Department of Industry and Resources

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 1566/1
Permit type: Area Permit

1.2. Proponent details

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

1.3. Property details

Property: AML70/4
Local Government Area: Shire Of Ashburton
Colloquial name: State Agreement Act ML4SA (AML70/4)

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
4		Mechanical Removal	Construction of an access road

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard Vegetation Association 567: Hummock grasslands, shrub steppe; mulga and kanji over soft spinifex & Triodia basedowii (Shepherd et al. 2001; GIS database). A flora survey of the application area was conducted by Hamersley Iron on 23 May 2006. The flora survey revealed a total of 73 vascular plant taxa representing 44 genera and 24 families. The vegetation types to be cleared are well represented in the Pilbara region (Hamersley Iron 2006; GIS database).	Hamersley Iron proposes to clear up to 4 hectares of native vegetation to construct a new wide load access road at the Tom Price minesite gate house. The clearing will be carried out with a dozer with its blade down. Topsoil and vegetation will be collected and stockpiled for use in future rehabilitation works. The clearing will be undertaken alongside an existing road and laydown area (Hamersley Iron 2006).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994). to Completely Degraded: No longer intact; completely/almost completely without native species (Keighery 1994).	Aerial photography submitted with the clearing application shows that small areas along the northern, western and southern boundaries of the application area have previously been disturbed and are in a degraded condition (Hamersley Iron 2006).

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 area is found within the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) region which encompasses an area of 17,804,163 hectares (GIS database). The vegetation within the clearing application area consists of Beard vegetation association 567, which is common and widespread throughout the region, with approximately 100% of the pre-European vegetation extent remaining (Shepherd et al. 2001). No flora or fauna species of conservation significance are known to occur within the clearing application area (GIS Database; Hamersley Iron 2006).

The proposed clearing area is located within an operational mine site that has been significantly degraded by past and present mining activities (Hamersley Iron 2006). The application area is relatively small and is unlikely to be of higher biodiversity than surrounding areas. Aerial photography submitted with the clearing permit application shows that small areas within the clearing application area, namely along the northern, western and southern boundaries, appear to have been historically disturbed and are currently in a degraded condition. The additional clearing within the existing mine site is unlikely to have any significant impact on biological diversity

in the region.

With consideration to the above, the proposal is not likely to be at variance to this principle.

Methodology GIS Database:
- Declared Rare and Priority Flora List - CALM 01/07/05
- Pre-European Vegetation - DA 01/01
Hamersley Iron (2006)
Shepherd et al. (2001)

(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**

Hamersley Iron carried out a Threatened and Priority Fauna Database search between the coordinates 23.19º to 22.2555º S and 117.268º to 118.257º E on 29 September 2006. Several species of conservation significance may potentially occur within the proposed clearing area. These include the Peregrine Falcon (*Falco peregrinus*) listed under Schedule 4 - Other specially protected fauna of the Wildlife Conservation (Specially Protected Fauna) Notice 2005, the Priority 3 listed Spectacled Hare-Wallaby (*Lagorchestes conspicillatus leichardti*), the Priority 4 listed species' Long-tailed Dunnart (*Sminthopsis longicaudatus*), Ghost Bat (*Macroderma gigas*), Lakeland Downs Mouse (*Leggadina lakedownensis*), Western Pebble-Mound Mouse (*Pseudomys chapmani*), Australian Bustard (*Ardeotis australis*), Bush Stonecurlew (*Burhinus grallarius*) and the skink Notoscincus butleri (*Notoscincus butleri*).

The clearing application area is located within an active mine site which has been historically disturbed (Hamersley Iron 2006). Most of the species that may potentially occur within the application area have distributions which encompass the Pilbara at a minimum (Faunabase 2006). Given the small amount of vegetation applied to clear in a well established active minesite area, the proposed clearing is not likely to impact on fauna of conservation significance or habitat that is significant to such species.

With consideration to the above, the proposal is not likely to be at variance to this principle.

Methodology Faunabase (2006)
Hamersley Iron (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 CALM datasets there are no known records of Declared Rare Flora (DRF) or Priority flora species within the clearing application area (GIS database).

A survey of the clearing application area for DRF and Priority Flora was undertaken by Hamersley Iron on 23 May 2006. No DRF or Priority flora species were observed during the survey (Hamersley Iron 2006).

Hamersley Iron company policy with respect to rare flora states "a 500 metre 'no entry' exclusion zone is placed around DRF and Priority flora species that are of high conservation significance and a 100 metre 'restricted entry' exclusion zone is placed around Priority flora or flora of special interest". These 'no entry' and 'exclusion zones' are displayed on GPS plotters which are fitted in all earthmoving equipment. In line with Hamersley Iron's Best Practice, in areas where there are known Priority species disturbance will be minimized where possible (Hamersley Iron 2006).

With consideration to the above, the proposal is not likely to be at variance to this principle.

Methodology GIS Database:
- Declared Rare and Priority Flora List - CALM 01/07/05
Hamersley Iron (2006)

(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 (TEC) within the clearing application area (GIS database; Hamersley Iron 2006). The nearest known TEC is located approximately 34 kilometres north-east of the proposed clearing area. The TEC is not located within Hamersley Iron's mining lease. Given the distance separating the application area and the TEC the proposed clearing activities are unlikely to result in any offsite adverse environmental impacts to the TEC.

With consideration to the above, the proposal is not likely to be at variance to this principle.

Methodology GIS Database:
- Threatened Ecological Communities - CALM 12/4/05
Hamersley Iron (2006)

(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 likely to be at variance to this Principle**

The clearing application area falls within the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) region in which approximately 99.9% of the pre-European vegetation remains (GIS database; Shepherd et al. 2001). The vegetation type within the application area has been recorded as Beard Vegetation Association 567: Hummock grasslands, shrub steppe; Mulga & kanji over soft spinifex & *Triodia basedowii* (GIS database; Shepherd et al. 2001). According to Shepherd et al. (2001) approximately 100% of these vegetation associations remain.

	Pre-European area (ha)	Current extent (ha)	Remaining %*	Conservation Status**	% in IUCN Class I-IV reserves
IBRA Region - Pilbara	17,804,163*	17,794,650*	99.9%	Least concern	6.3%
Shire of Ashburton	No information available				
Beard vegetation associations - 567	776,832	776,832	~100%	Least concern	22.3%

* Shepherd et al. (2001)
** Department of Natural Resources and Environment (2002)

With consideration to the above, the proposed clearing area is not likely represent a significant remnant of native vegetation, therefore, the proposal is not likely to be at variance to this principle.

Methodology Department of Natural Resources and Environment (2002)
GIS Database:
- Interim Biogeographic Regionalisation of Australia (subregions) - EA 18/10/00
- Pre-European Vegetation - DA 01/01
Shepherd et al. (2001)

(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**

There are no wetlands or watercourses within the proposed clearing application area (GIS database). Hamersley have stated that long-term alterations to drainage patterns or significant impact to riparian vegetation are extremely unlikely to occur (Hamersley Iron 2006).

The proposal does not impact on native vegetation growing in association with a wetland or watercourse, therefore, it is not likely to be at variance to this principle.

Methodology GIS Database:
- Hydrography, linear - DOE 1/2/04
- Rivers, 1M - GA 01/06/00
- Lakes, 1M - GA 01/06/00
Hamersley Iron (2006)

(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 proposed clearing area is part of the Platform Land System, which is described as narrow raised plains and dissected slopes supporting hard spinifex (*Triodia wiseana*) and Mulga with other Acacia species (GIS database; DAWA 2004). For this land system there is a low risk of soil erosion or other land degradation associated with the proposed clearing for the new wide load access road (Van Vreeswyk 2004; DAWA 2006). Hamersley Iron (2006) has stated that topsoil and vegetation will be retained and stockpiled for use in future rehabilitation works.

There are no watercourses or wetlands within the clearing application area. Average annual rainfall for the application area is approximately 400 mm/yr, and the area experiences an evaporation rate of approximately

3400 mm/yr (Hamersley Iron 2006; GIS database). Given the small area of proposed clearing, waterlogging or salinisation are unlikely to be increased either on-site or off-site (GIS database).

Four weed species; *Cenchrus ciliaris, Cenchrus setigerus, Lactuca serriola* and *Bidens bipinnata*; were recorded within the clearing application area during the flora survey (Hamersley Iron 2006). In order to minimise the spread and to stop the establishment of these weed species, Hamersley Iron is committed to adhering to a comprehensive Operational Control Procedure (OCP) for weed control at the Mt Tom Price mine site, which has been certified under their Environmental Management System. Requirements under the weed control procedure include identifying and mapping areas of weed infestation across the Mt Tom Price mine site, undertaking inspections to ensure all equipment is free of vegetative and soil matter prior to arrival and upon departure from infested areas, ensuring there are suitable wash down areas located across the site and actively undertaking weed-spraying to eradicate infestations. The DoIR Assessing Officer is satisfied that the proponent's commitment to adhering to their comprehensive OCP for weed control is likely to minimise the risk of spreading weed species outside of the infested sites.

With consideration to the above, the proposal is not likely to be at variance to this principle.

Methodology DAWA (2006)
GIS Database:
- Evaporation Isopleths - BOM 09/98
- Hydrography, linear - DOE 1/2/04
- Rangeland Land System Mapping - DA

Hamersley Iron (2006)
Van Vreeswyk (2004)

(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 proposed clearing area is not located within a Department of Environment and Conservation managed conservation area. The nearest conservation area is Karijini National Park which is situated approximately 13 kilometres east of the project area (GIS database; Hamersley Iron 2006). The application area is located in an existing mine site which has been highly disturbed. Based on the distance between the proposal and the conservation area, the proposed clearing is not likely to impact on the conservation values of Karijini National Park.

With consideration to the above, the proposal is not likely to be at variance to this principle.

Methodology GIS Database:
- CALM Managed Lands and Waters - CALM 1/07/05

Hamersley Iron (2006)

(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

There are no watercourses or water bodies within the clearing application area. The application area is located within the Hardey River catchment which covers a total area in excess of 1846 km^2. The nearest watercourse is a minor, non-perennial drainage line situated approximately 130 metres east of the application area. Aerial imagery shows that the drainage line is buffered by approximately 100 metres of intact vegetation, however, there is an existing building and laydown area which adjoins the southern boundary of the application area (GIS database; Hamersley Iron 2006). Due to small area of proposed clearing and given that the application area and surrounding landscape is characterised by a topographic gradient of less than 3% (GIS database), the proposed clearing is unlikely to cause or increase sedimentation in nearby drainage lines or adversely impact on the quality of surface water within the Hardey River catchment area (Hamersley Iron 2006).

The proposed clearing area is not located within a Public Drinking Water Source Area (GIS database). Due to the small size of the application area it is unlikely to be a major contributor of groundwater recharge (Hamersley Iron 2006). As a result the proposed clearing is unlikely to impact on groundwater quality of the area.

With consideration to the above, the proposal is not likely to be at variance to this principle.

Methodology GIS Database:
- Hydrography, linear - DOE 1/2/04
- Public Drinking Water Source Areas (PDWSAs) - DOE 07/02/06
- Tom Price Townsite 20cm Orthomosaic - DLI 01
- Topographic Contours, Statewide - DOLA 12/09/02

Hamersley Iron (2006)

(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 clearing application area is not associated with any permanent wetlands or watercourses (GIS database). The average annual rainfall of the application area is approximately 400 mm/yr, with local flooding occurring seasonally in the Pilbara region between December and March (Hamersley Iron 2006). Given the small area applied to clear, it is unlikely that the proposed clearing will impact on drainage patterns within the Hardey River catchment area, or result in an increase in peak flood heights. The proposed clearing is not likely to increase the occurrence of natural flood events or exacerbate the intensity of flooding within the application area or nearby areas.

With consideration to the above, the proposal is not likely to be at variance to this principle.

Methodology

GIS Database:
- Hydrography, linear - DOE 1/2/04
- Lakes, 1M - GA 01/06/00
- Rivers, 1M - GA 01/06/00

Hamersley Iron (2006)

Planning instrument, Native Title, RIWI Act Licence, EP Act Licence, Works Approval, Previous EPA decision or other matter.

Comments

There is a native title claim over the area under application; WC97/089 (GIS database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenement 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 known sites of aboriginal significance within the proposed area to be cleared (GIS database). A heritage survey of the application area was undertaken on 28 April 2006. No aboriginal heritage sites were identified (Hamersley 2006). It is the proponent's responsibility to comply with the *Aboriginal Heritage Act 1972* and ensure that no sites of aboriginal 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.

Methodology

GIS Database:
- Aboriginal Sites of Significance - DIA
- Native Title Claims - DLI 7/11/05

Hamersley Iron (2006)

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Construction of access road	Mechanical Removal	4	**Grant**	The proposed clearing is not likely to be at variance with principles a, b, c, d, e, f, g, h, i and j. The assessing officer recommends that the permit be granted.

5. References

DAWA (2006). Land degradation assessment report for CPS 1068/1. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. Advice received 30 March 2006.

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.

Faunabase (2006). Faunabase and WA Faunalist, A search for *Falco peregrinus, Lagorchestes conspicillatus leichardti*, *Sminthopsis longicaudatus*, *Macroderma gigas*, *Leggadina lakedownensis*, *Pseudomys chapmani*, *Ardeotis australis*, *Burhinus grallarius* and *Notoscincus butleri*. Western Australia Museum, Perth, Western Australia,

viewed 24 October 2006, <http://www.museum.wa.gov.au/faunabase/prod/>.
Hamersley Iron (2006). Application for an Area Clearing Permit to Clear Native Vegetation for a new wide load access road at Tom Price, Hamersley Iron Pty Ltd, Western Australia.
Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia (updated 2005).
Van Vreeswyk A. M. E., Payne A. L., Leighton K.A. and Hennig P (1994). Technical Bulletin - An inventory and condition survey of the Pilbara region, Western Australia No 92, Department of Agriculture, Government of Western Australia, Perth, Western Australia.

6. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government.
CALM	Department of Conservation and Land Management, Western Australia.
DAFWA	Department of Agriculture and Food, Western Australia.
DA	Department of Agriculture, Western Australia.
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DoE), Western Australia.
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia.
DoE	Department of Environment, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
EP Act	Environment Protection Act 1986, Western Australia.
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System.
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	Rights in Water and Irrigation Act 1914, Western Australia.
s.17	Section 17 of the Environment Protection Act 1986, Western Australia.
TECs	Threatened Ecological Communities.

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.