



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5614/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Holcim (Australia) Pty Ltd**

1.3. Property details

Property: Mining Lease 45/666

Local Government Area: Town of Port Hedland

Colloquial name: Turner River Quarry Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
12.62		Mechanical Removal	Mineral Production and Associated Activities

1.5. Decision on application

Decision on Permit Application: Grant

Decision Date: 20 June 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. One Beard vegetation association has been mapped within the application area (GIS Database):

Beard vegetation association 589: Mosaic: Short bunch grassland – savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex (Government of Western Australia, 2013; GIS Database).

A flora and vegetation survey conducted by Animal Plant Mineral (APM) (2009) identified two vegetation types within the application area:

1. Isolated to very scattered *Corymbia* woodland and *Acacia* Shrubland over *Triodia epactia* hummock grassland; and
2. Isolated to very scattered *Corymbia* woodland and *Acacia* Shrubland over *Triodia epactia* open hummock grassland.

There are also heavily disturbed/cleared areas throughout the application area.

Clearing Description Holcim (Australia) Pty Ltd (Holcim) is proposing to clear up to 12.62 hectares of native vegetation for the Turner River Quarry project. The clearing of vegetation is required for the upgrade of the camp area, and a stockpiling area for the purpose of overburden storage.

The vegetation will be cleared using heavy machinery. The vegetation and topsoil will be stockpiled separately for use in rehabilitation.

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

to:

Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery, 1994).

Comment The application area is located in the Roebourne subregion of Western Australia and is situated approximately 39 kilometres south-west of Port Hedland (GIS Database).

The vegetation condition was assessed during a survey undertaken by APM (2009).

3. Assessment of application against clearing principles

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

Comments

Proposal is not likely to be at variance to this Principle

The application area occurs within the Roebourne subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). This subregion is characterised by quaternary alluvial and older colluvial coastal and subcoastal plains with a grass savannah of mixed bunch and hummock grasses, and dwarf shrub steppe of *Acacia stellaticeps* or *A. pyriformis* and *A. inaequilatera*. Uplands are dominated by *Triodia* hummock grasslands and ephemeral drainage lines support *Eucalyptus victrix* or *Corymbia hamersleyana* woodlands. Samphire, *Sporobolus* and mangal occur on marine alluvial flats and river deltas (CALM, 2002).

APM (2009) conducted a flora and vegetation survey of the application area from 18 to 21 October 2009, which identified a total of 53 native vascular plant taxa from 21 families (APM, 2009). The application area does not support a high diversity of flora or vegetation units which may be important for the locality or the subregion (APM, 2009). APM (2009) identified two vegetation communities within the application area with the condition of the vegetation communities classified as 'very good' to 'degraded' (Keighery, 1994).

A search on the Department of Environment and Conservation's Threatened and Priority Flora databases revealed no Threatened Flora species and one Priority Flora species that may potentially occur in the application area (DEC, 2013). There were no Priority Flora species recorded within the application area (APM, 2009).

There are no known Threatened Flora species, Threatened Ecological Communities or Priority Ecological Communities recorded within the application area (APM, 2009; GIS Database).

There was one species of weed identified during the survey; *Aerva javanica* (Kapok Bush) (APM, 2009). Weeds have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed management condition.

There were two faunal habitats identified within the application area based on vegetation mapping by APM (2009). The faunal habitats within the application area are considered to be common and widespread within the subregion and faunal assemblages are unlikely to be different to that found in similar habitat located elsewhere in the region (Terrestrial Ecosystems, 2009). The clearing of 12.62 hectares of native vegetation is unlikely to have a significant impact on faunal diversity in a regional and local context.

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

Methodology

APM (2009)
CALM (2002)
DEC (2013)
Keighery (1994)
Terrestrial Ecosystems (2009)
GIS Database:
- IBRA WA (Regions - Subregions)
- Pre-European vegetation
- Threatened Ecological Sites Buffered
- Yule 1.4m Orthomosaic - Landgate 2002

(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

There was no fauna survey conducted over the application area. Based on a flora and vegetation survey by APM (2009), two faunal habitat types were identified within the application area;

1. Isolated to very scattered *Corymbia* woodland and *Acacia* Shrubland over *Triodia epactia* hummock grassland; and
2. Isolated to very scattered *Corymbia* woodland and *Acacia* Shrubland over *Triodia epactia* open hummock grassland.

APM (2009) identified the vegetation condition to be 'degraded' to 'very good' (Keighery, 1994). The landforms and habitats found within the application area is considered as being well represented in the Roebourne subregion (Terrestrial Ecosystems, 2009). The application area does not contain habitats or faunal assemblages that are ecologically significant (Terrestrial Ecosystems, 2009; GIS Database). The clearing of 12.62 hectares of native vegetation is not likely to significantly impact on core habitat for native fauna.

There are four conservation significant species listed as Threatened under the *Environment Protection and Biodiversity Conservation Act 1999* or protected under Western Australian legislation (*Wildlife Conservation Act, 1950*), that may potentially occur within the application area based on habitat type; Western Pebble-mound

Mouse (*Pseudomys chapmani*) (DEC – Priority 4), Rainbow Bee-eater (*Merops ornatus*) (EPBC Act – Migratory species; JAMBA, CAMBA), Bush Stone-curlew (*Burhinus grallarius*) (DEC – Priority 4) and the Australian Bustard (*Ardeotis australis*) (DEC – Priority 4) (DEC, 2013; Terrestrial Ecosystems, 2009). The clearing of native vegetation within the application area could potentially disturb the Australian Bustard, Bush Stone-curlew, Western Pebble-mound Mouse and Rainbow Bee-eater, which may infrequently be found in the vicinity of the application area (Terrestrial Ecosystems, 2009). These species are considered highly mobile and have a wide distribution, so the clearing of native vegetation is unlikely to significantly impact on these species.

The proposed clearing of 12.62 hectares of native vegetation is not likely to impact critical feeding or breeding habitat for any conservation significant fauna species.

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

Methodology APM (2009)
DEC (2013)
Keighery (1994)
Terrestrial Ecosystems (2009)
GIS Database:
- Yule 1.4m Orthomosaic - Landgate 2002

(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 known records of Threatened Flora within the application area (GIS Database). A search of the Department of Environment and Conservation's Threatened and Priority Flora databases identified no Threatened Flora species as occurring within a 20 kilometre radius of the application area (DEC, 2013).

APM (2009) conducted a level 2 vegetation and flora survey of the application area from 18 to 21 October 2009. No Threatened Flora was recorded within the survey area.

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

Methodology APM (2009)
DEC (2013)
GIS Database:
- Threatened and Priority Flora List

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

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

A search of the available databases shows that there are no known Threatened Ecological Communities (TEC's) within the application area (GIS Database).

The nearest known TEC is situated 300 kilometres north-east of the application area. Given the distance separating the TEC buffer zone and the application area, the proposed clearing is not likely to impact the TEC.

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

Methodology GIS Database
- Threatened Ecological Sites Buffered

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments Proposal is not at variance to this Principle

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

Beard vegetation association 589: Mosaic: Short bunch grassland – savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex (Government of Western Australia, 2013; GIS Database).

According to the Government of Western Australia (2011), Beard vegetation association 567 retains approximately 99% of its pre-European extent. The local area has been extensively cleared, however the area proposed to be cleared is not a significant remnant of native vegetation.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,808,657	17,733,584	~99.58	Least Concern	6.34
Beard vegetation associations - State					
589	807,699	802,713	~99.38	Least Concern	1.59
Beard vegetation associations - Bioregion					
589	728,768	724,696	~99.44	Least Concern	1.77

* Government of Western Australia (2013)

** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2013)
GIS Database:
- IBRA WA (regions - subregions)
- Pre-European Vegetation

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

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

According to available databases, there are no watercourses or wetlands within the application area (GIS Database). The vegetation within the application area is not considered to be growing in association with any watercourse or wetland.

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

Methodology GIS Database:
- Geodata, Lakes
- Hydrography, Linear

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

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

The application area is within the Ruth land system (GIS Database).

The Ruth land system is characterised by Hills and ridges of volcanic and other rocks supporting hard spinifex (occasionally soft spinifex) grasslands. The system is prone to fairly regular burning but is not susceptible to erosion (Van Vreeswyk et al., 2004).

Based on the above, the proposed clearing is not likely to 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 any conservation area (GIS Database). The nearest conservation area is Mungaroona Range Nature Reserve, located approximately 85 kilometres south-west of the application area (GIS Database).

Given the distance of the application area from Mungaroona Range Nature Reserve, the proposed clearing is not likely to provide a significant ecological linkage or fauna movement corridor and is not likely to impact the environmental values of the conservation area.

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

Methodology GIS Database:
- DEC Tenure

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

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

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

There are no permanent watercourses or water bodies within the application area (GIS Database). Few ephemeral drainage tracts transect the application area (GIS Database). These drainage tracts are dry for most of the year and only flow and hold surface water for short durations following significant rainfall events, where turbid water from intense rainfall events will flow to the Turner River which is adjacent to the application area (GIS Database).

The application has a groundwater salinity that is saline (1,000 - 3,000 milligrams/Litre Total Dissolved Solids (TDS)) (GIS Database). The clearing of vegetation as a result of this proposal is therefore unlikely to result in any further deterioration in surface or groundwater quality in the local area.

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

Methodology GIS Database:
- Geodata, Lakes
- Groundwater Salinity, Statewide
- Hydrography, Linear
- Public Drinking Water Source Areas
- RIWI Act, Groundwater Areas

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

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

The application area experiences an arid (semi-desert) tropical climate with highly variable rainfall, falling mainly in summer, with an annual average rainfall of approximately 317 millimetres per year (CALM, 2002; BoM, 2013). Based on an average annual evaporation rate of 3,200 - 3,600 millimetres (BoM, 2013), any surface water resulting from rainfall events is likely to be relatively short lived.

Given the size of the area to be cleared (12.62 hectares) compared to the size of the Turner River catchment area (480,185 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate the incidence or intensity of flooding.

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

Methodology BoM (2013)
CALM (2002)
GIS Database:
- Hydrographic Catchments ? Catchments

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

Comments

There are no Native Title claims over the area under application. However, the mining tenure has been granted in accordance with the future act regime of the *Native Title Act 1993* and the nature of the act (i.e. the proposed clearing activity) has been provided for in that process, therefore the granting of a clearing permit is not a future act under the *Native Title Act 1993*.

There are no registered Aboriginal Sites of Significance within the application area (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 27 May 2013 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 - Determined by the Federal Court
 - Native Title Claims - Registered with the NNTT

4. References

- Animal Plant Mineral Pty Ltd (APM) (2009) Holcim Turner River: Botanical Assessment Survey. Prepared for Holcim Australia Pty Ltd, 2009.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Pilbara 4 (PIL1 - Roebourne subregion) Department of Conservation and Land Management, Western Australia.
- DEC (2013) NatureMap - Mapping Western Australia Biodiversity, Department of Environment and Conservation, viewed 11 June 2013, <<http://naturemap.dec.wa.gov.au>>.
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Government of Western Australia. (2013). 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. 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.
- Terrestrial Ecosystems (2009) Level 1 Fauna Risk Assessment for Holcim Turner River Quarry. Prepared for Animal Plant Mineral Pty Ltd, November 2009.
- Van Vreeswyk, A.M.E.; Payne, A.L.; Leighton, K.A.; Hennig, P. (2004) An inventory and condition survey of the Pilbara Region, Western Australia, Technical Bulletin No. 92 Department of Agriculture Western Australia, South Perth.

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.