

Clearing Permit Decision Report

Application details and outcomes

1.1. Permit application details

Permit number: 10974/1

Permit type: Purpose Permit

Applicant name: GMA Garnet Pty Ltd
Application received: 25 February 2025
Application area: 32.17 hectares

Purpose of clearing: Mineral production and associated activities

Method of clearing: Mechanical Removal
Tenure: Mining Lease 70/204
Location (LGA area): Shire of Northampton

Colloquial name: FMHC Pit

1.2. Description of clearing activities

GMA Garnet Pty Ltd (GMA) proposes to clear up to 32.17 hectares of native vegetation within a boundary of approximately 33.05 hectares, for the purpose of mining related infrastructure. The project is located approximately two kilometres northeast of Gregory, within the Shire of Northampton (GIS Database).

The application is to allow for the extraction of fine heavy mineral concentrate (FHMC) to meet market demand (GMA, 2025b). GMA proposes a clearing rate of 15 hectares of vegetation per annum, where mining voids are to be progressively backfilled and rehabilitated at the trailing edge of the pit while mining activities continue (GMA, 2025a; 2025b).

1.3. Decision on application and key considerations

Decision: Grant

Decision date: 18 December 2025

Decision area: 32.17 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was submitted, accepted, assessed, and determined in accordance with sections 51E and 51O of the *Environmental Protection Act 1986* (EP Act). The Department of Mines, Petroleum and Exploration (DMPE) 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), supporting information provided by the applicant, including the results of a flora and vegetation survey (GHD, 2020), 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;
- the loss of native vegetation that is a significant remnant of native vegetation; and
- potential land degradation in the form of wind 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;
- commence construction no later than three months after undertaking clearing to reduce the risk of erosion;

•	restrict clearing of up to 15 hectares of native vegetation per financial year; and	
		ent
	retain cleared vegetation and topsoil and respread this on a cleared area of equivalent size within the adjace existing gravel extraction area within 12 months of clearing to ensure fauna habitat is not permanently lost.	
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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 510 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)
- 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, 2016b)
- Technical guidance Terrestrial Fauna Surveys for Environmental Impact Assessment (EPA, 2016a)
- 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 various avoidance and mitigation measures including, but not limited to, will be implemented (GMA, 2025b):

- · awareness training highlighting clearing procedures;
- · clearing and ground disturbance permit systems and procedures;
- areas are to be surveyed prior to clearing;
- post-clearing checks to ensure clearing has been undertaking following the permit conditions;
- dust management as per GMA's Dust Management Procedures (e.g. water carts);
- one directional clearing to allow fauna to disperse into adjacent vegetation;
- speed limits on access and haul roads;
- weed and hygiene procedures will be followed (e.g. clean machinery/equipment will be brought to site); and
- a buffer of western portion of the permit has been excised to maintain the native vegetation corridor.

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 (Appendix A) and the extent to which the impacts of the proposed clearing present a risk to biological, conservation, or land and water resource values.

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

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

<u>Assessment</u>

Flora

A reconnaissance flora and vegetation survey on Mining Leases 70/204 and 70/1330 (which includes the application area) was conducted by GHD (2020) from 8 to 12 December 2019. The vegetation of the application area was dominated by *Acacia rostellifera* woodland (GHD, 2020). No Threatened or Priority Ecological Communities were identified as potentially occurring in the application area and none were identified during the field assessment (GHD, 2020; GIS Database).

A total of 64 flora species representing 26 families and 50 genera were recorded within the greater survey area (GHD, 2020). There are 60 conservation significant flora species recorded in the local area (20 kilometres) (GIS Database). Based on the habitat present, six of these species are considered to possibly occur within the application area. However, no species of Threatened or Priority flora were identified during a flora survey of the application area and surrounding areas (GHD, 2020).

Fifteen species of weeds were recorded during the greater field survey of the application area and surrounding areas (GHD, 2020). None were listed as a Declared Pest under the *Biosecurity and Agriculture Management Act 2007* (GHD, 2020).

Fauna

There are a number of conservation significant fauna species which have been recorded in the local area (20 kilometre radius) (GHD, 2020; GIS Database). The large majority of these records are migratory shorebirds which are likely to utilise nearby Hutt Lagoon and coastal areas. Based on the habitat present, the application area is not likely to be suitable for these species. Several species such as Peregrine Falcon (*Falco peregrinus*), Little Curlew (*Numenius minutus*), (Fork-tailed Swift (*Apus pacificus*) are likely to pass through the application area as part of a larger home range however, the vegetation is not likely to represent significant habitat. Carnaby's Cockatoo (*Zanda latirostris*) has been recorded in the local area however, there is no suitable roosting or foraging habitat present within the application area (GHD, 2020).

The Geraldton Sandplain shield-backed trapdoor spider (*Idiosoma arenaceum*) has been recorded in the local area from similar habitat to the application area (GIS Database). This species has a moderately widespread distribution within the Geraldton Sandplains and far northern Wheatbelt bioregions with a range of over 250 kilometres (Rix et al., 2018; GIS Database). No burrows have been observed within the application area (GHD, 2020). While the proposed clearing may remove potential habitat for this species, it is not likely to have a significant impact on this species.

The Tammar Wallaby (*Notamacropus eugenii derbianus*) has been recorded within 10 kilometres of the application area (GIS Database). These records (identified in 1960s – 1970s) represent the historical distribution of this species as it is currently known to inhabit three islands in the Houtman Abrolhos group, Garden Island near Perth, Middle and North Twin Peak Islands in the Archipelago of the Recherche (DEC, 2012b). They are also known at least nine sites on the mainland — including, Dryandra, Boyagin, Tutanning, Batalling (reintroduced), Perup, private property near Pingelly, Jaloran Road timber reserve near Wagin, Hopetoun, Stirling Range National Park, and Fitzgerald River National Park (DEC, 2012b). Given this species was not recorded within the application area or the surrounding areas and suitable habitat is present within the bioregion the proposed clearing is not considered to impact this species.

The graceful sun-moth (*Synemon gratiosa*) (Priority 4) is known to occur in disjunct populations from Kalbarri to Binningup (GIS Database). This species has been recorded within five kilometres of the application area and the suitable host plant - *Lomandra maritima* – was identified within the Survey Area. The larvae of the species, which was not identified during the fauna survey, feed only on *Lomandra hermaphrodita* and *Lomandra maritima* (DEC, 2012a). The proposed clearing is not considered to significantly impact this species at a local or regional level as the species was not identified during the fauna survey and suitable habitat is abundant in the surrounding bioregion (GIS Database).

An Osprey (*Pandion haliaetus*) was observed nesting in a dead Acacia tree in vegetation outside of the application area between the old dune pit and pit expansion areas (GHD, 2020). As this species is piscivorous, and the vegetation within the application area is not used for foraging, the application area is not likely to contain significant habitat for this species. The Permit Holder identified the Osprey nest and has committed to restricting disturbances within 100 metres of the next.

The application area forms part of an ecological linkage running north-west to south-east, with Hutt Lagoon to the west and large areas of cleared farmland to the east (GIS Database). This linkage is likely to be significant for fauna species in the local area. The application area does not contain any significant habitat features (such as caves, hollows or water sources) (GHD, 2020). The proposed clearing does not completely severe this ecological linkage, however it would be restricting this corridor and potentially local faunal dispersal. Whilst the vegetation is likely to contribute to an ecological linkage, is not likely to support a high level of faunal diversity given the impacts from weeds and feral grazers.

Conclusion

Flora

The proposed clearing is not likely to impact on conservation significant flora, however there is potential for weeds to outcompete native flora and reduce the biodiversity of the area.

Fauna

There are no conservation significant fauna present within the application area. The proposed clearing does not completely severe this ecological linkage, however it would be restricting this corridor and potentially local faunal dispersal. The proponent has made efforts to reduce the clearing, further reducing the permit boundary to ensure the connection remains. While the vegetation is likely to contribute to an ecological linkage, is not likely to support a high level of faunal diversity given the impacts from weeds and feral grazers.

Based on the above assessment, the proposed clearing will result in the reduction of vegetation within an ecological linkage. This may have an impact on the ability for some fauna to move through the landscape. Whilst the proposed clearing will have potential impacts on fauna in the local area, these impacts can be management by the implementation of conditions on the permit to ensure that clearing is undertaken in a slow directional way, in stages and areas are rehabilitated in a timely manner.

Conditions

Flora

Potential impacts to biodiversity as a result of the introduction of weeds may be minimised by the implementation of a weed management and the avoid and mitigate condition.

Fauna

Potential impacts to fauna a result of the clearing may be managed by implementing the slow directional clearing condition to allow fauna to move into the adjacent environment ahead of the clearing. In addition, the Permit Holder has committed to clearing up to 15 hectares of native vegetation per year with progressive rehabilitation. In addition to the restricted clearing and progressive rehabilitation, a rehabilitation condition will be implemented which will require the Permit Holder to revegetate and rehabilitate an equivalent area within the surrounding areas.

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3.2.2. Significant remnant vegetation / Land degradation - Clearing Principles (e) and (g)

Assessment

Remnant vegetation

The application area falls within the Geraldton Sandplains Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 44% of the pre-European vegetation still exists in the IBRA Geraldton Sandplains Bioregion (Government of Western Australia, 2019), which gives it a conservation status of 'Depleted' according to the Department of Natural Resources and Environment (2002). The local area (10 kilometres radius) has been extensively cleared for agricultural purposes.

The application area is broadly mapped as Beard vegetation association 17: Shrublands; *Acacia rostellifera* thicket (GIS Database). Approximately 83% of the pre-European extent of vegetation association 17 remains uncleared at both the state, bioregional and subregional level (GIS Database). The application area is also broadly mapped as Beard vegetation association 371: low forest; *Acacia rostellifera* (GIS Database). Approximately 10% of the pre-European extent of vegetation association 371 remains uncleared at both the state, bioregional and subregional level (Government of Western Australia, 2019). This gives vegetation association 371 a conservation status of 'Vulnerable' according to the Department of Natural Resources and Environment (2002).

A vegetation and flora survey conducted by GHD (2020) mapped the vegetation of the application area at a much finer scale than the Beard vegetation mapping. The vegetation of the application area was mapped as VT01: *Acacia rostellifera* open woodland to woodland, which was inferred to represent Beard vegetation association 17: Shrublands; *Acacia rostellifera* thicket (GHD, 2020). Therefore, the proposed clearing will not reduce the extent of Beard vegetation association 371. Over 83% of the pre-European extent of vegetation association 17 remains uncleared at the state, bioregional and subregional levels (Government of Western Australia, 2019).

The vegetation within the application area is significant in the maintenance of the ecological linkage the remnant provides. The proposed clearing will not sever the linkage, however it may have an impact on the ability for fauna to move through the landscape. The condition of the vegetation within the application area is mostly good condition due to the existing disturbances and weeds within the application area.

Rehabilitation efforts have been undertaken since 2019 and includes 45 hectares of rehabilitation of M70/204 and M70/968 (GMA, 2025b):

- Approximately 19.5 hectares between July 1 2019 to present.
- Approximately 16.1 hectares between July 2022 to June 2023.
- Approximately, 5.9 hectares of M70/204 and 2.8 hectares of M70/968 has undergone rehabilitation in 2022.
- Approximately, 1.2 hectares of rehabilitation was undertaken in 2021.
- In 2023, approximately 9000 tube stock were planted across the 2019 and 2021 rehabilitation sites on M70/968.

Emerge Associates (2024) completed monitoring on M70/204 and M70/968 in Spring 2024. The recent monitoring indicates that none of the rehabilitation areas currently meet the completion criteria, noting that five years of monitoring is required to demonstrate meeting the completion criteria (GMA, 2025b). The following rehabilitation areas are on a trajectory to meet various components of the completion criteria (Emerge Associates, 2024; GHD, 2019a; 2019b; GMA, 2020):

- The older *Acacia rostellifera* scrub areas (2010 and 2013) are on a trajectory to meeting the native species diversity criteria, and have been meeting the criteria over four years of monitoring.
- The 2021 Acacia rostellifera scrub areas are meeting the completion criteria for the middle stratum cover criteria, and has been over three years of monitoring.

Emerge Associates (2024) recommended that infill planting will assist the rehabilitation progress towards meeting the native species cover criteria and may include these species. The 2024 monitoring indicates that the Lynton Mine rehabilitation is currently not on track to meet the majority of the completion criteria (Emerge Associates, 2024). The completion criteria state that the rehabilitation needs to meet criteria for at least five years. As most rehabilitation areas are only two- or three- years old, an opportunity for infill planting exists to ensure completion criteria are met.

Land degradation

Water erosion has the potential to occur in cleared areas due primarily to the land slope (DPIRD, 2021). However, rainfall events that generate significant run-off are infrequent and the surface flow is generally very localised (DPIRD, 2021). There is the risk of wind erosion from the proposed clearing due to the loose sandy nature of the soils and when cleared, these soils have the potential to mobilise under strong prevailing winds (DPIRD, 2021).

Conclusion

Remnant vegetation

Further clearing of the remnant may contribute to the continued decline in its condition. Monitoring of previously rehabilitated areas has shown that the vegetation has the potential to return to a relatively similar composition and condition of the vegetation within the remnant (Emerge Associates, 2024; GHD, 2019a; 2019b; GMA, 2020). If cleared areas are rehabilitated in a timely manner, the long-term impacts of the clearing may be mitigated.

Land degradation

The risk of wind erosion may impact on neighbouring and surrounding vegetation and properties.

Based on the above assessment, the proposed clearing will result in the reduction of vegetation within an ecological linkage. This may have an impact on the ability for some fauna to move through the landscape. While the proposed clearing will have potential

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impacts on fauna in the local area, these impacts can be managed by the implementation of conditions on the permit to ensure that clearing is undertaken in stages and areas are rehabilitated in a timely manner.

Conditions

Remnant vegetation

Potential impacts to remnant vegetation may be minimised by the implementation of a staged clearing condition and rehabilitation condition. The Permit Holder has committed to clearing up to 15 hectares of native vegetation per year with progressive rehabilitation. In addition to the restricted clearing and progressive rehabilitation, a rehabilitation condition will be implemented which will require the Permit Holder to revegetate and rehabilitate an equivalent area within the local area.

Land degradation

GMA have internal protocols to manage risks associated with dust and include such measures as listed in Section 3.1. In addition to this, to address the above impacts, a staged clearing condition will be placed on the permit which does not allow clearing unless the activity is enacted within three months of the clearing.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 13 May 2025 by the Department of Energy, Mines, Industry Regulation and Safety inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WCD2020/001) over the area under application (DPLH, 2025). This claim has been determined by the Federal Court on behalf of the claimant group (Yamatji). 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, 2025). 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 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

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Appendix A. Site characteristics

A.1. Site characteristics

Local context The application area is located within the Geraldton Hills subregion of the Geraldton Sandplains bioregion (GIS Database). The area proposed to be cleared is part of a remmant patch of native vegetation in the literative lead use zone of Western Australia (GIS Database). It is surrounded by areas of cleared agricultural land and also some adjacent areas of gamet mining (GIS Database). The application area is located within a relatively intact band of vegetation along the castern edge of Hutt Lagon that can function as an ecological linkage for fauna species moving through the landscape (GIS Database). The application area is the button as an ecological linkage for fauna species moving through the landscape (GIS Database). The closest conservation area is the button as an ecological linkage for fauna species moving through the landscape (GIS Database). The closest conservation area is the button was provided to the property of the application area (GIS Database). The vegetation of the application area is broadly mapped as the following Beard vegetation association: • 371: Low forest; Acacia rostellifera (GIS Database). A flora and vegetation survey was conducted over the broader application area and surrounding areas on Mining Leases 70/204 and 70/1330 by GHD during December 2019. The following vegetation association was recorded within the application area (GIF), 2020; VT01 - Acacia rostellifera open woodland to woodland and acacia rostellifera open woodland to woodland acacia rostellifera open woodland to woodland acacia rostellifera open woodland to woodland over Phagodis preissif subsp. obvafa, Pinnelea microsephalea subsp. microopephalea User and a properties of the properties of the application area and surrounding australis and Euphorbia beophthona. Occurs over lower and middle slopes on brown to orange sands. "denotes weed species Areas of the application area have also been mapped as cleared. Vegetation The vegetation survey (GHD, 2020) and aerial imagery indicate the vegetation	Characteristic	Details		
(GIS Database). The application area is located within a relatively intact band of vegetation along the eastern edge of Hut Lagoon that can function as an ecological linkage for fauna species moving through the landscape (GIS Database). The closest conservation area is the Utcha Well Nature Reserve which is located approximately eight kilometres northwest of the application area (GIS Database). The vegetation of the application area is broadly mapped as the following Beard vegetation association: • 371: Low forest, Acacia rostellifera (GIS Database). A flora and vegetation survey was conducted over the broader application area and surrounding areas on Mining Leases 70/204 and 70/133a) by GHD during December 2019. The following vegetation association was recorded within the application area (GHD, 2020): VT01 - Acacia rostellifera open woodland to woodland Acacia rostellifera open woodland to woodland Acacia rostellifera open woodland to woodland and Acacia rostellifera open woodland to woodland over Rhagodia preissii subsp. obovata, Pimelea microcephala subsp. microcephala, Olearia sp. Kennedy Range (G. Byme 66) and Stylobasima, spathulatum open shrubland over Autzarstiga elegantissima and *Emharta longiflora open grassland to grassland. Other common species include Alyogyme hakefolla, Roepera fruitculosa, Commicarpus australis and Eurphorbia boophthona. Occurs over lower and middle slopes on brown to orange sands. *denotes weed species Areas of the application area have also been mapped as cleared. Vegetation condition The vegetation survey (GHD, 2020) and aerial imagery indicate the vegetation within the proposed clearing area is in good to completely degraded (Keighery, 1994) condition. The full Keighery (1994) condition rating scale is provided in Appendix C. Climate and and degradation area is located in a winter dominant area with a marked wet winter and dry summer with an annual average rainfall (Geraldotton) of 442.9 millimetres (BoM, 2025). The application area is located in the Tamala Nor	Local context	bioregion (GIS Database). The area proposed to be cleared is part of a remnant patch of native vegetation in the intensive land use zone of Western Australia (GIS Database). It is surrounded by		
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		areas were mapped as 'cleared' which were previously cleared and contained little or no native vegetation. The cleared areas comprise approximately 1.7% of the application area.		

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A.2. Flora analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix D.1), and biological survey information (GHD, 2020; WAH, 1998-; GIS Database), 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 latipes subsp. licina	P3	Υ	<5	21
Acacia pelophila	P1	N	<5	9
Anthocercis intricata	P3	Υ	<10	35
Balladonia aervoides	P3	Υ	<5	16
Blackallia nudiflora	P3	N	<5	24
Caladenia bryceana subsp. cracens	Т	N	<5	10
Caladenia elegans	Т	Υ	<10	16
Calytrix harvestiana	P2	Υ	<10	32
Corynotheca acanthoclada	P1	N	<10	6
Diuris drummondii	Т	N	<10	56
Diuris recurva	P4	N	<10	38
Drakaea concolor	Т	N	<10	7
Eremophila microtheca	P4	N	<5	9
Frankenia confusa	P4	N	<5	29
Grevillea triloba	P3	N	<10	59
Lasiopetalum oldfieldii	P3	Υ	<5	25
Pterostylis sinuata	Т	N	<10	6
Scaevola kallophylla	P4	N	<5	13
Stachystemon nematophorus	P4	N	<10	14
Styphelia cernua	P2	N	<10	8
Xanthoparmelia xanthomelanoides	P2	N	<10	7

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

A.3. Fauna analysis table

With consideration for the site characteristics set out above, relevant datasets (see Appendix D.1), and biological survey information (Commonwealth of Australia, 2008; GHD, 2020; GIS Database), impacts to the following conservation significant fauna required further consideration.

Species name	Common Name	Conservation status	Distance of closest record to application area (km)	Suitable habitat features? [Y/N]
Actitis hypoleucos	common sandpiper	MI	<5	N
Anous stolidus	common noddy	MI	<5	N
Apus pacificus	fork-tailed swift	MI	<5	Υ
Arenaria interpres	ruddy turnstone	MI	<5	N
Calidris acuminata	sharp-tailed sandpiper	MI	<5	N
Calidris alba	sanderling	MI	<5	N
Calidris canutus	red knot	EN	<5	N
Calidris ferruginea	curlew sandpiper	CR	<5	N
Calidris melanotos	pectoral sandpiper	MI	<5	N
Calidris pugnax	ruff	MI	<5	N
Calidris ruficollis	red-necked stint	MI	<5	N

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Species name	Common Name	Conservation status	Distance of closest record to application area (km)	Suitable habitat features? [Y/N]
Calidris subminuta	long-toed stint	MI	<5	N
Calidris tenuirostris	great knot	CR	<5	Ν
Charadrius leschenaultii	greater sand plover, large sand plover	VU	<5	N
Charadrius mongolus	lesser sand plover	EN	<5	Ν
Dasyurus geoffroii	chuditch, western quoll	VU	<20	N
Falco peregrinus	peregrine falcon	OS	<5	Υ
Gelochelidon nilotica	gull-billed tern	MI	<5	N
Hydroprogne caspia	Caspian tern	MI	<5	N
Idiosoma arenaceum	Geraldton Sandplain shield-backed trapdoor spider	MI	<25	Υ
Limosa lapponica	bar-tailed godwit	MI	<5	N
Limosa limosa	black-tailed godwit	MI	<10	N
Notamacropus eugenii derbianus	tammar wallaby	P4	<10	Υ
Numenius minutus	little curlew	MI	<5	Υ
Numenius phaeopus	whimbrel	MI	<5	N
Pandion haliaetus	osprey	MI	<1	Υ
Phalaropus lobatus	red-necked phalarope	MI	<5	N
Pluvialis fulva	Pacific golden plover	MI	<5	N
Pluvialis squatarola	grey plover	MI	<5	N
Synemon gratiosa	graceful sunmoth	P4	<5	Υ
Thalasseus bergii	crested tern	MI	<5	N
Tringa brevipes	grey-tailed tattler	P4 & MI	<5	N
Tringa glareola	wood sandpiper	MI	<5	N
Tringa nebularia	common greenshank	MI	<5	N
Tringa stagnatilis	marsh sandpiper	MI	<5	N
Xenus cinereus	Terek sandpiper	MI	<5	N
Zanda latirostris	Carnaby's cockatoo	EN	<5	N

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

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 May be at No biodiversity.' variance Assessment: No species of Threatened or Priority flora were identified during a flora survey of the application area and surrounding areas. Fifteen species of weeds were recorded during the greater field survey of the application area and surrounding areas (GHD, 2020). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to the biodiversity as a result of the proposed clearing may be minimised by the continued implementation of a weed management condition. Principle (b): "Native vegetation should not be cleared if it comprises the whole or a May be at Yes part of, or is necessary for the maintenance of, a significant habitat for fauna." variance Refer to Section 3.2.1, above. Assessment: Carnaby's black cockatoo has been recorded in the local area however, there is no suitable roosting or foraging habitat present within the application (GHD, 2020). The

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Assessment against the clearing principles	Variance level	Is further consideration required?
broader areas forms part of an ecological linkage running north-west to south-east, with Hutt Lagoon to the west and large areas of cleared farmland to the east (GIS Database). This linkage is likely to be significant for fauna species in the local area. A revegetation and rehabilitation condition will continue to be implemented on the clearing permit to avoid permanent loss of this linkage.		
Principle (c): "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 were no records of Threatened flora species within the application area (GHD, 2020; GIS Database). Targeted surveys for <i>Caladenia bryceana</i> subsp. <i>cracens</i> did not record any individuals as the habitat was considered to be too degraded and not consistent with orchid habitat recorded on adjacent tenement Mining Lease 70/1380 (GMA Garnet, 2024b).		
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:		
There are no known or mapped Threatened Ecological Communities within the application area (GHD, 2020; GIS Database).		
Environmental value: significant remnant vegetation and conservation areas	1	l
<u>Principle (e):</u> "Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared."	May be at variance	Yes Refer to Section
Assessment:		3.2.1, above.
The local area has been extensively cleared and the vegetation within the application area forms part of an intact band of vegetation that runs along the eastern edge of Hutt Lagoon. The vegetation has been mapped as Beard vegetation association 371 which has approximately 11% of its pre-European extent remaining however, the vegetation is not considered to be representative of this vegetation association (GHD, 2020; Government of Western Australia, 2019; GIS Database).		
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."	Not likely to be at variance	No
Assessment:		
There are no conservation areas in the vicinity of the application area. The nearest DBCA managed land is the Utcha Well Nature Reserve which is located approximately seven kilometres north-west of the application area (GIS Database). The proposed clearing is unlikely to impact on the environmental values of any conservation area.		
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."	Not likely to be at variance	No
Assessment:		
There are no permanent watercourses or wetlands within the area proposed to clear (GHD, 2020; GIS Database). Minor non-perennial watercourses and surface flow lines can be seen adjacent to the application area (GIS Database), however the field survey did not record any drainage lines or vegetation associated with drainage lines (GHD, 2020).		
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	Yes Refer to Section
Assessment:		3.2.1, above.
The mapped soils are susceptible to wind erosion when cleared (DPRID, 2021). The application area also has potential for water erosion due to the slope of land (DPIRD, 2021).		

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Assessment against the clearing principles	Variance level	Is further consideration required?
<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:		
There are no watercourses within the application area and the flora survey of the area did not identify any vegetation as riparian (GHD, 2020: GIS Database). The nearest waterbody is Hutt Lagoon located approximately 250 metres west of the application area (GIS Database). The application area is located on a slope which can cause localised areas of erosion however, the risk of water erosion in the area is low (DPRID, 2021). The proposed clearing is not likely to cause sediment runoff into the nearby Hutt Lagoon.		
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."	Not likely to be at variance	No
Assessment:		
There are no permanent water courses or waterbodies within the application area (GIS Database). The application area is located on a slope and any removal of vegetation has the potential to increase the velocity of water runoff following rainfall events. Based on the soils present the proposed clearing has a low risk of increasing the incidence or intensity of natural flooding events (DPIRD, 2021).		

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 Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.

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

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

Appendix D. Sources of information

D.1. GIS datasets

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

- Cadastre (Polygon) (LGATE-217)
- 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)

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- DBCA Legislated Lands and Waters (DBCA-011)
- DBCA Fire History (DBCA-060)
- EPA Redbook Recommended Conservation Reserves 1976-1991 (DBCA-029)
- Groundwater Salinity Statewide (DWER-026)
- IBRA Vegetation Statistics
- Local Government Area (LGA) Boundaries (LGATE-233)
- Localities (LGATE-234)
- Native Title (Determination) (LGATE-066)
- Native Vegetation Extent (DPIRD-005)
- Pre-European Vegetation (DPIRD-006)
- Public Drinking Water Source Areas (DWER-033)
- 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)
- Townsites (LGATE-248)
- WA Now Aerial Imagery

Restricted GIS Databases used:

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- Threatened and Priority Flora (WAHerb)
- Threatened and Priority Fauna
- Threatened and Priority Ecological Communities
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4. Glossary

Acronyms:

BC Act Biodiversity Conservation Act 2016, Western Australia

BoM Bureau of Meteorology, Australian Government

DAA Department of Aboriginal Affairs, Western Australia (now DPLH)DAFWA Department of Agriculture and Food, Western Australia (now DPIRD)

DCCEEW Department of Climate Change, Energy, the Environment and Water, Australian Government

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

EPAct 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

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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)

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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.

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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.

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