia fimbriolata;
- no road widening will be permitted which will reduce the impacts to priority flora;
- no unauthorised entry;
- dust management; and
- south-western boundary of the permit area has been adjusted to minimise the impacts to the Hakea pendens
 population associated with the stony rise feature in the landscape (Barto, 2023a).

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 and fora). 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) - Clearing Principles (a) and (c)

Assessment

Two field surveys were carried out in April and September 2020, and one opportunistic survey was carried out in April 2021 (Barto, 2023a; Stantec, 2021b). A total 103 vascular flora taxa, representing 31 families and 65 genera were recording during the field surveys (Barto, 2023a; Stantec, 2021b). No Threatened flora were recorded during the flora and vegetation survey, however one Priority species was recorded and six addition conservation significant flora may potentially occur within the application area (Stantec, 2021b; GIS Database).

Hakea pendens, Priority 3, is a shrub, 2.5-3.1 metres high and can be found inhabiting stony loam on ironstone ridges (Western Australian Herbarium, 1998-). This species has been recorded within the Avon Wheatbelt and Coolgardie Interim Biogeographic Regionalisation for Australia (IBRA) region (Western Australian Herbarium, 1998-). Hakea pendens is known from 24 locations from the WA Herbarium (Western Australian Herbarium, 1998-). The flora and vegetation survey recorded 237 individuals of this species within the survey area and six individuals were recorded within the application area (Stantec, 2021b). The proponent has committed to avoid all priority flora species where practicable and has adjusted the permit boundary to minimise interactions with the *H. pendens* population. The potential impact on six individuals will not likely lead to a significant impact to the species at the local or regional population.

The following five conservation significant flora species were recorded within the local area and may potentially occur within the application area (Stantec; 2021b):

Acacia concolorans, Priority 2, is an intricate, sprawling or compact, pungent shrub, 0.1-0.5 metres high and can be found inhabiting red/brown loam, clay on low lateritic hills or flats (Western Australian Herbarium, 1998-). The species is known from 18 locations from the WA Herbarium from the Avon Wheatbelt, Coolgardie and Mallee IBRA regions

(Western Australian Herbarium, 1998-). The species has been recorded within 20 kilometres of the application area, however it was not recorded during the flora and vegetation survey (Stantec, 2021b). The application area contains suitable habitat for this species and therefore individuals may occur, however this species was not recorded during the flora and vegetation survey (Stantec, 2021b). This species has several records within nature reserves and across multiple IBRA regions as its suitable habitat is widely available, any impacts to this species as a result of the proposed clearing is unlikely to lead to a significant impact to the conservation status of this species.

Goodenia heatheriana, Priority 1, is an annual herb, 0.15 metre high, and can be found inhabiting red crumbly clay, greenstone gravel and cobbles on lower slopes, moderately exposed gently undulating plains or roadsides (Western Australian Herbarium, 1998-). The species is known from nine locations from the WA Herbarium from the Coolgardie IBRA region (Western Australian Herbarium, 1998-). The species has been recorded within five kilometres of the application area, however it was not recorded during the flora and vegetation survey (Stantec, 2021b). The application area contains suitable habitat for this species and therefore individuals may occur, however the species is not considered to be restricted to the proposed clearing area and suitable habitat can be found in the local area, any impacts to this species as a result of the proposed clearing is unlikely to lead to a significant impact to the conservation status of this species.

Notisia intonsa, Priority 3, is a small annual herb, 0.025-0.15 metres high, and can be found inhabiting red to brown clay to clay loam within floodplains (Stantec, 2021b). The species is known from 26 locations from the WA Herbarium from the Avon Wheatbelt, Coolgardie, Esperance Plains and Mallee, Murchison IBRA (Western Australian Herbarium, 1998-). The species has been recorded within five kilometres of the application area, however it was not recorded during the flora and vegetation survey (Stantec, 2021b). The application area contains suitable habitat for this species and therefore individuals may occur. The application area contains suitable habitat for this species and therefore individuals may occur, however the species is not considered to be restricted to the proposed clearing area and suitable habitat can be found in the local area, any impacts to this species as a result of the proposed clearing is unlikely to lead to a significant impact to the conservation status of this species.

Rinzia fimbriolata, Priority 1, can be found inhabiting well drained soil, brown sandy loam on clay with quarts (Stantec, 2021). This species has been recorded within the Avon Wheatbelt and Coolgardie IBRA regions (Western Australian Herbarium, 1998-). Rinzia fimbriolata is known from three locations from the WA Herbarium (Western Australian Herbarium, 1998-). The flora and vegetation survey recorded 431 individuals of this species within the local area, however no individuals were recorded within the application area (Stantec, 2021b). The application area contains suitable habitat for this species and therefore individuals may occur. The application area contains suitable habitat for this species and therefore individuals may occur. The application area contains suitable habitat for this species and therefore individuals may occur, however the species is not considered to be restricted to the proposed clearing area and suitable habitat can be found in the local area, any impacts to this species as a result of the proposed clearing is unlikely to lead to a significant impact to the conservation status of this species.

Stenanthemum bremerense, Priority 4, is an erect or low and spreading shrub, 0.3-0.6 metres high and can be found inhabiting orange-brown sandy loam, orange-red gravelly loam, skeletal red loam, laterite and ironstone on top or sides of outcrops and breakaways (Western Australian Herbarium, 1998-). The species is known from 35 locations from the WA Herbarium from the Coolgardie IBRA region (Western Australian Herbarium, 1998-). The flora and vegetation survey recorded 133 individuals of this species within the local area, however no individuals were recorded within the application area (Stantec, 2021b).

There are no Threatened Ecological Communities within the application area, however the application area is mapped within the Parker Range vegetation complexes Priority Ecological Community (PEC) (Priority 3). One vegetation type, EsEsuElMpEaSaHe, which covers 65.33 hectares of the application area, was considered to represent Community 3 of this PEC (Barto, 2023a; Stantec, 2021b). The proposed clearing will result in a 0.1% decline in regional extent and therefore is not expected to significantly impact this PEC (Barto, 2023a; GIS Database).

Conclusion

Based on the above assessment, the proposed clearing will result in the removal of some priority flora. For the reasons set out above, it is considered that the impacts of the proposed clearing on flora can be managed by the mitigation and management strategies provided by the applicant.

Conditions

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

- avoid, minimise to reduce the impacts and extent of clearing; and
- take hygiene steps to minimise the risk of the introduction and spread of weeds.

3.2.2. Biological values (fauna) - Clearing Principle (b)

<u>Assessment</u>

Two field surveys were carried out in April and September 2020 and a targeted Chuditch Survey was undertaken in June-July 2021 (Stantec, 2021a; 2021b). The following four broad habitat types were identified within the application area:

- · Eucalyptus woodland;
- shrubland;
- · saline depressions and claypans; and
- shrubland stony rise (Stantec, 2021a).

Seven conservation significant fauna species may potentially occur within the application area (Stantec, 2021a; 2021b; GIS Database):

Aganippe castellum (tree-stem trapdoor spider), Priority 4, has been recorded within five kilometres of the application area (Stantec, 2021a; GIS Database). This species is a medium-sized spider that burrows in flood-prone depressions and flats that support myrtaceous shrub communities, in particular those areas supporting Broombush (*Melaleuca uncinata*) and Sheoaks (such as *Allocasuarina acutivalvis*) in sandy loam soils are critical to the survival of this species (Avon Catchment Council, 2007). *Aganippe castellum* has been recorded within the Avon and Northern Agricultural Region (Avon Catchment Council, 2007). Suitable habitat has been recorded within the application area, however the species is not considered restricted to the proposed clearing area and their habitat are known to occur across the surrounding environment and regional landscape, the proposed clearing is not likely to impact the conservation significance of this species.

Dasyurus geoffroii (chuditch), Vulnerable, is a carnivorous marsupial restricted to Western Australia (DCCEEW, 2023). The major portion of the remaining natural populations occur in varying densities in jarrah (*Eucalyptus marginata*) forests and woodlands in the south-west corner of WA, and in woodlands, mallee shrublands and heaths along the south coast, east to the Ravensthorpe area (DCCEEW, 2023). A targeted chuditch survey was undertaken by Stantec from 20 to 26 March 2021, and 22 June to 25 July 2021 (Stantec, 2021a; 2021b). Athough no chuditch were recorded within the application area, there were several records of this species in close proximity to the application area (closest motion camera detection 700 metres from the application area) (Stantec, 2021a). The application area is considered to comprise of important habitat for the chuditch, with the area possibly being utilised for both foraging and sheltering purposes. Whilst the proposed clearing will result in the removal of some denning and foraging habitat, there is still significant habitat remaining in the local area (10 kilometre radius) and the proposed clearing is not expected to have a significant impact on the long term viability of local populations. Potential impacts to chuditch as a result of the proposed clearing may be minimised by the implementation of a fauna management condition. This will require a pre-clearing inspection for dens, relocation of individuals occupying identified dens, and replacement/relocation of confirmed dens in adjoining habitat.

Falco peregrinus (peregrine falcon), Other Specially Protected Species, is one of the most widespread birds in the world and occurs across most of Australia (DCCEEW, 2023). The species inhabits cliffs, costal habitats, rivers, wooded water courses, lakes and urban environments (DCCEEW, 2023). No individuals were recorded during the survey, however, this species has been recorded within 50 kilometres from the application area, suggesting that they may use the application area as part of a larger home range, however there is no suitable breeding habitat within the application area (Stantec 2021b; GIS Database).

Leipoa ocellata (malleefowl), Vulnerable, is found in semi-arid to arid shrubland and lowlands, especially those dominated by mallee and/or acacias (DCCEEW, 2023). This species requires sandy substrates and an abundance of leaf litter to breed (DCCEEW, 2023). Habitat within the application area is considered significant for this species, providing areas of scrub and shrubland with leaf litter and sandy substrate for mound building (Stantec, 2021a; 2021b). A targeted Malleefowl survey was undertaken in April and September 2020 by Stantec (Stantec, 2021a; 2021b). No evidence of Malleefowls were identified within the application area, however both active and inactive mounds have been identified in close proximity to the application area, and the local area (Stantec, 2021a; 2021b). The previous records of active and inactive mounds were recorded within shrubland habitat (which occurs within the application area), which provides suitable dense shrub cover and leaf litter on substrates suitable for mound building. The *Eucalyptus* woodlands and areas of shrubland stony rise may also support this species (Stantec, 2021a; 2021b). Potential impacts to malleefowl as a result of the proposed clearing may be minimised by the implementation of a fauna management condition. This will require a pre-clearing inspection for mounds during the breeding season, and the avoidance of any active mounds.

Notamacropus irma (western brush wallaby), Priority 4, is a medium-sized macropod endemic to south-western Australia (DCCEEW, 2023). This species occurs within a range of habitats including open forest and woodland (DCCEEW, 2023). The fauna survey recorded this species once via motion-sensing cameras within 5 kilometres of the application area within shrubland habitat (Stantec, 2021a; 2021b). The species notably favours more open Shrubland, approximately five hectares of this habitat is present within the 40 hectare application area (Stantec, 2021a; 2021b; GIS Database). Given the small amount of favourable habitat within the application area, and the large tract of uncleared outside the application area, the proposed clearing is not likely to impact the conservation significance of this species.

Paroplocephalus atriceps (Lake Cronin snake), Priority 3, occurs in a relatively restricted area, found in the vicinity of Lake Cronin and on a granite outcrop called Peak Eleonora (Stantec, 2021b). The species has been recorded within 50 kilometres of the application area (GIS Database). The application area is located north of the species predicted range, however it is considered possible that the species may occur (Stantec, 2021b). As suitable habitat is available in surrounding areas, potential impacts may be minimised by the implementation of a slow directional clearing condition.

Tringa nebularia (common greenshank), Migratory, is a heavy built, elegant wader that does not breed in Australia, however the species occurs in all types of wetlands and has the widest distribution of any shorebird in Australia (DCCEEW, 2023). Given the highly mobile nature of this species and the availability of suitable habitat outside the application area, the proposed clearing is not likely to impact this species.

Conclusion

Based on the above assessment, the proposed clearing will result in loss of potential habitat for a number of conservation significant fauna species. For the reasons set out above, it is considered that the impacts of the proposed clearing on fauna habitats can be managed by implementing fauna management conditions.

Conditions

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

 slow directional clearing to allow fauna to move into adjacent vegetation ahead of the clearing activity which will minimise impact to individuals;

- fauna management (*Dasyurus geoffroii* (Chuditch): preclearance surveys must be conducted prior to clearing and no clearing will be allowed between August and October;
- fauna management (*Leipoa ocellata* (malleefowl): pre-clearing inspection for mounds during the breeding season, and the avoidance of any active mounds; and
- · avoid, minimise and reduce the impacts and extent of clearing.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 3 April 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 (Marlinyu Ghoorlie (WC2017/007)) over the area under application (DPLH, 2023). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore, the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (DPLH, 2023). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

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

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

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is located approximately 30 kilometres south of the township of Southern Cross, within the Shire of Yilgarn (GIS Database). The area proposed to be cleared is part of part of an expansive tract of native vegetation in the extensive land use zone of Western Australia (GIS Database). The proposed area shows disturbance from historic mining, with numerous drill lines and early settlement features still present with recent disturbance from mining exploration activities (Barto, 2023a).
Ecological linkage	According to available databases, the application area does not contain any known or mapped ecological linkages (GIS Database).
Conservation areas	The application area is not located within a conservation area (GIS Database). The nearest conservation area, Jilbadji Nature Reserve (R 24049), is located approximately 13 kilometres east of the application area (GIS Database).
Vegetation description	The vegetation of the application area is broadly mapped as the following Beard vegetation association: • 1068: Medium woodland; salmon gum, morrel, gimlet and <i>Eucalyptus sheathiana</i> (GIS Database).
	A flora and vegetation survey was conducted over the application area by Stantec during September, 2020. The following four vegetation associations were recorded within the application area (Stantec, 2021b): • EsEsuEIMpEaSaHe: Eucalyptus salmonophloia, E. salubris and E. longicornis woodland over Melaleuca pauperiflora, Exocarpos aphyllus and Santalum acuminatum tall shrubland over Hibbertia eatoniae low open shrubland;
	 AvTptptTpepeEt: Atriplex vesicaria, Tecticornia pterygosperma subsp. pterygosperma, T. pergranulata subsp. pergranulata and Enchylaena tomentosa low open shrubland; E?rAaaAbMhTkBeLfEm: Eucalyptus ?rigidula scattered low trees over Acacia assimilis subsp. assimilis, Acacia beauverdiana, Melaleuca hamata tall shrubland over Thryptomene kochii, Baeckea elderiana, Leptospermum fastigiatum shrubland over Euryomyrtus maidenii low open shrubland; and
	EcAcGooHeEm: Eucalyptus capillosa low open woodland over Allocasuarina campestris tall shrubland over Grevillea obliquistigma subsp. obliquistigma scattered shrubs over Hibbertia eatoniae, Euryomyrtus maidenii low shrubland.
Vegetation condition	 The vegetation survey (Stantec, 2021b) indicate the vegetation within the proposed clearing area is in 'Good', 'Very Good' and 'Excellent' (Trudgen, 1991) condition, described as 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; 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; and Pristine or nearly so, no obvious signs of damage caused by human activities since European settlement.
	The full Trudgen (1991) condition rating scale is provided in Appendix C.
Climate and landform	The climate of the region (Coolgardie) is semi-arid and experiences hot summers and cool winters and average annual rain fall of 302.5 millilitres (BoM, 2023).
Soil description	The soils of the application area are broadly mapped as the following soil types: • 261i3: DD15 atlas system. Undulating plains with some low dunes, seasonal lakes, and clay pans; and • 261l9: My44 atlas system. Undulating ridge and low hilly terrain with some mesas and buttes and small valley plains. (DPIRD, 2023).
Land degradation risk	The proposed area lies within an area vulnerable to wind erosion due to low ground cover and erodible soils (Barto, 2023a).
Waterbodies	The desktop assessment and aerial imagery indicated that there are no watercourses within the application area (GIS Database). There are no Ramsar wetlands or wetlands of national importance (ANCA Wetlands, permanent or ephemeral drainage lines occur within the application area (GIS Database).
Hydrogeography	The application area is not mapped within a proclaimed groundwater area (GIS Database). The proposed area is located within the Goldfields Groundwater Area (GIS Database).

Characteristic	Details		
Flora	Two field surveys were carried out in April and September 2020 and one opportunistic survey was carried out in April 2021 (Barto, 2023a; Stantec, 2021a; 2021b). A total 103 vascular flora taxa, representing 31 families and 65 genera were recording during the field surveys (Barto, 2023a). The floristic diversity and composition was considered typical of the Coolgardie bioregion (Barto, 2023a). No Threatened flora were identified during the flora and vegetation survey, however three priority		
	species were recorded within the survey area: Rinzia fimbriolata (P1); Hakea pendens (P3); and Stenanthemum bremerense (P4) (Barto, 2023a).		
Ecological communities	The application area intersects the Parker Range vegetation complexes Priority Ecological Community (PEC) (Priority 3) (GIS Database).		
Fauna	The desktop study identified 249 species of vertebrate fauna which have been recorded and/or have the potential to occur within the area, 20 of these are listed as significant species (Stantec, 2021b).		
	The following four broad habitat types were identified within the application area: • Eucalyptus woodland; • shrubland;		
	saline depressions and claypans; and		
	shrubland stony rise (Stantec, 2021b).		
	Two field surveys were carried out in April and September 2020 and a targeted Chuditch Survey was undertaken in June-July 2021 (Barto, 2023a; Stantec, 2021a; 2021b). A targeted Malleefowl survey was undertaken during April and September 2020 (Stantec 2021a). Nine motion-sensing cameras were deployed within the survey area between June-July 2021 (31 nights) to record fauna species considered or known to occupy the region (Stantec, 2021a).		

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 Coolgardie	12,912,204.35	12,648,491.39	97.96	2,114,349.37	16.37
Beard vegetation asso - State	ciations				
Veg Assoc No. 1068	268,900.45	142,088.42	52.84	16,761.06	6.23
Beard vegetation associations - Bioregion					
Veg Assoc No. 1068	193,988.20	104,804.17	54.03	14,153.99	7.30

Government of Western Australia (2019)

A.3. 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]	Distance of closest record to application area (km)	Number of known records (total)
Acacia concolorans	P2	Υ	<20	18
Goodenia heatheriana	P1	Υ	<5	9
Hakea pendens	P3	Y	Recorded within the application area	24
Notisia intonsa	P3	Υ	<20	26
Rinzia fimbriolata	P1	Υ	<5	3
Stenanthemum bremerense	P4	Υ	<20	35

features? [Y/N] closest record to application area (km) (total)

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

A.4. Fauna analysis table

Species name	Common Name	Conservation status	Distance of closest record to application area (km)	Suitable habitat features? [Y/N]
Aganippe castellum	tree-stem trapdoor spider	P4	<5	Υ
Dasyurus geoffroii	chuditch, western quoll	VU	<5	Υ
Falco peregrinus	peregrine falcon	os	<50	Υ
Leipoa ocellata	malleefowl	VU	<5	Υ
Notamacropus irma	western brush wallaby	P4	<5	Υ
Paroplocephalus atriceps	Lake Cronin snake	P3	<50	Υ
Tringa nebularia	common greenshank, greenshank	МІ	<50	Y

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

Appendix B. Assessment against the clearing principles		
Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
Principle (a): "Native vegetation should not be cleared if it comprises a high level of biodiversity."	May be at variance	Yes Refer to Section 3.2.1, above.
Assessment:		0.2.1, 0.000.
The area proposed to be cleared may contain significant flora, fauna, habitats, assemblages of plants and the application area is mapped within the 'Parker Range Vegetation Complexes' (Priority 3) priority ecological community (PEC) (GIS Database).		
Principle (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."	May be at variance	Yes Refer to Section
Assessment:		3.2.2, above.
The area proposed to be cleared may contain foraging habitat for several conservation significant fauna species.		
<u>Principle (c):</u> "Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."	Not likely to be at variance	No
Assessment:		
There are no known records of Threatened flora within the application area (GIS Database). Flora surveys of the application area did not record any species of Threatened flora (Stantec, 2021b).		
The vegetation associations within the application area are common and widespread within the region (Stantec, 2021a, 2021b; GIS Database), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of Threatened flora.		
Principle (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."	Not likely to be at variance	No
Assessment:		

Assessment against the clearing principles	Variance level	Is further consideration required?
There are no known Threatened Ecological Communities (TECs) located within the application area and the flora and vegetation survey did not identify any TECs (Stantec, 2021b; GIS Database).		
Environmental value: significant remnant vegetation and conservation areas		
Principle (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."	Not at variance	No
Assessment:		
The application area falls within the Coolgardie Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 97% of the pre-European vegetation still exists in the IBRA Coolgardie Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation association 1068: Medium woodland; salmon gum, morrel, gimlet and <i>Eucalyptus sheathiana</i> (GIS Database). Approximately 52% of the pre-European extent of this vegetation association remains uncleared at both the state and bioregional level (Government of Western Australia, 2019). Therefore, the application area does not represent a significant remnant of native vegetation in an area that has been extensively cleared and is not at variance to this principle.		
<u>Principle (h):</u> "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."	Not likely to be at variance	No
Assessment:		
Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of nearby conservation areas (GIS Database).		
Environmental value: land and water resources		
<u>Principle (f):</u> "Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."	Not at variance	No
Assessment:		
Given no water courses or wetlands are recorded within the application area, the proposed clearing is unlikely to impact on- or off-site hydrology and water quality (GIS Database).		
Principle (g): "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."	May be at variance	No
Assessment:		
The mapped soils are moderately susceptible to wind erosion (GIS Database). Noting the location of the application area, the proposed clearing is likely to have an appreciable impact on land degradation. Land degradation may be managed by implementing a staged clearing condition where potential impacts from erosion may be minimised by the implementation of a staged clearing condition requiring areas that are cleared are utilised within six months.		
<u>Principle (i):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water."	Not likely to be at variance	No
Assessment:		
Given no water courses / wetlands / Public Drinking Water Sources Areas are recorded within the application area, the proposed clearing is unlikely to impact surface or ground water quality.		
<u>Principle (j):</u> "Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."	Not likely to be at variance	No
Assessment:		
There are no permanent water courses or waterbodies within the application area (GIS Database). Seasonal drainage lines are common in the region and temporary localised flooding may occur briefly following heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.		

Appendix C. Vegetation condition rating scale

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

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

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

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

Appendix D. 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
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping Best Available (DPIRD-027)
- Soil Landscape Mapping Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

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

D.2. References

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Western Australian Herbarium (1998-) FloraBase - the Western Australian Flora. Department of Biodiversity, Conservation and Attractions, Western Australia. https://florabase.dpaw.wa.gov.au/ (Accessed 17 April 2023).

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

DBCA 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
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 Environmental Protection Act 1986, Western Australia **EPA** Environmental Protection Authority, Western Australia

EPBC Act Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)

GIS Geographical Information System
ha Hectare (10,000 square metres)

IBRA Interim Biogeographic Regionalisation for Australia

IUCN International Union for the Conservation of Nature and Natural Resources – commonly known as the

World Conservation Union

PEC Priority Ecological Community, Western Australia

RIWI Act Rights in Water and Irrigation Act 1914, Western Australia

TEC Threatened Ecological Community

Definitions:

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

T 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.