



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5369/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Hamersley Iron Pty Ltd**

1.3. Property details

Property: *Iron Ore (Hamersley Range) Agreement Act 1963*, Lease H 954583, Sub-Lease H 962537, Lot 37 on Deposited Plan 29815
Local Government Area: Shire of Ashburton
Colloquial name: Camp Anderson Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
50		Mechanical Removal	Construction camp and associated activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 10 January 2013

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. Two Beard vegetation associations have been mapped within the application area (GIS Database):

82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*; and

565: Hummock grasslands, low tree steppe; bloodwood over soft spinifex.

A flora and vegetation survey of the application area was conducted by Biota (2012) in March 2012. This survey identified the following four vegetation communities within the application area (GIS Database):

EIAiGwAbTw – *Eucalyptus leucophloia* scattered low trees over *Acacia inaequilatera*, *Grevillea wickhamii* scattered tall shrubs over *acacia bivenosa* scattered shrubs to open shrubland over *Triodia wiseana* hummock grassland;

AtuGwApyPITe – *Acacia tumida* var. *pilbarensis*, *Grevillea wickhamii*, *Acacia pyrifolia*, *Petalostylis labicheoides* tall open scrub over *Triodia epactia* open hummock grassland;

ChGwPITe – *Corymbia hamersleyana* scattered low trees over *Grevillea wickhamii*, *Petalostylis labicheoides* tall shrubland over *Triodia epactia* open hummock grassland; and

Disturbed – Area cleared for previous accommodation village, access track and associated infrastructure. Majority of the area supports mixed open shrublands dominated by *Acacia ancistrocarpa* and *Acacia bivenosa* over hummock grasses. A stand of River Red Gums (*Eucalyptus camaldulensis* subsp. *refulgens*) over dense herbs and grasses in an artificial soak.

Clearing Description Hamersley Iron Pty Ltd has applied to clear up to 50 hectares of native vegetation within a 56 hectares boundary. The purpose of the clearing is for a railway construction camp and associated activities.

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

To

Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).

Comment The application area is located within the Pilbara region of Western Australia and is situated approximately 74 kilometres north west of Wittenoom.

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 proposed clearing is located approximately 74 kilometres north west of Wittenoom within the Hamersley subregion of the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). At a broad scale, vegetation of the Hamersley subregion can be described as Mulga low woodlands over bunch grasses on fine textured soils in valley floors and *Eucalyptus leucophloia* over *Triodia brizoides* on skeletal soils of the ranges (CALM, 2002). Rare features of the subregion include gorges of the Hamersley Ranges (particularly those within Karijini National Park), Palm Spring, Duck Creek and Themeda grasslands (CALM, 2002). Permanent spring systems such as Weeli Wolli are also listed for their importance as refugia (CALM, 2002).

A flora and vegetation survey of the application area was conducted by Biota (2012) in March 2012. This survey identified a total of 131 plant taxa from 70 genera and 29 families (Biota, 2012). This is considered to be within the expected range for an area of this size in this locality and is not considered to represent particularly high species richness (Biota, 2012).

According to available databases there are no Threatened or Priority Ecological Communities within the application area (GIS Database).

According to available databases there are no Threatened or Priority Flora species within the application area (GIS Database). Biota (2012) did not identify any Threatened or Priority Flora species within the application area during the flora and vegetation survey. Given the vegetation communities within the application area, no Threatened or Priority Flora species are considered likely to occur (Biota, 2012).

Biota (2012) identified six introduced flora species, *Aerva javanica*, *Cenchrus ciliaris*, *Cenchrus setiger*, *Cynodon dactylon*, *Echinochloa colona* and *Portulaca oleracea*, within the application area. Weeds have the potential to alter the biodiversity of an area, competing with native vegetation for available resources and making areas more fire prone. This can in turn lead to greater rates of infestation and further loss of biodiversity if the area is subject to repeated fires. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

A fauna habitat survey of the application area was conducted by Biota (2012) in March 2012. This survey identified one habitat within the application area which is considered to be widespread throughout the Pilbara region (Biota, 2012). It is therefore considered unlikely that the application area contains a higher level of faunal diversity than other areas throughout the region.

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

Methodology Biota (2012)
CALM (2002)
GIS Database:
- IBRA WA (regions – subregions)
- Threatened Ecological Sites Buffered
- Threatened and Priority Flora

(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 fauna survey of the application area was conducted by Biota (2012) in March 2012. This survey identified one fauna habitat within the application area, *Eucalyptus* spp. and *Corymbia* spp. over *Acacia* spp. and *Grevillea* spp. shrublands over *Triodia* spp. hummock grasslands on gravelly loam (Biota, 2012). This habitat occurs over four dominant landforms within the application area (Biota, 2012):

- Level to gently undulating stony plain;
- Minor drainage depression;
- Lower slopes; and
- Low hills and/or rises.

Based on the habitats present and a desktop survey, the following nine conservation significant fauna species have been identified as potentially occurring within the application area (Biota, 2012):

- Northern Quoll (*Dasyurus hallucatus*): Endangered, Schedule 1;
- Orange Leaf-nosed Bat (*Rhinioncteris aurantius*): Vulnerable, Schedule 1;
- Pilbara Olive Python (*Liasis olivaceus barroni*): Vulnerable, Schedule 1;
- Rainbow Bee-eater (*Merops ornatus*): Migratory, Schedule 3;
- Australian Bustard (*Ardeotis australis*): Priority 4;

- Bush Stone-curlew (*Burhinus grallarius*): Priority 4;
- Brush-tailed Mulgara (*Dasyercus blythi*): Priority 4;
- Ghost Bat (*Macroderma gigas*): Priority 4; and
- Long-tailed Dunnart (*Sminthopsis longicaudata*): Priority 4.

No core habitat for the Northern Quoll, Orange Leaf-nosed Bat, Pilbara Olive Python, Rainbow Bee-eater, Ghost Bat or the Long-tailed Dunnart has been identified within the application area (Biota, 2012). These species may forage within the application area, however the conservation of these species is not likely to be impacted by the proposed clearing.

The application area is within the known distribution and habitat requirements for the Brush-tailed Mulgara (Biota, 2012). No evidence of this species was recorded within the application area during the fauna survey by Biota (2012). Additionally, there have been no records of this species within the vicinity of the application area (Biota, 2012). It is therefore considered unlikely that the proposed clearing will impact on the conservation of this species.

Both the Australian Bustard and Bush Stone-curlew have been recorded within the vicinity of the application area and the preferred habitat for these species is present (Biota, 2012). These species are both common and widespread throughout the Pilbara and, while the proposed clearing may impact on individuals of these species, the habitat within the application area is considered to be very small compared to the amount available regionally (Biota, 2012). It is therefore considered unlikely that the proposed clearing will impact on the conservation of these species.

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

Methodology Biota (2012)

(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 Threatened Flora species within the application area (GIS Database).

A flora and vegetation survey of the application area conducted by botanists from Biota (2012) did not identify any Threatened Flora within the application area.

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

Methodology Biota (2012)
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

There are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). The nearest known TEC, Themeda Grasslands of the Pilbara Region, is located approximately 30 kilometres south of the application area (Biota, 2012). At this distance there is little likelihood of any impact to the TEC as a result of the proposed clearing.

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

Methodology Biota (2012)
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 is located within the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). Approximately 99.58% of the pre-European vegetation remains within the Pilbara bioregion (Government of Western Australia, 2011).

The vegetation within the application area has been broadly mapped as Beard vegetation associations:

82: Hummock grasslands, low tree steppe; snappy gum over *Triodia wiseana*; and
565: Hummock grasslands, low tree steppe; bloodwood over soft spinifex.

Approximately 99.51% and 99.99% of Beard vegetation associations 82 and 565, respectively, remain within

the Pilbara bioregion (see table below) (Government of Western Australia, 2011).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves (and post clearing %)
IBRA Bioregion - Pilbara	17,804,427	17,729,352	~99.58	Least Concern	~6.32
Beard vegetation associations - State					
82	2,565,901	2,553,217	~99.51	Least Concern	~10.24
565	143,439	143,427	~99.99	Least Concern	-
Beard vegetation associations - Bioregion					
82	2,563,583	2,550,899	~99.51	Least Concern	~10.25
565	108,957	108,945	~99.99	Least Concern	-

* Government of Western Australia (2011)

** Department of Natural Resources and Environment (2002)

The vegetation within the application area is not considered to be a remnant of vegetation in an area that has been extensively cleared.

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 at variance to this Principle**
According to available databases there are no permanent wetlands or watercourses within the application area, however there are numerous non-perennial watercourses (GIS Database). Biota (2012) identified one minor creekline through the eastern section of the application area. While this is not considered to be a significant watercourse, it is important to maintain the natural flow of water. Potential impact to surface water flow may be minimised by the implementation of a watercourse management condition.

Based on the above, the proposed clearing is at variance to this Principle.

Methodology Biota (2012)
GIS Database:
- Hydrography, linear

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

Comments **Proposal may be at variance to this Principle**
According to available databases the application area intersects the Boolgeeda, Newman and River land systems (GIS Database). Both the Boolgeeda and Newman land systems are not susceptible to erosion, however the River land system has a high to very high susceptibility to erosion when vegetation is removed (Van Vreeswyk et al., 2004). Potential erosion as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

Based on the above, the pre-proposed clearing may be at variance to this Principle.

Methodology Van Vreeswyk et al. (2004)
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 not located within a conservation area (GIS Database). The nearest conservation area is Karijini National Park located approximately 39 kilometres south east of the application area (GIS Database). At this distance the proposed clearing is considered unlikely to impact on the values of any conservation areas.

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 at variance to this Principle

The application area lies within the Millstream Water Reserve, a Public Drinking Water Source Area (PDWSA) gazetted under the *Country Areas Water Supply Act 1947* in March 2001. This PDWSA is defined as 'Priority 2' under the Water Source Protection Classification System (Department of Water (DoW), 2012). DoW (2012) has advised that the proposed clearing is unlikely to have an impact on the quantity or quality of groundwater, providing clearing activities are conducted in accordance with DoW's guidelines and advice. The application area is located within the proclaimed Pilbara groundwater area under the *Rights in Water and Irrigation Act 1914* (DoW, 2012). Any groundwater abstraction in this proclaimed area is subject to licensing by the DoW (2012).

There are no permanent wetlands or watercourses within the application area, however there are numerous non-perennial watercourses (GIS Database). DoW (2012) has advised that the application area lies within a proclaimed area under the *Rights in Water and Irrigation Act 1914*. Any taking or diversion of surface water in this proclaimed area for purposes other than domestic and/or stock watering is subject to licence by DoW (2012).

Based on the above, the proposed clearing is at variance to this Principle.

Methodology DoW (2012)
GIS Database:
- Public Drinking Water Source Areas (PDWSAs)

(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-desert tropical climate with an average annual rainfall of approximately 384 millimetres (BoM, 2012; CALM, 2002). Local flooding of the minor creeklines and floodplains may occur periodically following heavy rainfall from storm or cyclonic events (Biota, 2012). However the proposed clearing is considered unlikely to cause or exacerbate the frequency or intensity of flooding (Biota, 2012).

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

Methodology Biota (2012)
BoM (2012)
CALM (2002)

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

Comments

There is one Native Title Claim (WC03/3) over the area under application (GIS Database). This claim has been registered with the Native Title Tribunal on behalf of the claimant group. However, the 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 Site 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 26 November 2012 by the Department of Mines and

Petroleum inviting submissions from the public. No submissions were received in relation to the proposed clearing.

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

4. References

- Biota (2012) Camp Anderson Rail Construction Camp: Native Vegetation Clearing Permit Report. Unpublished report dated November 2012. Biota Environmental Sciences.
- BoM (2012) BoM Website - Climate Averages by Number, Averages for HAMERSLEY
www.bom.gov.au/climate/averages/tables.shtml (Accessed 18 December 2012)
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management
- 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.
- DoW (2012) Application to Clear Native Vegetation Under the *Environmental Protection Act 1986* – Camp Anderson Project. Advice provided by the Department of Water Dated 5 December 2012.
- 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.
- Van Vreeswyk AME, Payne AL, Leighton KA & Hennig P, (2004). Technical Bulletin No. 92: An inventory and condition survey of the Pilbara region, Western Australia. Department of Agriculture, Western Australia.

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.