Department of Mines, Petroleum and Exploration

GOVERNMENT OF WESTERN AUSTRALIA

Clearing Permit Decision Report

1. Application details and outcomes

1.1. Permit application details

Permit number:	9380/2
Permit type:	Purpose permit
Applicant name:	Juno Minerals Limited
Application received:	23 December 2025
Application area:	69.5 hectares
Purpose of clearing:	Mineral production and associated activities
Method of clearing:	Mechanical removal
Tenure:	General Purpose Lease 29/21 Miscellaneous Licence 29/116, 29/117, 29/123
Location (LGA area):	Shire of Menzies
Colloquial name:	Yunndaga Rail Siding Project

1.2. Description of clearing activities

Juno Minerals Limited proposes to clear up to 69.5 hectares of native vegetation within a boundary of approximately 69.5 hectares, for the purpose of mineral production and associated activities. The project is located approximately one kilometre west and southwest of Menzies, within the Shire of Menzies.

Clearing permit CPS 9380/1 was granted by the Department of Mines, Industry Regulation and Safety (now the Department of Mines, Petroleum and Exploration) on 14 December 2021 and was valid from 8 January 2022 to 30 April 2026. The permit authorised the clearing of up to 69.5 hectares of native vegetation within a boundary of approximately 70.483 hectares, for the purpose of mineral production and associated activities.

On 23 December 2025, the permit holder applied to amend CPS 9380/1 to extend the permit duration.

Based on the correspondence with the proponent and aerial imagery, no clearing has occurred under this permit.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	23 April 2026
Decision area:	69.5 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51KA(1) and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Mines, Petroleum and Exploration (DMPE) advertised the application for a public comment for a period of 7 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix B), relevant datasets (Appendix E), 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;
- the loss of native vegetation that is suitable habitat for conservation significant fauna; and
- potential land degradation in the form of soil erosion.

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

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity; and
- commence construction no later than three months after undertaking clearing to reduce the risk of erosion.

The assessment has not changed since the assessment for CPS 9380/2, except in the case of principles (a) and (b). The southern whiteface (*Aphelocephala leucopsis*, VU), arid bronze azure butterfly (*Ogyris petrina*, CR), and malleefowl (*Leipoa ocellata*, VU) under the *Biodiversity Conservation Act 2016*, and (*Jalmenus aridus*, P2) under the DBCA Priority fauna list have been further considered under principles (a) and (b) in this assessment. The Delegated Officer determined that the proposed extension of permit duration is not likely to lead to an unacceptable risk to environmental values.

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 (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)
- *Biosecurity and Agriculture Management Act 2007* (BAM Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Country Areas Water Supply Act 1947* (WA) (CAWS Act)
- *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act)
- *Mining Act 1978* (WA)
- *Rights in Water and Irrigation Act 1914* (RIWI Act)

Relevant agreements (treaties) considered during the assessment include:

- Japan-Australia Migratory Bird Agreement
- China-Australia Migratory Bird Agreement
- Republic of Korea-Australia Migratory Bird Agreement

The key guidance documents which inform this assessment are:

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

Supporting documentation was submitted by the applicant, demonstrating the explanation of avoidance and mitigation measures. The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

A review of current environmental information (Appendix B) reveals that the assessment against the clearing principles has not changed significantly from the clearing permit decision report CPS 9380/1 except for principles (a) and (b) which require further consideration. Updated information on flora and fauna species known within 50 kilometres of the application area has been incorporated into this assessment.

3.2.1. Biological values (flora) - Clearing principle (a)

Assessment

Since the assessment of CPS 9380/1 no clearing or disturbance (e.g. fire) has occurred within the application area and no further flora surveys have been conducted (GIS Database).

Priority flora
No priority species were recorded within the application area during the last flora survey (Western Botanical, 2021). The application area contains suitable habitat for *Acacia eremophila* var. *variabilis* (P3), *Eutaxia rubricarina* (P3), *Hysterobaeckea ochropetala* subsp. *cometes* (P3), *Philotheca coateana* (P3) and *Pigea* sp. Chloroxantha (E. Bennett & D. Bright EUC 1810) (P3) which were determined to possibly occur (Western Botanical, 2021).

Acacia eremophila var. *variabilis* is a large shrub which inhabits sand or sandy loam soils in low woodlands or shrublands habitats within the Avon Wheatbelt, Coolgardie, Great Victoria Desert, and Murchison bioregions (Cowan, 2018; WA Herbarium, 1998-). This species is unlikely to be significantly impacted by the proposed clearing at a local or regional level given its general habitat type and extensive range.

Eutaxia rubricarina is a perennial shrub which inhabits low open eucalypt woodlands, over gravelly soils within Avon Wheatbelt, Coolgardie, Mallee, Murchison bioregions (WA Herbarium, 1998-). This species is often associated with *Eucalyptus salmonophloia* woodlands, which are absent from the application area (WA Herbarium, 1998-; Western Botanical, 2021). This species is unlikely to be significantly impacted by the proposed clearing at a local or regional level due to its extensive range and lack of preferred habitat within the application area.

Hysterobaeckea ochropetala subsp. *cometes* inhabits red and yellow sandy soils, where the dominant vegetation consists of mallees over *Acacia* species, with an understory of spinifex (Rye, 2018). The application area contains eucalypts over acacia; however, lacks spinifex, additionally soils within the application area are more so characterised as clays and loams rather than sandy. This species is unlikely to be significantly impacted by the proposed clearing as preferred habitat is absent, impacts to this species would be at a local level if present.

Philotheca coateana is a small shrub that occurs in sandy clay loam shrublands, most commonly within mulga shrublands, but has also been recorded on breakaways and among spinifex and other scrub vegetation in the Coolgardie and Murchison bioregions (WA Herbarium, 1998–). There is a record of this species adjacent to the application area, however the townsite of Menzies appears to have been used for this record, rather than the records' true location (GIS Database). Should this species be present, impacts would likely be at a local level.

Pigea sp. Chloroxantha (E. Bennett & D. Bright EUC 1810) is a small shrub known from the Murchison bioregion. This species occurs on red-brown loamy soils within mulga drainage lines and is often recorded in large frequencies (WA Herbarium, 1998-). Suitable habitat is present within DRMS vegetation type, however, DRMS vegetation extends beyond the application area. This species was not considered in the Western Botanical 2021 flora survey and no *Pigea* species were recorded. Should this species be present, the proposed clearing is unlikely to have a significant impact on this species at a regional level. Potential impacts can be further minimised through the continued implementation of the watercourse management condition.

Introduced flora species
Ten introduced species were recorded within the application area, none of these species are considered weeds of national significance (DPIRD, 2026b; Western Botanical, 2021). Western Botanical (2021) noted that *Cenchrus ciliaris* (Buffel grass) was present within the application area. Buffel grass is not currently a declared pest, however an aggressive invader and efforts to control and minimise populations should be taken in the development and management of the Yunndaga Rail Siding Project, particularly in the years following soil disturbance.

Conclusion

No priority species were recorded within the application area. Species considered to potentially occur within the application area are unlikely to be present or significantly impacted by the proposed clearing at a regional level. The proposed clearing may contribute to the spread of invasive weed species within the application area and negatively impact biodiversity within and adjacent to the application area.

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;
- take hygiene steps to minimise the risk of the introduction and spread of weeds; and
- vegetation management – avoid riparian vegetation and where a watercourse is to be impacted by clearing, the permit holder shall ensure that the existing surface flow is maintained or reinstated downstream into existing natural drainage lines.

3.2.2. Biological values (fauna) - Clearing principles (a) and (b)

Assessment

Since the assessment of CPS 9380/1 no clearing or disturbance (e.g. fire) has occurred within the application area, no further fauna surveys have been conducted (GIS Database). The application area is approximately three kilometres long and is associated with a haul road and rail siding. Linear infrastructure has the potential to fragment vegetation associations and fauna habitat. Additionally noting the location of the application area, the presence of previous and ongoing disturbances, the proposed clearing is likely to contribute to a larger cumulative impact.

The conservation significant species listed below were previously not considered in detail in the assessment of CPS 9380/1; however, updated information has been incorporated into the assessment.

Southern whiteface

Since the granting of CPS 9380/2 the southern whiteface (*Aphelocephala leucopsis*) has been listed as vulnerable under the *Biodiversity Conservation Act 2016* (DBCA, 2025). The southern whiteface occurs across most of mainland Australia, within open woodlands and shrublands where there is an understorey of grasses, shrubs or both (DCCEEW, 2023). This species forages on the ground amongst leaf litter, and nests within tree hollows or crevices and in low bushes, and breeds from July to October, building large domed nests of grass, bark and roots in tree crevices and low bushes (DCCEEW, 2023).

The application area contains suitable foraging habitat in shrubland and woodland habitats, however, it is unknown if the application area provides trees suitable for roosting and nesting. Given the potential for suitable breeding habitat, appropriate mitigation measures should be implemented during breeding season to reduce the impact to this species.

Malleefowl

Malleefowl (Leipoa ocellata, VU) occur in semi-arid to arid shrublands and low woodlands dominated by mallee and associated habitats, such as broombush (*Melaleuca uncinata*) and native pine (*Callitris* spp.) scrub, as well as scrubs of acacia in central Australia (DEWHA, 2017). Malleefowl construct their mounds in sandy or loamy soils where leaf litter is abundant (National Malleefowl Recovery Team, 2016). The application area contains mulga shrublands, however habitat within the application area was determined to be likely unsuitable for malleefowl due to historic disturbance within the application area and surrounds (Western Ecological, 2021).

Invertebrates

Since the granting of CPS 9380/2, the arid bronze azure butterfly (*Ogyris petrina*, CR) and the inland hairstreak butterfly (*Jalmenus aridus*, P2) have been listed under the *Biodiversity Conservation Act 2016* and DBCA Priority fauna list, respectively (DBCA, 2025).

The arid bronze azure butterfly (ABAB) has an obligate association with sugar ant *Camponotus* sp. nr. *terebrans* (DBCA, 2020). Habitat at known extant sites where the ABAB occurs, the vegetation is mature mixed gimlet (*Eucalyptus salubris*), salmon gum (*E. salmonophloia*) woodlands on red-brown loam soils, with an open understorey (DBCA, 2020). Smooth-barked york gum (*E. loxophleba* subsp. *lissophloia*) and ribbon barked mallee (*E. sheathiana*) have also been recorded with basal ant colonies at known ABAB sites (DBCA, 2020). Habitat at the locally extinct Lake Douglas site differs from the other sites but is also dominated by mature smooth-barked eucalypt woodland, particularly Victoria Desert mallee *E. concinna* (DBCA, 2020).

E. concinna is typically rough barked at the base and lower stems and is less commonly entirely smooth (CANBR, 2020a). Vegetation type EoIW (*Eucalyptus oleosa* Acacia woodlands) contains occasional *Eucalyptus concinna.* This vegetation type is dominated by *Eucalyptus oleosa* subsp. *oleosa*, which is rough barked at lower stems and is occasionally smooth barked at ground level (CANBR, 2020c). Given both species are generally rough barked and *Eucalyptus concinna* is not dominant species within EoIW vegetation type, the application area is unlikely to provide significant suitable habitat for ABAB.

E. concinna dominant vegetation is present outside of the application area within tenements G 29/21 and L 29/117, which is likely suitable habitat for ABAB, if expansion or layout changes were to occur this should be considered.

The inland hairstreak inhabits open woodlands with a stand mixture of young and mature *Senna artemisioides* subsp. *filifolia* shrubs in an area of 2,000 metres squared or more. Inland hairstreak requires a variety of flowering shrubs (*Eremophila* sp., *Scaevola* sp., and *Maireana* sp.), some scattered taller vegetation (*Allocasuarina* sp., *Santalum* sp.) and open areas of exposed, well-drained ground adjoining Senna host plants (Eastwood et al., 2023). Most breeding sites have been found on clay loam on relatively flat ground or adjoining seasonal floodplains (Eastwood et al., 2023). The inland hairstreak has a mutualistic association with *Froggattella kirbii* ants, these ants are often found at the base of *Senna* hostplants (Eastwood et al., 2023).

Senna artemisioides subsp. *filifolia* is common and widespread throughout the goldfields area and is known within vegetation associations within the application area, at varying percent of foliar coverage (PFC) (WA Herbarium, 1998- ; Western Botanical, 2021). Within the application area vegetation associations CPBS and EcoW were described as being more so dominated by *Senna artemisioides* subsp. *filifolia* compared to other vegetation associations (Western Botanical, 2021). However, given the shape of the application and mapped vegetation associations, it is unlikely that there will be appropriately sized stands of *Senna* within the application area to be considered suitable for inland hairstreak.

Conclusion

For the reasons outlined above the proposed clearing is likely to impact suitable habitat for the southern whiteface and malleefowl. To minimise impacts to these species the below conditions will be implemented on the permit to minimise impact to fauna.

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;
- undertake slow, progressive one-directional clearing to allow terrestrial fauna to move into adjacent habitat ahead of the clearing activity; and
- a fauna management (southern whiteface) condition requiring areas proposed to be cleared between 1 July and 31 October are inspected to identify active (in use) southern whiteface nests, and to maintain a 50 metre buffer around identified active nests; and
- a fauna management (malleefowl) condition requiring areas proposed to be cleared between 1 September and 31 January are inspected to identify active (in use) malleefowl mounds, and to maintain a 200 metre buffer around identified active mounds.

3.3. Relevant planning instruments and other matters

The clearing permit amendment application was advertised on 13 March 2026 by the Department of Mines, Petroleum and Exploration inviting submissions from the public. No submissions were received in relation to this application.

There are two native title claims over the area under application (DPLH, 2026). These claims (WCD2022/002 and WCD2023/002) have been registered with the National Native Title Tribunal on behalf of the claimant groups (Darlot and Nyalpa Pirniku). 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 two registered Aboriginal Sites of Significance within the application area (DPLH, 2026). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

It is noted that the proposed clearing may impact on southern whiteface (*Aphelocephala leucopsis*), which is a protected matter under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The proponent may be required to refer the project to the (Commonwealth) Department of Climate Change, Energy, the Environment and Water for environmental impact assessment under the EPBC Act. The proponent is advised to contact the Department of Climate Change, Energy, the Environment and Water for further information regarding notification and referral responsibilities under the EPBC Act.

Other relevant authorisations required for the proposed land use include:

- A Programme of Work approved under the *Mining Act 1978*
- A Mining Development and Closure Proposal 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. Additional information provided by applicant

Summary of comments	Consideration of comment
Notification from applicant that no clearing has been conducted to date.	Information provided was considered during the assessment against the ten clearing principles and reasons for decision.

Appendix B. Site characteristics

B.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 adjacent to the Menzies townsite, historical mining activity and native vegetation (GIS Database). The predominant land use in the Eastern Murchison subregion is native pastures, UCL and Crown Reserves, mining and conservation estate (CALM, 2002).
Ecological linkage	According to available databases, the application area does not contain any known or mapped ecological linkages (GIS Database).
Conservation areas	The nearest conservation area is Goongarrie National Park located approximately 37 kilometres southeast of the application area (GIS Database).
Vegetation description	The vegetation of the application area is broadly mapped as the following Beard vegetation associations: • **Barlee 18:** Low woodland, open low woodland or sparse woodland, mulga (*Acacia aneura*) and associated species; • **Barlee 20:** Low woodland, open low woodland or sparse woodland, mulga mixed with *Allocasuarina cristata* and *Eucalyptus* sp.; and • **Barlee 251:** Low woodland, open low woodland or sparse woodland, mulga & *Allocasuarina cristata* (GIS Database). A flora and vegetation survey was conducted over the application area by Western Botanical during April, May, and August 2021. The following vegetation associations were recorded within the application area, in addition to disturbed vegetation (Western Botanical, 2021):

Landform	Vegetation code	Vegetation Association	Description
Low basalt /greenstone hills and rises	GHAS-As	Greenstone hill *Acacia sibirica* shrublands	Hills and low rises of red earths on greenstone or basalt indurated by iron, supporting *Acacia sibirica*
Stony plains	CpAsS	*Casuarina pauper - Acacia sibirica* shrublands	Stoney rises and plains with moderate to abundant mixed mantles of greenstone, quartz and ironstone pebbles and cobbles, supporting prominent *Casuarina pauper* overstoreys with *Acacia sibirica.*
	CPBS	Calcyphytic pearl bluebush (*Maireana sedifolia*) shrublands	Stoney plains and slopes of greenstone hills supporting *Maireana sedifolia*
Calcrete platforms	EclW	Calcrete platform *Eucalyptus clelandiorum* woodlands	Low precipitated calcrete platforms supporting dominant *Eucalyptus clelandiorum* overstoreys with chenopod low shrublands.
Hardpan plains	HPMS	Hardpan mulga shrublands	Level to very gentle inclined plains subject to sheet flow, often with mantles of fine ironstone gravel, supporting scattered to moderately close *Acacia aneura* tall shrublands
	HPMS + DRMS	Mosaic of Hardpan mulga shrublands and Drainage tract Mulga shrublands	
Alluvial plains	PSAS	Sago bush (*Maireana pyramidata*) low shrublands	Alluvial plains with red earths or duplex soils on hardpan dominated by *Maireana pyramidata.*

		EolW	Calcareous plain *Eucalyptus oleosa* - Acacia woodlands	Very gently undulating to level plains with dominant *Eucalyptus oleosa* overstory, and *Acacia aneura*, *Eremophila oppositifolia*, *Eremophila scoparia* midstory
	Drainage tracts	DRMS	Drainage tract Mulga shrublands	Narrow unincised linear drainage zones receiving concentrated run-on, supporting *Acacia aneura* tall shrublands.
Vegetation condition	Vegetation surveys of the application area found the vegetation to be in, Completely Degraded to Excellent condition (Trudgen, 1991). The full Trudgen (1991) condition rating scale is provided in Appendix E.			
Climate and landform	The climate of the Eastern Murchison subregion is described as arid, with mainly winter rainfall, the average annual rainfall is 252.7 millimetres recorded at Menzies (BoM, 2025; CALM, 2002). The application area is mapped within elevation areas of 400 to 430 meters Australian Height Datum (GIS Database).			
Soil description and land degradation risk	The soil is mapped as a part of the following land systems (DPIRD, 2026a; Pringle et al., 1994; GIS Database): • **Bunyip system (265By):** Gilgaied drainage tract, draining greenstone hills supporting mixed halophytic shrublands occasionally with a black oak overstorey. Alluvial plains are slightly susceptible to soil erosion, particularly if perennial shrub cover is substantially reduced or the soil surface is disturbed. Impedance to natural drainage features can initiate accelerated soil erosion and cause loss of vigour in vegetation from water starvation.; • **Moriarty system (265Mo):** Low greenstone rises and stony plains supporting chenopod shrublands with patchy eucalypt overstoreys. Slopes of low rises without protective stone mantles, alluvial plains and narrow drainage tracts are moderately susceptible to water erosion, particularly if perennial shrub cover is substantially reduced, or the soil surface is disturbed.; • **Rainbow system (265Rb):** Hardpan plains supporting mulga tall shrublands. This system is generally not susceptible to soil erosion. Impedance of sheet flow can initiate soil erosion and cause water starvation and consequent loss of vigour in vegetation; and • **Yowie system (265Yo):** Sandy plains supporting tall shrublands of mulga and bowgada with patchy wanderrie grasses. This system is generally not susceptible to soil erosion.			
Waterbodies	The desktop assessment and aerial imagery indicated that there are multiple ephemeral watercourses transect the area proposed to be cleared (GIS Database). There are no permanent waterbodies or major watercourses that intersect the application area (GIS Database). The nearest Wetland of National Importance is Lake Ballard approximately 11 kilometres northwest of the application area (GIS Database).			
Hydrogeography	The application area is located within the Goldfields Groundwater Area proclaimed under the *Rights in Water and Irrigation Act 1914* (GIS Database). The application area intersects the Menzies Water Reserve, a Public Drinking Water Source Area proclaimed under the *Country Areas Water Supply Act 1947* (GIS Database). The mapped groundwater salinity is between approximately 3,000 to 7,000 milligrams per litre total dissolved solids which is described as brackish to saline (BoM, 2019; GIS Database).			
Flora	There are records of 29 priority flora within the local surrounds (50 kilometres), no threatened flora is known to occur within the local surrounds (50 kilometres) (GIS Database). There are no records of priority flora within the application area (Western Botanical, 2021; GIS Database).			
Ecological communities	There are no Threatened Ecological Communities or Priority Ecological Communities within the application area or local surrounds (20 kilometres) (GIS Database). The nearest Priority Ecological Community is the Emu Land System approximately 42 kilometres south of the application area (GIS Database).			
Fauna	No Threatened of Priority fauna species have been recorded within the application area (Western Ecological, 2021; GIS Database). There are records of ten fauna of conservation significance that have been recorded within the local surrounds (50 kilometres) (GIS Database). Additional species known to occur within the within the Eastern Murchison bioregion that have been considered as detailed in Appendix B.4.			
Fauna habitat	A targeted malleefowl and night parrot survey was conducted over the application area by Western Ecological during May 2021. The following vegetation associations were recorded within the application area, in addition to disturbed vegetation (Western Ecological, 2021): • Mulga shrubland • Eucalypt open woodland; and • Low scattered shrubland			

B.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent remaining (%)	Current extent in all DBCA managed land (ha)	Current extent in all DBCA Managed Land (proportion of pre-European extent) (%)
IBRA Bioregion - Murchison	28,120,586.77	28,044,823.42	99.73	2,185,987.96	7.77
Beard vegetation associations - State					
Veg Assoc 18.	19,892,306.46	19,843,148	99.75	1,317,179	6.62
Veg Assoc 20.	1,295,103.39	1,292,474.58	99.80	250,985.57	19.38
Veg Assoc 251.	173,096.19	172,864.64	99.87	120,496.03	69.61
Beard vegetation associations - Bioregion					
Veg Assoc 18.	12,403,172.30	12,363,252.47	99.68	614,964	4.96
Veg Assoc 20.	1,174,259.17	1,171,630.81	99.78	181,845.19	15.49
Veg Assoc 251.	58,012	57,780	99.60	5,411	9.33

Government of Western Australia (2019)

B.3. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (Appendix E.1), scientific journals, and biological survey information, impacts to the following conservation significant flora required further consideration (CANBR, 2020b; Chinnock, 2007; WA Herbarium, 1998-; Western Botanical, 2021; GIS Database).

Species name	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Likelihood of occurrence (Western Botanical, 2021)
Priority 1				
Calandrinia quartzitica	N	<10	18	Possible
Persoonia leucopogon	N	<20	5	Unlikely
Ptilotus rigidus	N	<30	21	Unlikely
Ptilotus sp. Kalgoorlie (J. Jackson & B. Moyle 260)	N	<40	3	Unlikely
Tecticornia enodis	N	<40	19	Unlikely
Tecticornia mellarium	N	<50	21	Not considered
Priority 2				
Apatelantha insignis	N	<5	31	Not considered
Eremophila mirabilis	N	<45	18	Unlikely
Eremophila praecox	N	<40	52	Not considered
Eucalyptus educta	N	<45	46	Possible
Malleostemon sp. Adelong (G.J. Keighery 11825)	N	<10	4	Possible
Thryptomene eremaea	N	<5	13	Possible
Priority 3				
Acacia eremophila var. *variabilis*	Y	<20	20	Possible
Alyxia tetanifolia	N	<20	20	Possible
Austrostipa vickeryana	N	<40	9	Not considered
Chrysocephalum apiculatum subsp. *norsemanense*	N	<25	18	Possible

Species name	Suitable habitat features? [Y/N]	Distance of closest record to application area (km)	Number of known records (total)	Likelihood of occurrence (Western Botanical, 2021)
Elatine macrocalyx	N	<25	9	Unlikely
Eleocharis papillosa	N	<25	15	Unlikely
Eutaxia nanophylla	N	<45	10	Possible
Eutaxia rubricarina	Y	<25	10	Possible
Homalocalyx grandiflorus	N	<20	16	Unlikely
Hysterobaeckea ochropetala subsp. *cometes*	Y	<5	29	Possible
Micromyrtus serrulata	N	<40	23	Unlikely
Philotheca coateana	Y	<5	14	Possible
Pigea sp. Chloroxantha (E. Bennett & D. Bright EUC 1810)	Y	<30	26	Not considered
Pterostylis virens	N	<50	17	Unlikely
Priority 4				
Eucalyptus jutsonii subsp. *jutsonii*	N	<20	36	Unlikely
Grevillea erectiloba	N	<5	30	Unlikely
Sowerbaea multicaulis	N	<25	22	Unlikely

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

B.4. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (Appendix E.1), scientific journals, and biological survey information, impacts to the following conservation significant fauna required further consideration (Menkhorst & Knight, 2011; van Dyck & Strahan, 2008; Western Ecological, 2021; GIS Database).

Species name	Conservation status	Suitable habitat features? [Y/N]	Suitable vegetation type? [Y/N]	Distance of closest record to application area (km)	Are surveys adequate to identify? [Y, N, N/A]
Birds					
Hooded plover (*Charadrius cucullatus*)	P4	N	N/A	<30	Y
Malleefowl (*Leipoa ocellata*)	VU	Y	Y	<5	Y
Night parrot (*Pezoporus occidentalis*)	CR	N	N	<15	Y
Southern whiteface (*Aphelocephala leucopsis*)	VU	Y	Y	N/A	N
Mammals					
Central long-eared bat (*Nyctophilus major tor*)	P3	Y	Y - foraging	<30	N
Chuditch (*Dasyurus geoffroii*)*	VU	Y		<30	N/A
Western mouse (*Pseudomys occidentalis*)**	P4	Y	Y	<50	N
Reptiles					
Woma (southwest subpopulation) (*Aspidites ramsayi*)	P1	N	N	<5	N
Invertebrates					
Arid bronze azure butterfly (*Ogyris petrina*)	CR	Y	N	<45	N
Fairy shrimp (inland WA) (*Branchinella simplex*)	P1	N	N/A	<15	N/A
Inland hairstreak butterfly (*Jalmenus aridus*)	P2	Y	Y	<40	N

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

* denotes species is likely locally extinct

**denotes species record at extent of known range, unlikely to occur within the application area

Appendix C. 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."* Assessment: The area proposed to be cleared contains some suitable habitat for conservation significant flora and fauna.	Not likely to be at variance (as per CPS 9380/1)	Yes *Refer to Section 3.2.1, above.*
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."* Assessment: The area proposed to be cleared contains suitable habitat for conservation significant fauna.	May be at variance (changed from CPS 9380/1)	Yes *Refer to Section 3.2.2, above.*
Principle (c): *"Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora."* Assessment: The area proposed to be cleared is unlikely to contain flora species listed under the BC Act (Western Botanical, 2021; GIS Database).	Not likely to be at variance (as per CPS 9380/1)	No
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."* Assessment: The area proposed to be cleared does not contain species that can indicate a threatened ecological community (GIS Database).	Not likely to be at variance (as per CPS 9380/1)	No
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."* Assessment: The extent of the mapped vegetation type is consistent with the national objectives and targets for biodiversity conservation in Australia (Commonwealth of Australia, 2001; Appendix B.2.). The vegetation proposed to be cleared is not considered to be part of a significant ecological linkage in the local area (GIS Database).	Not likely to be at variance (as per CPS 9380/1)	No
Principle (h): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area."* Assessment: 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.	Not likely to be at variance (as per CPS 9380/1)	No
Environmental value: land and water resources		
Principle (f): *"Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland."* Assessment: There are multiple ephemeral drainage lines throughout the application area, which are associated with DRMS and HMPS+DRMS vegetation (Western Botanical, 2021; GIS Database). Potential impacts to vegetation associated with watercourses can be minimised by the existing watercourse management condition.	At variance (as per CPS 9380/1)	No

Assessment against the clearing principles	Variance level	Is further consideration required?
Principle (g): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation."* Assessment: The mapped soils are moderately susceptible to soil erosion. Noting the extent location of the application area and the condition of the vegetation, the proposed clearing is likely to have an appreciable impact on land degradation. Potential erosion impacts as a result of the proposed clearing can be minimised by the implementation of a staged clearing condition to ensure large areas are not void of vegetation cover for extended periods.	May be at variance (changed from CPS 9380/1)	No
Principle (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."* Assessment: Given there are no permanent watercourses or wetlands within the application area (GIS Database), it is unlikely the proposed clearing will have a significant impact on surface water quality. One Public Drinking Water Source Area (Menzies Water Reserve) intersects the application area (GIS Database). The proposed clearing is considered compatible with the Menzies Water Reserve (DWER, 2026). The proposed clearing is unlikely to significantly impact underground water quality.	Not likely to be at variance (as per CPS 9380/1)	No
Principle (j): *"Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding."* Assessment: Given there are no permanent watercourses or wetlands within the application area, the proposed clearing is unlikely to contribute to contribute to increased incidence or intensity of flooding (GIS Database). Potential impacts that are likely to contribute to waterlogging or increased incident or intensity of flooding can be minimised by the implementation of a watercourse management condition.	Not likely to be at variance (as per CPS 9380/1)	No

Appendix D. 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 E. Sources of information

E.1. GIS datasets

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

- Cadastre (Polygon) (LGATE-217)
- Clearing Instruments Activities (Areas Approved to Clear) (DWER-076)
- Clearing Instruments Conditions (Areas Subject to Conditions) (DWER-077)
- Clearing Instruments Proposals (Areas Applied to Clear) (DWER-075)
- Clearing Regulations - Environmentally Sensitive Areas (DWER-046)
- Clearing Regulations - Schedule One Areas (DWER-057)
- DBCA - Lands of Interest (DBCA-012)
- DBCA - Legislated Lands and Waters (DBCA-011)
- DBCA Fire History (DBCA-060)
- Directory of Important Wetlands in Australia - Western Australia (DBCA-045)
- Geographic Names (GEONOMA) (LGATE-013)
- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- IBSA Survey Details (DWER-118)
- Local Government Area (LGA) Boundaries (LGATE-233)
- Localities (LGATE-234)
- Medium Scale Topo Contour (Line) (LGATE-015)
- Mineral Field Boundaries (DMIRS-005)
- Native Title (Determination) (LGATE-066)
- Native Title (Fed Court) (LGATE-005)
- Native Title (NNTT) (LGATE-004)
- Native Vegetation Extent (DPIRD-005)
- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- Ramsar Sites (DBCA-010)
- Regional Parks (DBCA-026)
- Reserves (LGATE-227)
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Rivers (DWER-036)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Mapping - Best Available (DPIRD-027)
- Soil Landscape Mapping - Systems (DPIRD-064)
- Surface Water Management Areas (DWER-041)
- Surface Water Management Subareas (DWER-042)
- Townsites (LGATE-248)
- WA Now Aerial Imagery
- WRIMS - Groundwater Areas (DWER-085)

Restricted GIS Databases used:

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

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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
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety (now DMPE)
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia (now DMPE)
DMP	Department of Mines and Petroleum, Western Australia (now DMPE)
DMPE	Department of Mines, Petroleum and Exploration
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* (Commonwealth 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 (2023) Conservation Codes for Western Australian Flora and Fauna. Department of Biodiversity, Conservation and Attractions, Western Australia:

Threatened species

T	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 the species of fauna that are listed as critically endangered, endangered or vulnerable threatened species.

Threatened flora is the species of flora that are listed as critically endangered, endangered or vulnerable threatened species.

The assessment of the conservation status of threatened species is in accordance with the BC Act listing criteria and the requirements of Ministerial Guideline Number 1 and Ministerial Guideline Number 2 that adopts the use of the International Union for Conservation of Nature (IUCN) Red List of Threatened Species Categories and Criteria, and is based on the national distribution of the species.

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.

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.

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.

Extinct species

Listed by order of the Minister as extinct under section 23(1) of the BC Act as extinct or extinct in the wild.

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).

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.

Specially protected species

SP **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).

Migratory species include birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) or 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.

CD **Species of special conservation interest (conservation dependent fauna)**

Species of special conservation need that are 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).

Currently only fauna are listed as species of special conservation interest.

OS **Other specially protected species**

Species 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).

Currently only fauna are listed as species otherwise in need of special protection.

Priority species

P **Priority species**

Priority is not a listing category under the BC Act. The Priority Flora and Fauna lists are maintained by the department and are published on the department's website.

All fauna and flora are protected in WA following the provisions in Part 10 of the BC Act. The protection applies even when a species is not listed as threatened or specially protected, and regardless of land tenure (State managed land (Crown land), private land, or Commonwealth land).

Species that may possibly be threatened species that do not meet the criteria for listing under the BC Act because of insufficient survey 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 prioritisation for survey and evaluation of conservation status so that consideration can be given to potential listing as threatened.

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

Assessment of priority status 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 – known from few locations, none on conservation lands**

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, for example, 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 for threatened listing and appear to be under immediate threat from known threatening processes. These species are in urgent need of further survey.

P2 **Priority Two - Poorly-known species – known from few locations, some on conservation lands**

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, for example, 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 for threatened listing and appear to be under threat from known threatening processes. These species are in urgent need of further survey.

P3 **Priority Three - Poorly-known species – known from several locations**

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. These species need 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 a conservation dependent specially protected species.

(c) Species that have been removed from the list of threatened species or lists of conservation dependent or other specially protected species, during the past five years for reasons other than taxonomy.

(d) Other species in need of monitoring.

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.