Government of **Western Australia**
Department of **Mines and Petroleum**

# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

**Permit application No.:** 5201/1
**Permit type:** Purpose Permit

### 1.2. Proponent details

**Proponent's name:** **Karara Mining Limited**

### 1.3. Property details

**Property:** Miscellaneous Licence 59/114
**Local Government Area:** Shire of Perenjori
**Colloquial name:** Rothsay Pipeline Project

### 1.4. Application

| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
|---|---|---|---|
| 1 | | Mechanical Removal | Water Pipeline and Access Track |

### 1.5. Decision on application

**Decision on Permit Application:** Grant
**Decision Date:** 1 November 2012

## 2. Site Information

### 2.1. Existing environment and information

*2.1.1. Description of the native vegetation under application*

**Vegetation Description**

Beard vegetation associations have been mapped for the whole of Western Australia and are useful to look at vegetation in a regional context. Two Beard vegetation associations have been mapped within the application area:

**Beard vegetation association 355:** Shrublands; bowgada & jam scrub with scattered York gum & red mallee; and

**Beard vegetation association 358:** Shrublands; bowgada & *Acacia quadrimarginea* on stony ridges (Government of Western Australia, 2011; GIS Database).

Woodman Environmental Consulting (2011) conducted flora and vegetation survey of the application area. The vegetation survey identified and mapped one vegetation type within the application area:

- Tall shrubland to tall open shrubland of mixed species including *Acacia burkittii, A. karina, A. tetragonophylla, Allocasuarina tessellate* and *A. dielsiana* over low sparse shrubland of species including *Ptilotus obovatus* over low sparse forbland of *Borya sphaerocephala* on red clay loams on hill slopes with granite and/or ironstone cropping.

**Clearing Description**

Karara Mining Limited is proposing to clear up to 1 hectare of native vegetation within a larger application area of 9 hectares for a water pipeline and access track.

The vegetation will be cleared by means of mechanical removal.

**Vegetation Condition**

Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994);

To:

Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery, 1994).

**Comment**

The application area is located in the Tallering subregion of Western Australia and is situated approximately 60 kilometres north-east of the Perenjori town site (GIS Database).

The vegetation condition was derived from a vegetation survey conducted by Woodman Environmental Consulting (2011) using Keighery (1994).

## 3. Assessment of application against clearing principles

### (a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

**Comments**

**Proposal is not likely to be at variance to this Principle**

The application areas occur within the Tallering subregion of the Yalgoo Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This bioregion is characterised by sand and alluvial plains, low ranges and lakes. Mulga or bowgada shrublands dominate in the east. Western parts include sand plains, heathlands and some eucalypt shrublands (Bastin, G., & ACRIS Management Committee, 2008).

A flora and vegetation survey of the application area was undertaken by Woodman Environmental Consulting (2011) during 14 to 16 September 2010. The vegetation type within the application area was not considered to be of high conservation significance and is considered to be well represented within the region (Woodman Environmental Consulting, 2011). No Threatened Flora, Priority Flora, Threatened Ecological Communities or Priority Ecological Communities were recorded during the botanical survey (Woodman Environmental Consulting, 2011; GIS Database).

No introduced flora species were recorded within the application area; however 16 introduced flora species were recorded within the surrounding region (Woodman Environmental Consulting, 2011). Care must be taken to ensure that the proposed clearing activities do not spread or introduce weed species to non-infested areas. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

One habitat type was identified within the application area and is considered to be of low ecological significance (Bamford Environmental Consulting, 2010). The degraded to good condition of the vegetation, close proximity to active mining and lack of vegetative cover and landforms makes the area unsuitable for any foraging or nesting habitat for potential fauna (Keighery, 1994; Bamford Environmental Consulting, 2010; GIS Database). The clearing of 1 hectare of native vegetation within a 9 hectare application area is unlikely to have a significant impact in a regional and local context.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**

Bamford Environmental Consulting (2010)
Bastin, G., & ACRIS Management Committee (2008)
Keighery (1994)
Woodman Environmental Consulting (2011)
GIS Database:
- Rothsay 50cm Orthomosaic - Landgate 2006
- IBRA WA (Regions - Subregions)
- Pre-European vegetation
- Threatened Ecological Sites Buffered

### (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 indigenous to Western Australia.

**Comments**

**Proposal is not likely to be at variance to this Principle**

A level one fauna survey was conducted over the application area and surrounding region during 4 to 6 August 2010 (Bamford Environmental Consulting, 2010). Bamford Environmental Consulting (2010) identified no significant faunal assemblages within the application area, and aerial imagery (GIS Database) suggests that the habitat present within the application areas appears to be abundant within the local area (GIS Database).

Fauna habitats within the application area are limited due to the lack of vegetative cover and landforms, and the existing level of disturbance. While highly mobile species may temporarily utilise the survey area, the degraded condition of the native vegetation, and proximity to active mining would most likely cause the application area to be avoided by most fauna. The ecological values of the potential fauna habitats are therefore considered to be low (Bamford Environmental Consulting, 2010).

The proposed clearing of 1 hectare of native vegetation within an application area of 9 hectares is not likely to impact critical feeding or breeding habitat for any conservation significant fauna species as the application area does not contain significant faunal habitats.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**

Bamford Environmental Consulting (2010)
GIS Database:
- Rothsay 50cm Orthomosaic - Landgate 2006

**(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.**

**Comments**

**Proposal is not likely to be at variance to this Principle**

According to available databases, there are no records of Threatened Flora species within the application area (GIS Database). A search of the Department of Environment and Conservation's Threatened and Priority Flora databases identified no Threatened Flora species as occurring within a 20 kilometre radius of the application area (DEC, 2012).

Woodman Environmental Consulting (2011) conducted a vegetation and flora survey of the application area from 14 to 16 September 2010, during which No Threatened Flora species were recorded within the survey area.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**

DEC (2012)
Woodman Environmental Consulting (2011)
GIS Database:
- Threatened and Priority 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.**

**Comments**

**Proposal is not likely to be at variance to this Principle**

A search of the available databases shows that there are no Threatened Ecological Communities situated within 40 kilometres of the application area (GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology**

GIS Database
- Threatened Ecological Sites Buffered

**(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.**

**Comments**

**Proposal is not at variance to this Principle**

The application area falls within the Yalgoo IBRA bioregion (GIS Database). The vegetation within the application area is recorded as:

**Beard vegetation association 355:** Shrublands; bowgada & jam scrub with scattered York gum & red mallee; and

**Beard vegetation association 358:** Shrublands; bowgada & *Acacia quadrimarginea* on stony ridges (Government of Western Australia, 2011; GIS Database).

Beard vegetation associations 355 and 358 retain approximately 98 and 99**%** of their pre-European extent respectively, within the bioregion (Government of Western Australia, 2011). The area proposed to be cleared is not a significant remnant of native vegetation.

| | Pre-European area (ha)* | Current extent (ha)* | Remaining %* | Conservation Status** | Pre-European % in IUCN |
|---|---|---|---|---|---|

| | | | | | Class I-IV Reserves (and post clearing %) |
|---|---|---|---|---|---|
| IBRA Bioregion - Yalgoo | 5,057,314 | 4,987,193 | ~98.61 | Least Concern | 10.88 (10.90) |
| IBRA Subregion - Tallering | 3,498,944 | 3,449,835 | ~98.60 | Least Concern | 2.14 (2.17) |
| Local Government - Perenjori | 830,116 | 464,475 | ~55.95 | Least Concern | 0.20 (0.33) |
| Beard vegetation associations - State | | | | | |
| 355 | 61,682 | 58,067 | ~94.14 | Least Concern | - |
| 358 | 59,719 | 59,628 | ~99.85 | Least Concern | - |
| Beard vegetation associations - Bioregion | | | | | |
| 355 | 55,020 | 53,982 | ~98.11 | Least Concern | - |
| 358 | 55,530 | 55,499 | ~99.94 | Least Concern | - |
| Beard vegetation associations - subregion | | | | | |
| 355 | 55,020 | 53,982 | ~98.11 | Least Concern | - |
| 358 | 55,530 | 55,499 | ~99.94 | Least Concern | - |

* Government of Western Australia (2011)
** Department of Natural Resources and Environment (2002)

Based on the above, the proposed clearing is not at variance to this Principle.

**Methodology** Department of Natural Resources and Environment (2002)
Government of Western Australia (2011)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation

**(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.**

**Comments** **Proposal is not likely to be at variance to this Principle**
According to available databases, there are no permanent watercourses or wetlands within the application area (GIS Database). There is one non-perennial watercourse running through the application area. Woodman Environmental Consulting (2011) did not identify any riparian vegetation within the application area growing in association with the non-perennial watercourse.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Woodman Environmental Consulting (2011)
GIS Database:
- Geodata, Lakes
- Hydrography, Linear

**(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.**

**Comments** **Proposal is not likely to be at variance to this Principle**
The application area intersects the Graves, Tealtoo and Singleton land systems (GIS Database).

The Graves land system is described as basalt and greenstone rises and low hills, supporting eucalypt woodlands with prominent saltbush and bluebush understoreys. The Alluvial plains are susceptible to water erosion where perennial shrub cover is substantially reduced or the soil surface is disturbed. The vegetation of this land system is highly preferred for grazing by introduced and native animals rendering it susceptible to overgrazing and consequent degradation (Payne et al., 1998).

The Tealtoo land system is described as level to gently undulating loamy plains with fine ironstone lag gravel supporting dense acacia shrublands. This land system is not generally prone to soil erosion (Payne et al., 1998).

The Singleton land system is described as rugged greenstone ranges with dense casuarina and acacia shrublands. The stone mantles on rugged hills protect most of this land system against soil erosion (Payne et al., 1998).

The removal of 1 hectare of native vegetation within a 9 hectare application area is unlikely to result in water-logging, acidification, salinisation or deep subsoil compaction, and significant erosion was not observed within the application area despite localised clearing.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Payne et al. (1998)
GIS Database:
- Rangeland Land System Mapping

**(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.**

**Comments** **Proposal is not likely to be at variance to this Principle**
The application area is within the Department of Environment and Conservation's Former Leasehold 'ex Karara' land, which is former leasehold land proposed for conservation (GIS Database). The nearest conservation area is Weelhamby Lake Nature Reserve, located approximately 41 kilometres west of the application area (GIS Database).

Given the distance of the application area from the Weelhamby Lake Nature Reserve, the proposed clearing is not likely to provide a significant ecological linkage or fauna movement corridor and is not likely to impact the environmental values of the conservation area. The clearing of 1 hectare of native vegetation is also not likely to impact the future environmental values of the proposed conservation values of the 'ex Karara' Former Leasehold land.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS Database:
- DEC Tenure

**(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.**

**Comments** **Proposal is not likely to be at variance to this Principle**
The application area is not located within a Public Drinking Water Source Area (GIS Database). The application area is located within the proclaimed Pilbara groundwater area under the *Rights in Water and Irrigation Act 1914* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the Department of Water.

There are no permanent watercourses or water bodies within the application area (GIS Database). There is one non-perennial watercourse running through the application area. Any surface water within the application area is likely to only remain for short periods following significant rainfall events. The proposed clearing is not likely to cause deterioration in the quality of any surface water within or outside of the application areas.

Given the low impact nature of the proposed clearing activities, the proposed clearing is not likely to cause deterioration in the quality of any underground water.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** GIS Database:
- Hydrography, linear
- Public Drinking Water Source Areas
- RIWI Act, Groundwater Areas

**(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.**

**Comments** **Proposal is not likely to be at variance to this Principle**
The application area experiences a semi-arid to Mediterranean climate, with an annual average rainfall of approximately 289 millimetres per year (Bastin, G., & ACRIS Management Committee, 2008; BoM, 2012). Based on an average annual evaporation rate of 2,400 - 2,800 millimetres (BoM, 2012), any surface water resulting from rainfall events is likely to be relatively short lived.

Given the size of the area to be cleared (1 hectare) compared to the size of the Yarra Monger catchment area (4,182,476 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate the incidence or intensity of flooding.

Based on the above, the proposed clearing is not likely to be at variance to this Principle.

**Methodology** Bastin, G., & ACRIS Management Committee (2008)
BoM (2012)
GIS Database:
- Hydrographic Catchments - Catchments

### Planning instrument, Native Title, Previous EPA decision or other matter.

**Comments**

There is one Native Title claim over the area under application. The claim WC97/72 was registered at the National Native Title Tribunal on 12 December 2011. 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 (GIS Database). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no Aboriginal sites of significance are damaged through the clearing process.

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

The clearing permit application was advertised on 24 September 2012 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received in relation to this application stating that it has no objections with the proposed project.

**Methodology** GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Registered with the NNTT

## 4. References


Bamford Environmental Consulting (2010) Karara Raw Water Pipelines Survey for Significant Fauna Species. Unpublished report by Bamford Consulting Ecologists, Kingsley.

Bastin, G., & ACRIS Management Committee (2008) Rangelands 2008 - Taking the Pulse; Yalgoo Bioregion. Published on behalf of the Australian Collaborative Rangeland Information System (ACRIS) Management Committee by the National Land and Water Resources Audit, Canberra.

BoM (2012) Climate Statistics for Australian Locations. A Search for Climate Statistics for Morawa Airport, Australian Government Bureau of Meteorology, viewed 24 October 2012, <http://reg.bom.gov.au/climate/averages/tables/cw_008296.shtml>.

DEC (2012) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 24 October 2012, <http://naturemap.dec.wa.gov.au>.

Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.

Government of Western Australia (2011) 2011 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). WA Department of Environment and Conservation, Perth.

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

Payne, A.L., Van Vreeswyk, A.M.E., Pringle, H.J.R., Leighton, K.A, Hennig, P (1998) An inventory and condition survey of the Sandstone-Yalgoo-Paynes Find area, Western Australia. Department of Agriculture, Western Australia, South Perth.

Woodman Environmental Consulting (2011) Karara - Flora and Vegetation of the Rothsay Pipeline Survey Area. Unpublished report prepared for Gindalbie Metals Ltd, March 2011.


## 5. Glossary

**Acronyms:**

| | |
|---|---|
| **BoM** | Bureau of Meteorology, Australian Government |
| **CALM** | Department of Conservation and Land Management (now DEC), Western Australia |
| **DAFWA** | Department of Agriculture and Food, Western Australia |
| **DEC** | Department of Environment and Conservation, Western Australia |
| **DEH** | Department of Environment and Heritage (federal based in Canberra) previously Environment Australia |

| | |
|---|---|
| **DEP** | Department of Environment Protection (now DEC), Western Australia |
| **DIA** | Department of Indigenous Affairs |
| **DLI** | Department of Land Information, Western Australia |
| **DMP** | Department of Mines and Petroleum, Western Australia |
| **DoE** | Department of Environment (now DEC), Western Australia |
| **DoIR** | Department of Industry and Resources (now DMP), Western Australia |
| **DOLA** | Department of Land Administration, Western Australia |
| **DoW** | Department of Water |
| **EP Act** | Environmental Protection Act 1986, Western Australia |
| **EPBC Act** | Environment Protection and Biodiversity Conservation Act 1999 (Federal Act) |
| **GIS** | Geographical Information System |
| **ha** | Hectare (10,000 square metres) |
| **IBRA** | Interim Biogeographic Regionalisation for Australia |
| **IUCN** | International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union |
| **RIWI Act** | Rights in Water and Irrigation Act 1914, Western Australia |
| **s.17** | Section 17 of the Environment Protection Act 1986, Western Australia |
| **TEC** | Threatened Ecological Community |

## Definitions:

**{Atkins, K (2005). *Declared rare and priority flora list for Western Australia, 22 February 2005*. Department of Conservation and Land Management, Como, Western Australia} :-**

**P1** **Priority One - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

**P2** **Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

**P3** **Priority Three - Poorly Known taxa**: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.

**P4** **Priority Four – Rare taxa**: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

**R** **Declared Rare Flora – Extant taxa** *(= Threatened Flora = Endangered + Vulnerable)*: taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

**X** **Declared Rare Flora - Presumed Extinct taxa**: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

**{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-**

**Schedule 1** **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.

**Schedule 2** **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.

**Schedule 3** **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.

**Schedule 4** **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

**{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-**

**P1** **Priority One: Taxa with few, poorly known populations on threatened lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

**P2** **Priority Two: Taxa with few, poorly known populations on conservation lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation

status before consideration can be given to declaration as threatened fauna.

**P3** **Priority Three: Taxa with several, poorly known populations, some on conservation lands**: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

**P4** **Priority Four: Taxa in need of monitoring**: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.

**P5** **Priority Five: Taxa in need of monitoring**: Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

**Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999)***

**EX** **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.

**EX(W)** **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

**CR** **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.

**EN** **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

**VU** **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

**CD** **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.