



1. Application details and outcomes

1.1. Permit application details

Permit number:	10421/1
Permit type:	Purpose Permit
Applicant name:	GMA Garnet Pty Ltd
Application received:	23 November 2023
Application area:	14.47 hectares
Purpose of clearing:	Mineral production and associated activities
Method of clearing:	Mechanical Removal
Tenure:	Mining Lease 70/204
Location (LGA area/s):	Shire of Northampton
Colloquial name:	Lynton Mine Expansion

1.2. Description of clearing activities

GMA Garnet Pty Ltd proposes to clear up to 14.47 hectares of native vegetation within a boundary of approximately 14.47 hectares, for the purpose of mineral production and associated activities. The project is located approximately 6 kilometres north of Gregory, within the Shire of Northampton.

The application is to allow for the expansion of the North Pit within Mining Lease 70/204.

1.3. Decision on application and key considerations

Decision:	Grant
Decision date:	18 January 2024
Decision area:	14.47 hectares of native vegetation

1.4. Reasons for decision

This clearing permit application was made in accordance with section 51E of the *Environmental Protection Act 1986* (EP Act) and was received by the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) on 23 November 2023. DEMIRS advertised the application for a public comment for a period of 21 days, and no submissions were received.

In making this decision, the Delegated Officer had regard for the site characteristics (Appendix A), relevant datasets (Appendix E), including information from a flora and vegetation survey, 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 significant as a remnant of native vegetation in an area that has been extensively cleared;
- 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 (see Section 3.1), the Delegated Officer determined the proposed clearing can be minimised and managed to be unlikely to lead to an unacceptable risk to environmental values.

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

- avoid, minimise to reduce the impacts and extent of clearing;
- take hygiene steps to minimise the risk of the introduction and spread of weeds;
- staged clearing to minimise wind erosion;
- retain cleared vegetation and topsoil and respread this on a cleared area of equivalent size within the mining tenement to ensure fauna habitat is not permanently lost.

2. Legislative context

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

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

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

Other legislation of relevance for this assessment include:

- *Biodiversity Conservation Act 2016* (WA) (BC Act)
- *Conservation and Land Management Act 1984* (WA) (CALM Act)
- *Mining Act 1978* (WA)

The key guidance documents which inform this assessment are:

- *A guide to the assessment of applications to clear native vegetation* (DER, December 2014)
- *Procedure: Native vegetation clearing permits* (DWER, October 2021)
- Technical guidance – *Flora and Vegetation Surveys for Environmental Impact Assessment* (EPA, 2016)
- Technical guidance – *Terrestrial Fauna Surveys for Environmental Impact Assessment* (EPA, 2016)

3. Detailed assessment of application

3.1. Avoidance and mitigation measures

Avoidance and mitigation measures for previous versions of the permit will remain, including the following (GMA Garnet, 2022; 2023):

Avoid the clearing of native vegetation

- Clearing and Ground Disturbance Procedure implemented;
- Induction and training;
- Survey control of areas to be cleared;
- Post clearing checks to ensure clearing has been undertaken in accordance with approval.

Minimise the amount of native vegetation to be cleared

Clearing has been minimised where possible. Clearing application areas will be accessed via existing tracks.

Reduce the impact of clearing on any environmental value

Where possible GMA will undertake the following to minimise impacts to any environmental values through the following methods:

- Undertake staged clearing;
- Undertake progressive rehabilitation;
- Dust management protocols as per the Dust Management Procedure;
- Weed management procedure;
- If machinery is brought to site it has to be clean and hygiene certificate provided;
- Inspection of machinery on arrival;
- Weed surveys undertaken.

The Delegated Officer was satisfied that the applicant has made a reasonable effort to avoid and minimise potential impacts of the proposed clearing on environmental values.

3.2. Assessment of impacts on environmental values

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

The assessment against the clearing principles (see Appendix B) identified the impacts of the proposed clearing are limited and able to be managed to be environmentally acceptable with avoid and minimise, hygiene, staged clearing, and revegetation and rehabilitation management conditions.

3.2.1. Significant remnant vegetation – Clearing Principles (e)

Assessment

The application area falls within the Geraldton Sandplains Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Approximately 45 per cent of the pre-European vegetation still exists in the IBRA Geraldton Sandplains Bioregion (Government of Western Australia, 2019). The application area is broadly mapped as Beard vegetation associations 17 and 371 (GIS Database). Approximately 83-88 per cent of the pre-European extent of vegetation association 17 remains uncleared

at the state, bioregional and subregional level (Government of Western Australia, 2019). Approximately 11 per cent of the pre-European extent of vegetation association 371 remains uncleared at both the state, bioregional and subregional level (Government of Western Australia, 2019). 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). The vegetation mapping of the application area is shown in Figure 2 of Appendix D. Therefore, the proposed clearing will not reduce the extent of Beard vegetation association 371.

The majority of the area to the east of the application area has been cleared for agriculture (GIS Database). This clearing can be seen from aerial imagery in Figure 1 of Appendix D. The application area is located within a relatively intact band of vegetation along the eastern edge of Hutt Lagoon (GIS Database). The condition of the vegetation within the application area is mostly good condition due to the existing disturbances and weeds within the application area. Vegetation condition mapping is available in Figure 3 of Appendix D. Further clearing may contribute to the continued decline in the condition of the remnant. If cleared areas are rehabilitated in a timely manner, the long term impacts of the clearing may be mitigated. Potential impacts to remnant vegetation may be minimised by the implementation of a rehabilitation condition.

Conclusion

Based on the above assessment, the proposed clearing will result in the clearing of vegetation which is part of a significant remnant vegetation. However, the impacts can be minimised through the implementation of conditions on the permit.

Conditions

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

- A rehabilitation condition to avoid long term impacts to remnant vegetation.

3.3. Relevant planning instruments and other matters

The clearing permit application was advertised on 19 December 2023 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, 2024). 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, 2024). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Other relevant authorisations required for the proposed land use include:

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

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

End

Appendix A. Site characteristics

A.1. Site characteristics

Characteristic	Details
Local context	The area proposed to be cleared is part of various isolated patches of native vegetation in the intensive / extensive land use zone of Western Australia. It is surrounded by patches of native vegetation, mining development, and wetlands.
Ecological linkage	According to aerial imagery, the application areas do not form part of any formal or informal ecological linkages (GIS Database).
Conservation areas	The application area is not located within any known or mapped conservation areas. The closest record is the Utcha Well Nature Reserve located approximately 6 kilometres northwest of the application area (GIS Database).
Vegetation description	<p>The vegetation of the application area is broadly mapped as the following Beard vegetation associations: 17: Shrublands; <i>Acacia rostellifera</i> thicket; and 371: Low forest; <i>Acacia rostellifera</i> (GIS Database).</p> <p>A biological survey was conducted over the application area by GHD Pty Ltd during February, 2020. The following vegetation associations were recorded within the application area (GHD, 2020):</p> <p>VT01 - <i>Acacia rostellifera</i> open woodland to woodland: <i>Acacia rostellifera</i> open woodland to woodland over <i>Rhagodia preissii</i> subsp. <i>obovata</i>, <i>Pimelea microcephala</i> subsp. <i>microcephala</i>, <i>Olearia</i> sp. Kennedy Range (G. Byrne 66) and <i>Stylobasium spathulatum</i> open shrubland over <i>Austrostipa elegantissima</i> and *<i>Ehrharta longiflora</i> open grassland to grassland. Other common species include <i>Alyogyne hakeifolia</i>, <i>Roepera fruticulosa</i>, <i>Commicarpus australis</i> and <i>Euphorbia boophthona</i>. Occurs over lower and middle slopes on brown to orange sands.</p> <p>VT02 – <i>Melaleuca cardiophylla</i> shrubland to open shrubland: <i>Melaleuca cardiophylla</i> shrubland to open shrubland over <i>Alyogyne hakeifolia</i>, <i>Pimelea microcephala</i> subsp. <i>microcephala</i> and <i>Rhagodia preissii</i> subsp. <i>obovata</i> open shrubland over <i>Ptilotus divaricatus</i> scattered forbland. Other common species include <i>Roepera fruticulosa</i>, <i>Pimelea gilgiana</i> and *<i>Bromus diandrus</i>. Areas that contain deeper soils <i>Acacia rostellifera</i> was also recorded. Occurs on upper mid slopes on white-brown sand with limestone outcropping.</p>
Vegetation condition	<p>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.</p> <p>The full Keighery (1994) condition rating scale is provided in Appendix C.</p>
Climate and landform	The application area is located in a winter dominant zone with marked wet winters and dry summers with an average annual rainfall (Lynton) of 403.6 millimetres (BoM, 2024).
Soil description	The soil within the application area is mapped as soil unit B26 (GIS Database). This soil unit is described as an undulating dune landscape underlain by aeolianite which is exposed in places: chief soils are siliceous sands with some shallow grey-brown sandy soils (Northcote et al., 1960-68).
Land degradation risk	The application area located in the Tamala North System which is moderately susceptible to water and wind erosion (DPIRD, 2023). However, the risk of water erosion is low because there are no waterbodies in the application area. The full extent of land degradation risk in the application area can be found in Appendix A.3.
Waterbodies	The desktop assessment and aerial imagery indicated that there are no watercourses within the application area proposed to be cleared (GIS Database).
Hydrogeography	The application area falls within the Gascoyne Groundwater Area. The mapped groundwater salinity is 1,000-3,000 milligrams per litre total dissolved solids which is described as brackish water quality (GIS Database).
Flora	There are no records of Threatened or Priority flora within the application area (GIS Database). The filed survey did not record any Threatened or Priority flora within the survey area (GHD, 2020).
Ecological communities	The application area is not located within any known or mapped Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) (GIS Database). Based on the results of the desktop searches, dominant species, landform features, field observations, and coupled with the statistical analyses no vegetation communities identified in the survey area were consistent with any TECs or PECs (GHD, 2020).
Fauna	There were no Threatened or Priority fauna species recorded within the application area (GHD, 2020; GIS Database).

Characteristic	Details
Fauna habitat	<p>A biological survey was conducted over the application area by GHD Pty Ltd during February, 2020. The following fauna habitats were recorded within the application area (GHD, 2020):</p> <p>Acacia woodlands: This habitat type was recorded over the majority of the survey area and associated with lower and middle slopes on brown to orange sands. The vegetation type comprises over chenopod shrubs (<i>Rhagodia preissii</i> subsp. <i>obovata</i>) and other mixed low shrubs, native and introduced grasses. The habitat contains a high level of wood and branches through previously cleared <i>Acacia</i> trees providing suitable habitat for reptiles and birds.</p> <p>Melaleuca shrublands on limestone: This habitat type was restricted to the shallow limestone upper mid slopes on white-brown sand with limestone outcropping on the eastern side of the survey area. This habitat type is dominated by <i>Melaleuca cardiophylla</i> on shallow limestone and in areas of deeper soils scattered <i>Acacia rostellifera</i> was present. The environment had areas of good ground cover, litter and debris. Some areas of outcropping with exfoliating rock and crevices was present and would provide excellent cover for a range of fauna species.</p>

A.2. Vegetation extent

	Pre-European area (ha)	Current extent (ha)	Extent Remaining %	Current extent in all DBCA managed land (ha)	Current proportion (%) of pre-European extent in all DBCA Managed Lands
IBRA Bioregion - Geraldton Sandplains	3,136,038	1,404,424	~45	568,255	~18
IBRA Subregion - Geraldton Hills	1,964,263	901,447	~46	355,757	~39
Local Government - Northampton	1,258,429	930,229	~74	230,958	~25
Beard vegetation associations - State					
17	76,634	67,605	~88	8,832	~12
371	32,816	3,500	~11	242	~7
Beard vegetation associations - Bioregion					
17	54,078	45,160	~84	6,068	~13
371	32,808	3,499	~11	242	~7
Beard vegetation associations - subregion					
17	49,605	42,016	~85	5,573	~13
371	32,808	3,499	~11	242	~7

Government of Western Australia (2019)

A.3. Land degradation risk table

Risk categories	Land Unit 1
Wind erosion	M2: 30-50% of the map unit has a high to extreme hazard
Water erosion	M1: 10-30% of the map unit has a very high to extreme hazard
Salinity	L1: <3% of the map unit has a moderate hazard or is presently saline
Subsurface Acidification	M1: 10-30% of the map unit has a very high to extreme susceptibility
Flood risk	L1: <3% of the map unit has a moderate to high hazard
Water logging	L2: <3% of the map unit has a moderate to very high risk
Phosphorus export risk	M2: 30-50% of the map unit has a high to extreme hazard

(DPIRD, 2023)

Appendix B. Assessment against the clearing principles

Assessment against the clearing principles	Variance level	Is further consideration required?
Environmental value: biological values		
<p><u>Principle (a):</u> <i>“Native vegetation should not be cleared if it comprises a high level of biodiversity.”</i></p> <p><u>Assessment:</u></p> <p>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). 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 implementation of a weed management condition.</p>	Not likely to be at variance	No
<p><u>Principle (b):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.”</i></p> <p><u>Assessment:</u></p> <p>Carnaby’s black cockatoo has been recorded in the local area however, there is no suitable roosting or foraging habitat present within the application area (GHD, 2020). The broader 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. A revegetation and rehabilitation condition will be implemented on the clearing permit to avoid permanent loss of this linkage.</p>	May be at variance	No
<p><u>Principle (c):</u> <i>“Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.”</i></p> <p><u>Assessment:</u></p> <p>There were no records of Threatened flora species within the application area (GHD, 2020; GIS Database). Given the level of disturbance around the amendment areas, it is unlikely that these areas represent suitable habitat for Threatened flora.</p>	Not likely to be at variance	No
<p><u>Principle (d):</u> <i>“Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a threatened ecological community.”</i></p> <p><u>Assessment:</u></p> <p>There are no known or mapped Threatened Ecological Communities within the application area (GHD, 2020; GIS Database).</p>	Not likely to be at variance	No
Environmental value: significant remnant vegetation and conservation areas		
<p><u>Principle (e):</u> <i>“Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.”</i></p> <p><u>Assessment:</u></p> <p>The broader application area is broadly mapped as Beard vegetation associations 17 and 371 (GIS Database). Vegetation association 371 has been extensively cleared as there is less than 11 per cent of the pre-European extent remaining at a state, bioregional, and subregional level (Government of Western Australia, 2019). The full extent of native vegetation in the region can be found in Appendix A.2. The broader application area is located within a relatively intact band of vegetation along the eastern edge of Hutt Lagoon (GIS Database).</p>	At variance	Yes <i>Refer to section 3.2.1, above.</i>
<p><u>Principle (h):</u> <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.”</i></p> <p><u>Assessment:</u></p> <p>Given the distance to the nearest conservation area, the proposed clearing is not likely to have an impact on the environmental values of any known or mapped conservation areas (GIS Database).</p>	Not likely to be at variance	No
Environmental value: land and water resources		

Assessment against the clearing principles	Variance level	Is further consideration required?
<p>Principle (f): <i>“Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.”</i></p> <p><u>Assessment:</u></p> <p>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 broader application area (GIS Database); however, the field survey did not record any drainage lines or vegetation associated with drainage lines (GHD, 2020).</p>	Not likely to be at variance	No
<p>Principle (g): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.”</i></p> <p><u>Assessment:</u></p> <p>The mapped soils within the application area are at risk of erosion because of the loose sandy nature of the soil (DPIRD, 2022). Disturbed and unprotected locations on the upper slopes and crests of dunes have the potential to create mobile dune fields because of strong prevailing winds (DPIRD, 2022). A staged clearing condition will be implemented on the clearing permit to ensure that only areas that are needed are cleared at any one time.</p>	May be at variance	No
<p>Principle (i): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.”</i></p> <p><u>Assessment:</u></p> <p>The nearest waterbody is Hutt Lagoon located approximately 300 metres west of the broader application area (GIS Database). The risk of water erosion in the area is low (DPIRD, 2022). The proposed clearing is not likely to cause sediment runoff into the nearby Hutt Lagoon. There are no Public Drinking Water Source Areas within or near the application area (GIS Database).</p>	Not likely to be at variance	No
<p>Principle (j): <i>“Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.”</i></p> <p><u>Assessment:</u></p> <p>There are no permanent water courses or waterbodies within the application area (GIS Database). Based on the soils present the proposed clearing has a low risk of increasing the incidence or intensity of natural flooding events (DPIRD, 2022).</p>	Not likely to be at variance	No

Appendix C. Vegetation condition rating scale

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

Considering its location, the scale below was used to measure the condition of the vegetation proposed to be cleared. This scale has been extracted from 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.

Condition	Description
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. Aerial Imagery and vegetation mapping



Figure 1. Aerial imagery showing land cleared for agriculture to the east of the application area (GIS Database).

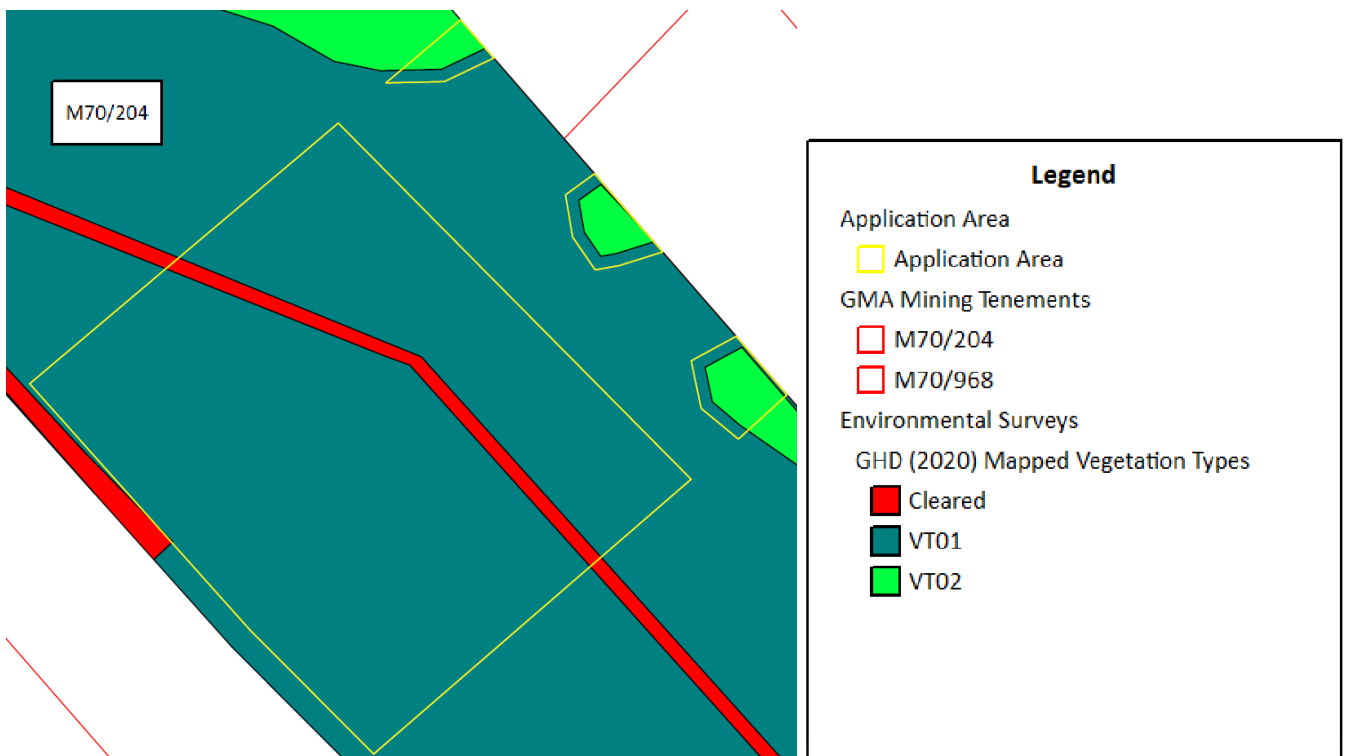


Figure 2. Vegetation mapping within the application area (GAM, 2022).

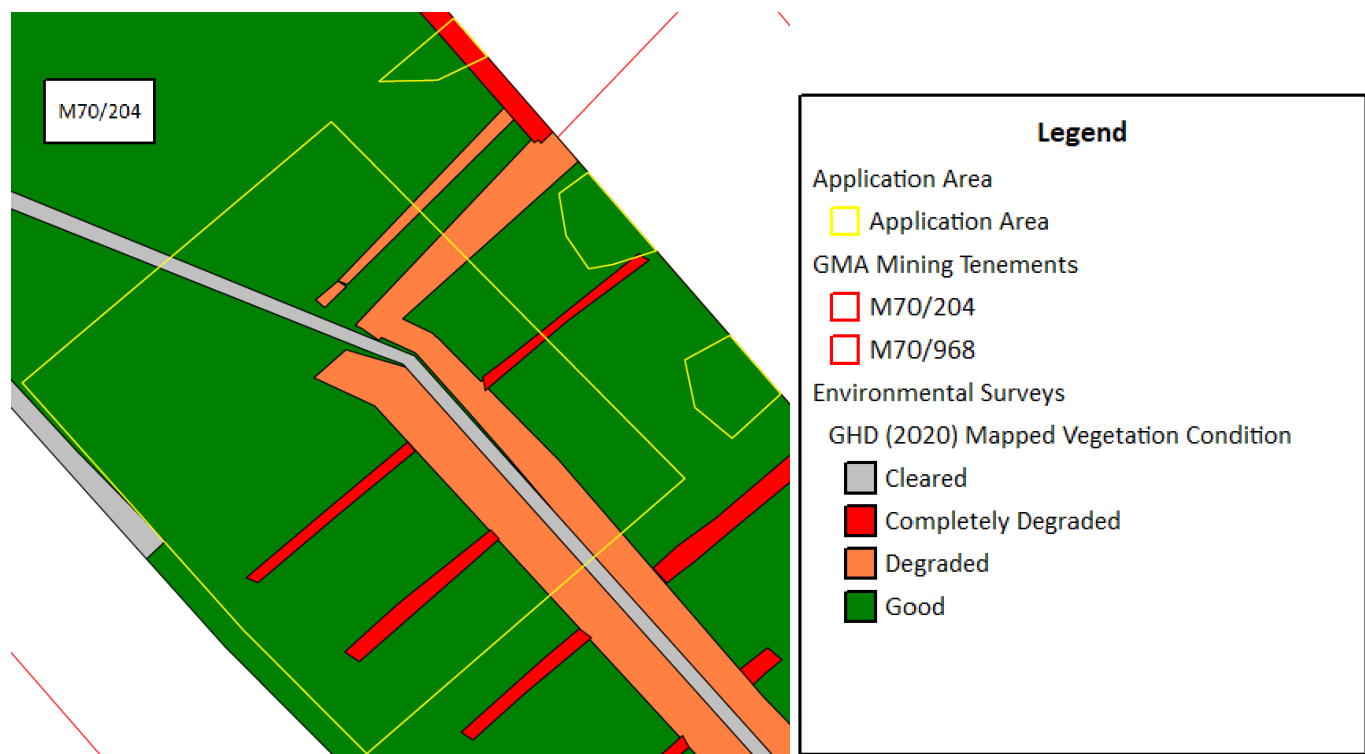


Figure 3. Vegetation condition mapping within the application area (GMA, 2022).

Appendix E. Sources of information

E.1. GIS databases

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

- Aboriginal Heritage Places (DPLH-001)
- Clearing Regulations – Schedule One Areas (DWER-057)
- DBCA – Lands of Interest (DBCA-012)
- DBCA Legislated Lands and Waters (DBCA-011)
- Environmentally Sensitive Areas (DWER-046)
- Groundwater Salinity Statewide (DWER-026)
- Hydrographic Catchments – Catchments (DWER-028)
- Hydrography – Inland Waters – Waterlines
- Hydrography, Linear (DWER-031)
- IBRA Vegetation Statistics
- Native Title (ILUA) (LGATE-067)
- Pre-European Vegetation Statistics
- Remnant Vegetation, All Areas
- RIWI Act, Groundwater Areas (DWER-034)
- RIWI Act, Surface Water Areas and Irrigation Districts (DWER-037)
- Soil Landscape Land Quality – Flood Risk (DPIRD-007)
- Soil Landscape Land Quality – Phosphorus Export Risk (DPIRD-010)
- Soil Landscape Land Quality – Subsurface Acidification Risk (DPIRD-011)
- Soil Landscape Land Quality – Water Erosion Risk (DPIRD-013)
- Soil Landscape Land Quality – Water Repellence Risk (DPIRD-014)
- Soil Landscape Land Quality – Waterlogging Risk (DPIRD-015)
- Soil Landscape Land Quality – Wind Erosion Risk (DPIRD-016)
- Soil Landscape Mapping – Best Available (DPIRD-027)
- Soil Landscape Mapping – Rangelands (DPIRD-064)
- WA Now Aerial Imagery

Restricted GIS Databases used:

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

E.2. References

Bureau of Meteorology (BoM) (2024) Bureau of Meteorology Website – Climate Data Online, Lynton Station. Bureau of Meteorology. <http://www.bom.gov.au/climate/data/> (Accessed 4 January 2024).

- Department of Environment Regulation (DER) (2014) *A guide to the assessment of applications to clear native vegetation*. Perth. Available from: https://www.der.wa.gov.au/images/documents/your-environment/native-vegetation/Guidelines/Guide2_assessment_native_veg.pdf
- Department of Planning, Lands and Heritage (DPLH) (2024) Aboriginal Heritage Inquiry System. Department of Planning, Lands and Heritage. <https://espatial.dplh.wa.gov.au/AHIS/index.html?viewer=AHIS> (Accessed 12 January 2024).
- Department of Primary Industries and Regional Development (DPIRD) (2022) Advice received in relation to Clearing Permit Application CPS 9707/1. Office of the Commissioner of Soil and Land Conservation, Department of Primary Industries and Regional Development, Western Australia, May 2022
- Department of Primary Industries and Regional Development (DPIRD) (2023) NRInfo Digital Mapping. Department of Primary Industries and Regional Development. Government of Western Australia. URL: <https://dpiird.maps.arcgis.com/apps/webappviewer/index.html?id=662e8cbf2def492381fc915aaf3c6a0f> (Accessed 20 December 2023).
- Department of Water and Environmental Regulation (DWER) (2021) Procedure: Native vegetation clearing permits. Joondalup. Available from: https://dwer.wa.gov.au/sites/default/files/Procedure_Native_vegetation_clearing_permits_v1.pdf
- Environmental Protection Authority (EPA) (2016) Technical Guidance - Flora and Vegetation Surveys for Environmental Impact Assessment. Available from: http://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/EPA%20Technical%20Guidance%20-%20Flora%20and%20Vegetation%20survey_Dec13.pdf
- Environmental Protection Authority (EPA) (2016) Technical Guidance – Terrestrial Fauna Surveys. Available from: https://www.epa.wa.gov.au/sites/default/files/Policies_and_Guidance/Tech%20guidance-%20Terrestrial%20Fauna%20Surveys-Dec-2016.pdf
- GHD (2020) GMA Garnet Pty Ltd Lynton Mine Expansion Biological Survey, February 2020.
- GMA Garnet (2022) GMA Mining Australia, Mining Tenement M70/204 Supporting Documentation for a Native Vegetation Clearing Permit Application.
- GMA Garnet (2023) Clearing permit application form, CPS 9707/3, received 23 November 2023.
- Government of Western Australia (2019) 2018 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of March 2019. WA Department of Biodiversity, Conservation and Attractions. <https://catalogue.data.wa.gov.au/dataset/dbca-statewide-vegetation-statistics>
- Keighery, B.J. (1994) *Bushland Plant Survey: A Guide to Plant Community Survey for the Community*. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68) *Atlas of Australian Soils, Sheets 1 to 10, with explanatory data*. CSIRO and Melbourne University Press: Melbourne.

4. Glossary

Acronyms:

BC Act	<i>Biodiversity Conservation Act 2016</i> , Western Australia
BoM	Bureau of Meteorology, Australian Government
DAA	Department of Aboriginal Affairs, Western Australia (now DPLH)
DAFWA	Department of Agriculture and Food, Western Australia (now DPIRD)
DCCEEW	Department of Climate Change, Energy, the Environment and Water, Australian Government
DBCA	Department of Biodiversity, Conservation and Attractions, Western Australia
DEMIRS	Department of Energy, Mines, Industry Regulation and Safety
DER	Department of Environment Regulation, Western Australia (now DWER)
DMIRS	Department of Mines, Industry Regulation and Safety, Western Australia (now DEMIRS)
DMP	Department of Mines and Petroleum, Western Australia (now DMIRS)
DoEE	Department of the Environment and Energy (now DCCEEW)
DoW	Department of Water, Western Australia (now DWER)
DPaW	Department of Parks and Wildlife, Western Australia (now DBCA)
DPIRD	Department of Primary Industries and Regional Development, Western Australia
DPLH	Department of Planning, Lands and Heritage, Western Australia
DRF	Declared Rare Flora (now known as Threatened Flora)
DWER	Department of Water and Environmental Regulation, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPA	Environmental Protection Authority, Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

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

T Threatened species:

Listed by order of the Minister as Threatened in the category of critically endangered, endangered or vulnerable under section 19(1), or is a rediscovered species to be regarded as threatened species under section 26(2) of the *Biodiversity Conservation Act 2016* (BC Act).

Threatened fauna is that subset of 'Specially Protected Fauna' listed under schedules 1 to 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for Threatened Fauna.

Threatened flora is that subset of 'Rare Flora' listed under schedules 1 to 3 of the *Wildlife Conservation (Rare Flora) Notice 2018* for Threatened Flora.

The assessment of the conservation status of these species is based on their national extent and ranked according to their level of threat using IUCN Red List categories and criteria as detailed below.

CR Critically endangered species

Threatened species considered to be "*facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as critically endangered under section 19(1)(a) of the BC Act in accordance with the criteria set out in section 20 and the ministerial guidelines. Published under schedule 1 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for critically endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for critically endangered flora.

EN Endangered species

Threatened species considered to be "*facing a very high risk of extinction in the wild in the near future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as endangered under section 19(1)(b) of the BC Act in accordance with the criteria set out in section 21 and the ministerial guidelines. Published under schedule 2 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for endangered fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for endangered flora.

VU Vulnerable species

Threatened species considered to be "*facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with criteria set out in the ministerial guidelines*".

Listed as vulnerable under section 19(1)(c) of the BC Act in accordance with the criteria set out in section 22 and the ministerial guidelines. Published under schedule 3 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for vulnerable fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for vulnerable flora.

Extinct Species:

EX Extinct species

Species where "*there is no reasonable doubt that the last member of the species has died*", and listing is otherwise in accordance with the ministerial guidelines (section 24 of the BC Act).

Published as presumed extinct under schedule 4 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018* for extinct fauna or the *Wildlife Conservation (Rare Flora) Notice 2018* for extinct flora.

EW Extinct in the wild species

Species that "*is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; and it has not been recorded in its known habitat or expected habitat, at appropriate seasons, anywhere in its past range, despite surveys over a time frame appropriate to its life cycle and form*", and listing is otherwise in accordance with the ministerial guidelines (section 25 of the BC Act).

Currently there are no threatened fauna or threatened flora species listed as extinct in the wild. If listing of a species as extinct in the wild occurs, then a schedule will be added to the applicable notice.

Specially protected species:

Listed by order of the Minister as specially protected under section 13(1) of the BC Act. Meeting one or more of the following categories: species of special conservation interest; migratory species; cetaceans; species subject to international agreement; or species otherwise in need of special protection.

Species that are listed as threatened species (critically endangered, endangered or vulnerable) or extinct species under the BC Act cannot also be listed as Specially Protected species.

MI Migratory species

Fauna that periodically or occasionally visit Australia or an external Territory or the exclusive economic zone; or the species is subject of an international agreement that relates to the protection of migratory species and that binds the Commonwealth; and listing is otherwise in accordance with the ministerial guidelines (section 15 of the BC Act).

Includes birds that are subject to an agreement between the government of Australia and the governments of Japan (JAMBA), China (CAMBA) and The Republic of Korea (ROKAMBA), and fauna subject to the *Convention on the Conservation of Migratory Species of Wild Animals* (Bonn Convention), an environmental treaty under the United Nations Environment Program. Migratory species listed under the BC Act are a subset of the migratory animals, that are known to visit Western Australia, protected under the international agreements or treaties, excluding species that are listed as Threatened species.

Published as migratory birds protected under an international agreement under schedule 5 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

CD Species of special conservation interest (conservation dependent fauna)

Fauna of special conservation need being species dependent on ongoing conservation intervention to prevent it becoming eligible for listing as threatened, and listing is otherwise in accordance with the ministerial guidelines (section 14 of the BC Act).

Published as conservation dependent fauna under schedule 6 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

OS Other specially protected species

Fauna otherwise in need of special protection to ensure their conservation, and listing is otherwise in accordance with the ministerial guidelines (section 18 of the BC Act).

Published as other specially protected fauna under schedule 7 of the *Wildlife Conservation (Specially Protected Fauna) Notice 2018*.

P Priority species:

Possibly threatened species that do not meet survey criteria, or are otherwise data deficient, are added to the Priority Fauna or Priority Flora Lists under Priorities 1, 2 or 3. These three categories are ranked in order of priority for survey and evaluation of conservation status so that consideration can be given to their declaration as threatened fauna or flora.

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

Assessment of Priority codes is based on the Western Australian distribution of the species, unless the distribution in WA is part of a contiguous population extending into adjacent States, as defined by the known spread of locations.

P1 Priority One - Poorly-known species

Species that are known from one or a few locations (generally five or less) which are potentially at risk. All occurrences are either: very small; or on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, road and rail reserves, gravel reserves and active mineral leases; or otherwise under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes. Such species are in urgent need of further survey.

P2 Priority Two - Poorly-known species

Species that are known from one or a few locations (generally five or less), some of which are on lands managed primarily for nature conservation, e.g. national parks, conservation parks, nature reserves and other lands with secure tenure being managed for conservation. Species may be included if they are comparatively well known from one or more locations but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes. Such species are in urgent need of further survey.

P3 Priority Three - Poorly-known species

Species that are known from several locations, and the species does not appear to be under imminent threat, or from few but widespread locations with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several locations but do not meet adequacy of survey requirements and known threatening processes exist that could affect them. Such species are in need of further survey.

P4 Priority Four - Rare, Near Threatened and other species in need of monitoring

(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special

protection but could be if present circumstances change. These species are usually represented on conservation lands.

(b) Near Threatened. Species that are considered to have been adequately surveyed and that are close to qualifying for vulnerable but are not listed as Conservation Dependent.

(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.

Principles for clearing native vegetation:

- (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.
- (b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna.
- (c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, threatened flora.
- (d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.
- (e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.
- (f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.
- (g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.
- (h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.
- (i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.
- (j) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.