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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5690/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: **Peter Scott Connolly**

1.3. Property details

Property: Mining Lease 04/208
Mining Lease 04/209
Local Government Area: Shire of Broome, West-Kimberley
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
18.38		Mechanical Removal	Sand Extraction

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 29 August 2013

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

Beard vegetation associations have been mapped for the whole of Western Australia. Two Beard vegetation associations are located within the application area (GIS Database):

73: Grasslands, short bunch grass savanna, grass; salt water grassland (*Sporobolus virginicus*); and
750: Shrublands, pindan; *Acacia tumida* shrubland with grey box & cabbage gum medium woodland over ribbon grass & curly spinifex (GIS Database).

A flora and vegetation survey conducted by Bioscience (2008) during 22 to 24 May 2008 identified two distinct vegetation communities within the application area:

Pindan Unit – Mosaic of low woodland to low open woodland of mainly *Acacia platycarpa* and *Acacia tumida* with less common taller trees including *Corymbia opaca, Corymbia polycarpa, Persoonia falcata* and *Hakea chordophylla* over open shrubland of mainly *Crotalaria, Senna* and *Cleome* over closed grassland; and

Sand Unit – Mosaic of woodland to closed woodland of mainly *Melaleuca alsophila* and *Melaleuca viridiflora* over open shrubland of *Crotolaria* over closed grassland (Bioscience, 2008).

Clearing Description

Peter Scott Connolly is proposing to clear up to 18.38 hectares of native vegetation for the purpose of sand extraction. The sand will be used in concrete manufacture and general construction fill.

Vegetation clearing will be undertaken by mechanical means.

Vegetation Condition

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

Comment

The application area is located in the Pindanland subregion of Western Australia and is situated approximately 7 kilometres north of Broome (GIS Database).

The vegetation condition was assessed during a survey undertaken by Bioscience (2008).

3. Assessment of application against Clearing Principles

Comments

The proposal to clear 18.38 hectares of native vegetation for the purpose of sand extraction is unlikely to have any significant environmental impacts. The application area occurs within the Pindanland (PIL3) sub-region of the Dampierland Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). The vegetation types identified within the application area are well represented locally and regionally (GIS Database).

There are no Threatened or Priority Flora recorded within the application area (Bioscience, 2008; GIS Database). No Threatened Ecological Communities (TEC) or Priority Ecological Communities were recorded within the application area (Bioscience, 2008; GIS Database). An occurrence of the TEC 'Monsoon Thickets' is situated approximately 1 kilometre south-west of the application area and the TEC 'Roebuck Bay mudflats' is situated approximately 3 kilometres south of the application area (DPaW, 2013). Altered hydrology and groundwater flow has potential to impact both the Vine thicket and Roebuck Bay mudflats TEC as they are both considered to be groundwater dependent (DPaW, 2013). Connolly (2013) states that activitiy associated with sand extraction shall include mining to a depth of less than two metres and that there will be little impact on the sub surface water. If this is adhered too, DPaW (2013) states that the proposal is unlikely to impact the water quality of the groundwater, therefore unlikely to impact the surrounding TECs.

There was no fauna survey conducted over the application area. Based on a flora and vegetation survey by Bioscience (2008), no critical feeding or breeding habitat was observed for any conservation significant fauna species within the application area. The landforms and habitats found within the application area are considered as being well represented in the Pindanland subregion (GIS Database).

According to the available databases, the application area sits partially within a lake which is subject to inundation (GIS Database). Based on vegetation mapping by Bioscience (2008) there was no riparian vegetation associations found within the application area associated with the ephemeral lake. As the small section of the application area within the ephemeral lake is only likely to inundate following significant rainfall or cyclonic events, the proposed clearing of 18.38 hectares of native vegetation is unlikely to result in any significant impact to any watercourse or wetland provided natural surface water flow patterns are not disturbed.

The land system associated with the application area has a low risk of erosion (Speck et al., 1964). However, given the sandy and porous nature of the soils within the application area there is likely to be a moderate risk of wind erosion risk due to the high sand content and the relative ease at which these materials may be transported by wind (Connolly, 2013). Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a wind erosion management condition.

Significant summer rainfall events occur annually from December to March (BoM, 2013). The area immediately to the east of the application area that is subject to inundation is highly likely to experience seasonal inundation during significant summer rainfall events (GIS Database). Erosion is likely to occur during these flooding events. To minimise the potential impact of surface erosion no clearing is to be undertaken during the months from December to March. The potential impacts of soil erosion as a result of the proposed clearing may be minimised by the implementation of a condition restricting clearing from the period December to March each year.

The proposed clearing of 18.38 hectares of native vegetation is not likely to cause a deterioration in the quality of surface or underground water or increase the incidence or intensity of flooding (GIS Database).

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s.51O of the *Environmental Protection Act 1986*, and the proposed clearing may be at variance to Principle (g), is not likely to be at variance to Principles (a), (b), (c), (d), (f), (h), (i), and (j), and is not at variance to Principle (e).

Methodology

Bioscience (2008)
BoM (2013)
Connolly (2013)
DPaW (2013)
Keighery (1994)
Speck et al (1964)
GIS Database:
- DEC Tenure
- Evaporation Isopleths
- Groundwater Salinity
- Hydrography, linear
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation
- Public Drinking Water Source Areas
- Rangeland Land System Mapping
- Rainfall, Mean Annual
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

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

Comments

There is one Native Title Claim over the area under application (GIS Database). The claim WC99/23 was registered by the Federal Court on 23 May 2006. 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 two registered Aboriginal Sites of Significance within the application area (Site IDs: 12912 and 12839) (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 Regulation (formerly 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 29 July 2013 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received in relation to this application regarding Aboriginal heritage issues. A letter was sent addressing the issues.

Methodology

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Determined by the Federal Court

4. References

Bioscience Pty Ltd (Bioscience) (2008) Environmental Report - Broomecrete Mine, Mining Tenements M04/208, M04/209, M04/439.

BoM (2013) Climate Statistics for Australian Locations. A Search for Climate Statistics for Broome Airport, Australian Government Bureau of Meteorology, viewed 20 August 2013, <http://reg.bom.gov.au/climate/averages/tables/cw_003003.shtml>.

Connolly, E.M (2013) Land Clearing Assessment Information Report for Clearing Area Permit - in regards to mining tenements M04/208 and M04/209.

Department of Parks and Wildlife (DPaW) (2013) Species and Communities Branch - Advice for 5690/1 regarding TECs. Internal document, August 2013.

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

Speck, N.H., Wright, R.L., Rutherford, G.F., Fitzgerald, K., Thomas, F., Arnold, J.A., Basinski, J.J., Fitzpatrick, E.A., Lazarides, M., and Perry, R.A (1964) General report on the lands of the West Kimberley area, Western Australia. CSIRO Land Research Series No. 9.

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.

Principles for clearing native vegetation:

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

(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.

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

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

(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.

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

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

(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.

(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.

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