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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3441/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Atlas Iron Limited**

1.3. Property details

Property: Mining Leases 45/1188, 45/923, 45/887
General Purpose Leases 45/290, 45/291

Local Government Area: Town of Port Hedland
Colloquial name: Wodgina DSO Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
80		Mechanical Removal	Mineral Production

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The vegetation of the application area is broadly mapped as Beard vegetation association (GIS Database):

626: Hummock grasslands, shrub-steppe; kanji over soft spinifex & *Triodia brizioides.*

Outback Ecology (2009d) describes the vegetation of the application area as consisting of the following vegetation associations:

Acacia Low Open Woodland
1a. *Acacia inaequilatera* Low Open Woodland over *Acacia acradenia* Open Shrubland over mixed Triodia hummock grassland;

Acacia Tall Shrubland
2a. Scattered emergent Eucalyptus Trees over *Acacia tumida var. pilbarensis* Tall Shrubland over *Cajanus pubescens* and other mixed Open Shrubland over mixed Triodia Hummock Grassland;

2b. *Acacia tumida var. pilbarensis* Tall Shrubland over *Acacia acradenia* Shrubland over mixed Triodia Hummock Grassland;

2c. *Acacia tumida var. pilbarensis* Tall Shrubland over open *A. acradenia* Shrubland over mixed Triodia Hummock Grassland;

Acacia Shrubland
3a. *Acacia acradenia* Shrubland over mixed Triodia Hummock Grassland;

3b. Scattered *Grevillea wickamii subsp. hispidula* over *Acacia acradenia* and other mixed Shrubland over mixed Triodia Hummock Grassland;

Acacia Open Shrubland
4a. *Acacia acradenia* Open Shrubland over mixed Triodia Hummock Grassland;

Acacia Low Shrubland
5a. *Acacia spondylophylla* Low Shrubland over mixed Triodia Hummock Grassland;

Triodia Hummock Grassland
7a. *Triodia wiseana* Hummock Grassland; and

Eucalyptus *leucofloia subsp. leucophloia* Low Open Woodland
8a. *Eucalyptus leucophloia subsp. leucophloia* Open Woodland over *Acacia acradenia* Open Shrubland over mixed Triodia Hummock Grassland.

Clearing Description
Atlas Iron Ltd (Atlas) have applied to clear up to 80 hectares of native vegetation for the purpose of continued mining operations at the Wodgina DSO Project (Outback Ecology, 2009e). Atlas have stated that approximately 39.3 hectares is required for open pits, 21.3 hectares for waste rock dumps, 3.8 hectares for haulage roads and 15.6 hectares for access ramps, topsoil stockpiling and laydown areas (Outback Ecology, 2009e).

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

To

Completely Degraded: no longer intact; completely/almost completely without native species (Keighery, 1994).

Comment
The vegetation condition was derived from a description by Outback Ecology (2009d) and aerial photography viewed by the assessing officer (GIS Database).

The vegetation condition across the majority of the application area was rated as being in excellent condition. A reduction in vegetation condition was observed across the top of the central ridge / plateau, particularly along the ridge top area within the proposed Anson Pit area. The proposed Anson Pit area was rated Degraded as a result of intensive exploration drilling (Outback Ecology, 2009d).

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 may be at variance to this Principle

The application area is located within the Chichester subregion of the Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). At a broad scale, the vegetation can be described as shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* hummock grasslands on plains, while *Eucalyptus leucophloia* tree steppes occur on ranges (CALM, 2002).

Outback Ecology (2009d) mapped the vegetation of the application area and surrounds at a scale of 1:12,500. Ten vegetation associations were recorded within the application area (Outback Ecology, 2009d). Similar vegetation assemblages were recorded in much of the surrounding landscape and therefore it is likely that the diversity of flora in the immediate surrounds would be similar to that of the application area (Outback Ecology, 2009d).

The vegetation condition across the majority of the application area was rated as being in 'excellent condition'. A reduction in vegetation condition was observed across the top of the central ridge / plateau, particularly along the ridge top area within the proposed Anson Pit area. The proposed Anson Pit area was rated 'degraded' as a result of intensive exploration drilling (Outback Ecology, 2009d). It is likely that degraded areas would possess reduced biodiversity than vegetation in excellent condition.

A total of 122 flora taxa (including subspecies and variants) from 38 families and 67 genera were recorded by Outback Ecology (2009d) during a Level 2 flora survey of the application area and surrounds. The number of taxa recorded in the Outback Ecology (2009d) flora and vegetation survey is comparable to previous surveys undertaken in the local area.

There were no Priority or Declared Rare Flora species located within the application area (Outback Ecology, 2009d).

Outback Ecology (2009g) recorded 90 vertebrate fauna species during a fauna survey of the application area and surrounds, consisting of 18 mammals (including two introduced species), 45 birds and 25 reptiles. The number of taxa recorded in the Outback Ecology (2009g) terrestrial fauna survey is comparable to previous surveys undertaken in the local area.

Six conservation significant fauna species were recorded during the Outback Ecology (2009g) fauna survey, comprising:

- the Northern Quoll (*Dasyurus hallucatus*), listed as Endangered under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) and Schedule 1 – *Wildlife Conservation* (specially protected fauna) *Notice 2008(2)*;
- the Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia*) listed as Vulnerable under the EPBC Act and Schedule 1 –*Wildlife Conservation* (specially protected fauna) *Notice 2008(2)*;
- three Priority 4 species, the Western Pebble-mound Mouse (*Pseudomys chapmani*), Ghost Bat (*Macroderma gigas*) and the Long-tailed Dunnart (*Smithopsis longicaudata*);
- the Rainbow Bea-eater (*Merops ornatus*), listed as Migratory under the EPBC Act.

The following Pilbara endemic species were recorded within the Outback Ecology (2009g) fauna survey: Rothchilds Rock-wallaby, *Diplodactylus savage (*a gecko), *Delma pax* (a legless lizard), *Ctenotus rubicundus* (a skink) and the Rufus Whip-snake. These species are not protected under State or Commonwealth legislation and are not considered to be threatened (Outback Ecology, 2009g).

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

The vegetation of the application area is well represented in the broader region (Outback Ecology, 2009e). Due

to the comparatively small scale of the proposed disturbance footprint relative to the widespread distribution of the native vegetation within the region, it is considered unlikely that there will be a significant impact on biodiversity.

Methodology

CALM (2002)
Outback Ecology (2009d)
Outback Ecology (2009e)
Outback Ecology (2009g)
GIS Database:
- Interim Biogeographic Regionalisation for Australia
- Interim Biogeographic Regionalisation for Australia Subregion

(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 may be at variance to this Principle

Five fauna surveys were conducted within the application area and surrounds:

- Bat Call WA (2009) - bat fauna survey;
- Outback Ecology (2009b) - Stygofauna Desktop Review;
- Outback Ecology (2009c) - Troglofauna Survey;
- Outback Ecology (2009f) - Terrestrial Short-range Endemic Invertebrate Fauna Assessment; and
- Outback Ecology (2009g) - Terrestrial Vertebrate Fauna Assessment.

Five broad terrestrial fauna habitat types were identified within the application area (Outback Ecology, 2009g):

- Drainage line;
- Low Stony Rise/Hill;
- Ridge;
- Mixture of Hillcrest and Open Mixed Shrubland Habitat; and
- Mixture of Scree Slopes and Gullies.

The proposed clearing of native vegetation will result in the removal of habitat and direct mortality of individual fauna (Outback Ecology, 2009g). Secondary effects may include increased edge effects and habitat fragmentation (Outback Ecology, 2009g).

Outcropping ironstone ridges, minor gorges and drainage lines are considered the most significant habitat for conservation significant fauna within the application area (Outback Ecology, 2009g). Ironstone ridges are considered uncommon within the surrounding landscape (Outback Ecology, 2009e). Clearing substantial areas of these habitats is likely to impact threatened species to varying degrees at a localised scale (Outback Ecology, 2009e).

Species considered most likely at risk are those which inhabit arboreal habitats (e.g. hollow roosting bats, nesting birds), subterranean habitats (e.g. some snakes) or have low mobility (e.g. small reptiles). Mobile fauna able to avoid direct impact will be displaced into the surrounding habitat (Outback Ecology, 2009e).

The proposed clearing will result in the long-term loss of habitat and a reduction in habitat connectivity for species dependant on rocky ridge and gorge habitat including Northern Quolls, Ghost Bats and Pilbara Leaf-nosed Bats (Outback Ecology, 2009g). Habitat occurring between proposed disturbance areas will become isolated (Outback Ecology, 2009g). These habitats are difficult to rehabilitate (Outback Ecology, 2009g).

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

The impacts of vegetation clearing on the abovementioned fauna species are discussed below.

The Northern Quoll (*Dsyurus hallucatus*) is listed as 'Endangered' under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* and Schedule 1 'Fauna that is rare or is likely to become extinct' under the *Wildlife Conservation (Specially Protected Fauna) Notice 2008(2).* Optimal habitat for the Northern Quoll consists of dissected rocky escarpments which provide shelter such as rock crevices and caves. Suitable rocky habitat occurs throughout the application area and surrounding landscape (Outback Ecology, 2009g).

There is approximately 42,622 hectares of potential habitat for the Northern Quoll within the Wodgina DSO study area and immediate surrounds (Outback Ecology, 2009g). It is estimated that the proposed clearing will affect less than 0.5 percent of Northern Quoll habitat within the surrounding area (Outback Ecology, 2009g). It is unlikely the proposed clearing will represent significant habitat for this species.

The Pilbara Leaf-nosed Bat (*Rhinonicteris aurantia*) is listed as 'Vulnerable' under the *EPBC Act 1999* and Schedule 1 'Fauna that is rare or is likely to become extinct' under the *Wildlife Conservation (Specially Protected Fauna) Notice 2008(2).* The Pilbara Leaf-nosed Bat requires warm, humid roost sites in caves and abandoned mine shafts. No caves fitting this description were recorded during a targeted search by Bat Call WA (2009). A small number of bats were recorded roosting at one location within the application area,

however, Bat Call WA (2009) report that it is most likely this roosting site was only opportunistically used during feeding.

The majority of the optimal roosting habitat for the Pilbara Leaf-nosed Bat in the immediate region is located in gorges with permanent water sources and tall Melaleuca or Eucalyptus sp. forests in the ridges near Abydos (east of the Wodgina DSO application area) (Bat Call WA, 2009).

The most important means for limiting disturbance to the Pilbara Leaf-nosed Bat is to preserve their roosting habitat, because the paucity of suitable roost sites limits this species (Bat Call WA, 2009). Identified roosts are located outside of the application area, so protection through avoidance would be straightforward. Two field surveys have been unable to locate roosts in the project area despite targeted searches (Bat Call WA, 2009).

The Ghost Bat (*Macroderma gigas*) is listed as Priority 4 by the Department of Environment and Conservation. The species' distribution is patchy occupying a variety of habitats from the arid Pilbara to the rainforests of Northern Queensland (Van Dyck and Strahan, 2008). Ghost Bats roost in undisturbed caves usually with several entrances, in deep fissures or abandoned mine shafts (Outback Ecology, 2009g).

Thirty Ghost Bat roost locations were identified within the Wodgina DSO Study area and within 50 kilometres of the application area during the targeted fauna survey (Bat Call WA, 2009). Two of these were regionally significant roost sites that contained large aggregations of between 40- 70 Ghost Bats (Bat Call WA, 2009). These regionally significant roost sites consisted of a large cave approximately three kilometres to the south of the Wodgina DSO application area with a dome shaped ceiling containing approximately 60 Ghost Bats and Ghost Bat scats covering the entire cave floor. The other roost site is located on a ridge face south of Pincunah, between Wodgina and Abydos. This roost site consisted of a large complex cave with a narrow opening leading into an expansive cave with several chambers with dome ceilings, a high level of humidity and a large aggregation of Ghost Bats indicative of a breeding colony (Outback Ecology, 2009g; Bat Call WA, 2009).

AnaBat recordings recorded Ghost Bats across 10 locations within the Wodgina DSO survey area during the terrestrial fauna survey and subsequent targeted fauna assessment; two recordings were from caves located within the application area (Bat Call WA, 2009). The caves within the application area were later revisited during the subsequent targeted fauna assessment and no Ghost Bats were seen to occupy these caves in July 2009 (Bat Call WA, 2009). A small amount of Ghost Bat scats (less than 10 scats) were found within the two caves in the application area. The caves within the application area were relatively small and lacked dome shaped ceilings and high humidity associated with permanent roost locations. Cave structure combined with the presence of a small amount of Ghost Bat scats suggests that occupation of these caves is likely attributed to an occasional roosting location or feeding site. It is also possible that the AnaBat echolocation recordings may have been of foraging Ghost Bats that were intermittently using the area. It is unlikely that the local Ghost Bat population is totally reliant on the roost locations within the application area as more significant roost locations with large aggregations of Ghost Bats were recorded outside of the application area (Bat Call WA, 2009).

The results of the three invertebrate fauna surveys conducted by Outback Ecology (2009b, 2009c, 2009f) are hard to quantify in terms of the potential impact to habitat for invertebrate species. This is because there is very limited knowledge of short-range endemic invertebrates, troglofauna or stygofauna within the Pilbara bioregion (2009b, 2009c, 2009f).

Stygofauna occur in all types of aquifers having voids of suitable size for species' biology (Outback Ecology 2009b). From the assessment of Principle (i) in this report it is deemed that the proposed clearing is unlikely to impact groundwater in the local area. Therefore it is unlikely that there will be any impact on potential stygofaunal communities within the application area (Outback Ecology, 2009b).

Similarly, it is unlikely that troglofauna will be directly impacted by the proposed clearing activities (Outback Ecology, 2009c). Examination of drill cores from the area showed small voids and cavities at 10 – 15 metres with the material below that displaying no spaces and appearing to be filled with sand. From the findings of the Outback Ecology (2009c) troglofauna survey the Wodgina DSO application area does not appear to be a significant troglofauna habitat.

None of the invertebrate fauna species collected during the short-range endemic survey represent known short-range endemic species (Outback Ecology, 2009f). It is unlikely that the broad habitats identified in the application area would support known terrestrial short-range endemic invertebrate fauna species (Outback Ecology, 2009f).

Methodology

Bat Call WA (2009)
Outback Ecology (2009b)
Outback Ecology (2009c)
Outback Ecology (2009e)
Outback Ecology (2009f)
Outback Ecology (2009g)
Van Dyck and Strahan (2008)

(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

Outback Ecology (2009d) conducted a Level 2 flora and vegetation survey of the application area in 2009. There have been a number of flora and vegetation surveys conducted at, or in the vicinity of the Wodgina DSO application area (Outback Ecology, 2009d).

No Declared Rare Flora pursuant to the *Wildlife Conservation (Rare Flora) Notice 2008(2),* or Priority Flora listed with the Department of Environment and Conservation was identified in the application area (Outback Ecology, 2009d).

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

Methodology Outback Ecology (2009d)

(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's) within the application areas (GIS Database). The nearest known TEC is located approximately 100 kilometres south 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 Communities

(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 bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). Shepherd (2007) report that approximately 99.9% of the pre-European vegetation still exists in the Pilbara bioregion. The vegetation in the application areas is broadly mapped as Beard vegetation association 626: hummock grasslands, shrub-steppe; kanji over soft Spinifex & *Triodia brizioides* (GIS Database). According to Shepherd (2007) there is approximately 100% of this vegetation type remaining (see table below).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	% of Pre-European area in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,804,164	17,794,164	~99.9	Least Concern	6.3
Beard vegetation associations - WA					
626	117,724	117,724	~100	Least Concern	15.6
Beard vegetation associations - Pilbara Bioregion					
626	117,724	117,724	~100	Least Concern	15.6

* Shepherd (2007)
** Department of Natural Resources and Environment (2002)

Although several large scale mining operations are located within a 50 kilometre radius of the application area (GIS Database), on a broader scale the Pilbara bioregion has not been extensively cleared. Hence the application area is not considered to represent a significant remnant of native 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)
Shepherd (2007)
GIS Database:
- Interim Biogeographic Regionalisation of Australia
- 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 known Directory of Important Wetlands or Ramsar wetlands within the application area (GIS Database).

There are no permanent watercourses or wetlands within the application area, however, the application area crosses a number of ephemeral drainage lines (Outback Ecology, 2009d). Two vegetation units associated with drainage lines were identified within the application area during a flora and vegetation survey (Outback Ecology 2009d):

Acacia Tall Shrubland
2b. *Acacia tumida var. pilbarensis* Tall Shrubland over *Acacia acradenia* Shrubland over mixed Triodia Hummock Grassland; and

Acacia Shrubland
3a. *Acacia acradenia* Shrubland over mixed Triodia Hummock Grassland.

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

The application area is contained within land systems which contain hills and ridges with dissected slopes and valleys containing ephemeral drainage lines (Van Vreeswyk et al., 2004). Although, the drainage lines themselves comprise a relatively small total area, their distribution is quite widespread throughout the Pilbara. The drainage lines present within the application area are dry for most of the year, only flowing briefly immediately following significant rainfall (MWH, 2009b). Vegetation, including riparian vegetation, of the application area is typical of vegetation previously described for the Pilbara area (Outback Ecology, 2009d). Therefore, the loss of a small percentage of vegetation associated with drainage lines is not expected to have a significant environmental impact.

Methodology

Outback Ecology (2009d)
MWH (2009b)
Van Vreeswyk et al. (2004)
GIS Database:
- Directory of Important Wetlands

(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

Outback Ecology (2009a) conducted a 'Baseline Assessment of Surface Soils Waste Materials and Landforms' of the application area.

Five distinct soil-landform associations were identified within the application area: namely the ridge/plateau, midslopes, steep scree slopes, low hills and drainage lines soil-landform associations (Outback Ecology, 2009a). The soil survey and laboratory analysis of surface soils indicated only small variations in properties between, and then in some instances within, the landform areas investigated within the application area (Outback Ecology, 2009a).

The surface soils within the application area were generally shallow, stony loams to sandy clay loams with varying amounts of coarse fragments and outcropping rock (Outback Ecology, 2009a).

Course fragments and outcropping rocks were highest in the ridge/plateau soils, and were lowest in the low hills soils (Outback Ecology, 2009a). Particle size analysis indicated little variation in soil texture within the study area, classifying most soils as sandy loams. All soils within the application area were typically single grained and loose consistence (Outback Ecology, 2009a).

The majority of the surface soils were structurally stable (Outback Ecology, 2009a). The low hills and drainage line soils exhibited some tendency for clay dispersion upon severe disturbance of the smaller than two millimetre soil fraction (Outback Ecology, 2009a). This indicates that these materials may potentially be problematic once disturbed and redeposited, however, the high amount of course material present within all soils sampled is likely to mitigate erosion of the soil surface, as it does in the undisturbed environment (Outback Ecology, 2009a).

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

Methodology

Outback Ecology (2009a)

(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

There are no conservation areas in the vicinity of the application area. The nearest Department of Environment and Conservation managed land is the Mungaroona Nature reserve approximately 50 kilometres north-west 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:
- 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

MWH Global (MWH) (2009a; 2009b) conducted two hydrological assessments of the application area; a ground water investigation; and a surface water assessment. Results indicate that that the local water table varies from approximately 210 metres (Australian Height Datum (AHD)) to 290 metres AHD (MWH, 2009a). Given the depth of the water table, it is unlikely the proposed clearing will interact with or cause deterioration in the quality of local ground water (MWH, 2009a).

It is believed the proposed clearing will have an insignificant impact on the downstream surface water regime due to the small upstream catchment area, the small disturbance area and the implementation of surface water diversion (MWH, 2009b).

The application area contains topography of steep sided ridges and hills, with undulating slope surfaces in valley areas and river floodplains (MWH, 2009a). Well developed drainage lines are incised into the ridge areas, forming gullies of significant depth (MWH, 2009a). Light rainfall events over extended periods in the area produce small volumes of runoff generally of low velocity that have a minor sediment load. Heavier intense rainfall events usually produce higher velocity flows, resulting in the transport of sediments (MWH, 2009a). Given that sedimentation occurs naturally during rainfall events it is unlikely that the proposed clearing will result in significant deterioration in the quality of surface water in the local area (MWH, 2009a).

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

Methodology

MWH (2009a)
MWH (2009b)

(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

MWH (2009b) conducted a surface water assessment to quantify flood flows and volumes around the Wodgina DSO Project area and to provide conceptual flood mitigation designs for the Anson and Electra pits, the waste rock dump and haul roads that are proposed to be constructed.

The Pilbara Bioregion experiences major rainfall events associated with tropical cyclones during the summer months annually (MWH, 2009b). The application area is located on an escarpment encompassing the headwaters of local catchments that contribute to the Yule and Turner River systems (MWH, 2009b). Due to the small upstream catchment area there is no risk of severe riverine floooding within the application area (MWH, 2009b).

MWH (2009b) have indicated that there will be insignificant impacts on the downstream surface water regimes due to the small upstream catchment area, the small disturbance area and the implementation of surface water diversion infrastructure. For this reason, it is unlikely that the proposed clearing will cause, or exacerbate, the incidence or intensity of downstream flooding.

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

Methodology

MWH (2009b)

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

Comments

The clearing permit application was advertised on 30 November 2009 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim over the application area (GIS Database). This claim (WC99-003) has been registered with the National Native Title Tribunal on behalf of the claimant group. However, the mining tenements have been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (ie. 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 two 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 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 Databases:
- Aboriginal Sites of Significance
- Native Title Claims

4. Assessor's comments

Comment

The proposal has been assessed against the Clearing Principles, and the proposed clearing is at variance to Principle (f), may be at variance to Principles (a) and (b), is not likely to be at variance to Principles (c), (d), (g), (h), (i) and (j), and is not at variance to Principle (e).

Should the permit be granted, it is recommended that conditions be imposed on the permit for the purposes of weed management, record keeping and permit reporting.

5. References

Bat Call WA (2009) Echolocation Survey of Bat Activity in the Anson-Wodgina Mine Site, unpublished report for Atlas Iron Limited.

CALM (2002) A biodiversity audit of Western Australia's 53 biogeographical subregions in 2002. Department of Conservation and Land Management, Western Australia.

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.

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

Outback Ecology (2009a) Baseline Assessment of Surface Soils Waste Materials and Landforms, unpublished report for Atlas Iron Limited.

Outback Ecology (2009b) Stygofauna Desktop Review, unpublished report for Atlas Iron Limited.

Outback Ecology (2009c) Troglofauna Survey, unpublished report for Atlas Iron Limited.

Outback Ecology (2009d) Wodgina DSO Project, Flora and Vegetation Assessment, unpublished report for Atlas Iron Limited.

Outback Ecology (2009e) Wodgina DSO Project, Summary Documentation for Clearing Permit (Purpose Permit) Application, unpublished report for Atlas Iron Limited.

Outback Ecology (2009f) Wodgina DSO Project, Terrestrial Sort-range Endemic Invertebrate Fauna Assessment, unpublished report for Atlas Iron Limited.

Outback Ecology (2009g) Wodgina DSO Project, Terrestrial Vertebrate Fauna Assessment, unpublished report for Atlas Iron Limited.

MWH (2009a) Wodgina DSO Project, Stage 1 Groundwater Investigation, unpublished report for Atlas Iron Limited.

MWH (2009b) Wodgina DSO Project, Stage 2 Surface Water Assessment, unpublished report for Atlas Iron Limited.

Shepherd, D.P. (2007) Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.

Van Dyck and Strahan (2008) Mammals of Australia 3rd Edition, New Holland Publishers, 2008, Sydney Australia.

Van Vreeswyk, A.M, Payne, A.L, Leighton, K.A and Hennig, P (2004) Technical Bulletin No. 92: An inventory and condition survey of the Pilbara region, Western Australia. Department of Agriculture, South 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.
DEC	Department of Environment and Conservation
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.
DMP	Department of Mines and Petroleum, Western Australia.
DoE	Department of Environment, Western Australia.
DoIR	Department of Industry and Resources, Western Australia.
DOLA	Department of Land Administration, Western Australia.
DoW	Department of Water
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.