Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4743/3
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Louis William Rinaldi**

1.3. Property details

Property: Mining Lease 47/559
Miscellaneous Licence 47/514
Local Government Area: Shire of Roebourne
Colloquial name:

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 31 July 2014

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 and are useful to look at vegetation in a regional context. Two Beard vegetation associations have been mapped within the application area:

Beard vegetation association 127: Bare areas; mud flats; and
Beard vegetation association 589: Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex.

Astron Environmental Services (2011; 2012) conducted a vegetation and flora survey of the application area and surrounding areas on 22 August 2011 and during September 2012, and described five broad vegetation communities within the application area:

LSi1 – *Triodia epactia* hummock and *Cenchrus ciliaris* tussock closed grassland on sandy island. Some *Triodia angusta* around fringes of island;

LSi2 – *Cenchrus ciliaris* tussock closed grassland on sandy island (previously burned);

LSi3 – *Sarcostemma viminale* subsp. *australe* open shrubland over *Triodia angusta* and *Cenchrus ciliaris* mixed grassland;

CSp1 – *Trianthema turgidifolia* open or scattered low shrubland over *Cenchrus ciliaris* tussock grassland with patchy *Triodia angusta;*

CSs2 – Mixed *Scleroleana* species (*S. hostiles, S. bicornis, S. glabra, S. uniflora*) with *Atriplex bunburyana* low shrubland over *Eragrostis xerophila* open tussock grassland with scattered *Acacia ampliceps*; and

LSf1 – *Tecticornia halocnemoides* var ?sp1, *Tecticornia halocnemoides* var ?sp2 and *Tecticornia indica* var *leiostachya* with occasional *Frankenia pauciflora* over scattered to closed *Sporobolus virginicus* grassland.

Clearing Description

L W Rinaldi proposes to clear up to 36.2 hectares of native vegetation within a total boundary of 56.47 hectares for the purpose of sand mining. The project is located approximately 7 kilometres east of Karratha, in the Shire of Roebourne.

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

Clearing permit CPS 4743/1 was granted by the Department of Mines and Petroleum on 12 April 2012. The clearing permit authorised the clearing of 7.2 hectares of native vegetation within a total boundary of 8.9 hectares.

CPS 4743/1 was amended on 29 November 2012 to increase the area to be cleared to 11.2 hectares and the permit boundary to 31.5 hectares.

3. Assessment of application against clearing principles

Comments

On 19 May 2014, L W Rinaldi applied to increase the area to be cleared from 11.2 hectares to 36.2 hectares, and increase the permit boundary from 31.5 hectares to 56.47 hectares for the purpose of sand mining. The amendment consists of one additional area to be cleared.

The amended application boundary does not intersect any additional vegetation communities to those present within the previous permit area (Astron, 2011). According to available databases and flora survey results, there are no Threatened flora, Priority flora, or Threatened Ecological Communities (TECs) present within the application area (Astron, 2011; GIS Database). The additional portion of the proposed clearing lies within a Roebourne Plains gilgai grassland Priority Ecological Community (PEC; Priority 1) (GIS Database). Astron (2011) advise that the vegetation present within the application area is not representative of this PEC, and it is therefore likely that the proposed clearing lies within a buffer zone. Vegetation within the application area is not considered to be riparian (Astron, 2012).

Astron (2011) and available databases (GIS Database), show three fauna habitats to exist within the amended application area:

1. Low sandy island;
2. Low linear hills; and
3. Clay and sandy plains.

Aerial imagery over the application area and surrounds indicates that these fauna habitats are widespread within the region (GIS Database), and does not indicate the presence of any habitat features which may be important for habitat specific fauna (Astron, 2011; GIS Database). A search of the NatureMap database (DEC, 2014) did not return records for any conservation significant species which are likely to be dependent on the application area. Therefore, based on a flora and vegetation survey of the application area and available databases, the proposed clearing is unlikely to comprise significant fauna habitat (Astron, 2011; DEC, 2014; GIS Database).

Based on the above, the proposed clearing is not likely to be at variance to Principles (a), (b), (c), (d) and may be at variance to Principle (f).

The proposed clearing is situated within a saline mud flat west of the Nickol River mouth (Astron, 2011; 2012; GIS Database). However, the mudflat is only likely to become inundated following significant rainfall or cyclonic events, and the proponent has committed to maintaining a 5 – 10 metre buffer around the edge of the island to minimise the risk of flooding (Astron, 2012). During inundation events, a moderate level of sedimentation is likely to occur naturally. The proposed clearing is not likely to significantly increase sedimentation within tidal areas.

The amended application area intersects the Ruth, Littoral, Horseflat and Cheerawarra land systems (GIS Database). Of these, the Littoral, Cheewawarra and Horseflat land systems are considered to be moderately to highly susceptible to erosion if vegetation is cleared (Van Vreeswyk et al. 2004). A staged clearing condition exists on the previous version of the permit to address erosion risk as a result of clearing vegetation.

The amended application area remains within areas which have a moderate to high Acid Sulphate Soil risk (GIS Database). However, soil analysis indicates that the substrate is not likely to form acid on exposure to air (clearing permit decision report CPS 4743/2).

Based on the above, the proposed clearing is not likely to be at variance to Principle (g), (i) and (j).

Current environmental information has been reviewed and the assessment of clearing principles (e) and (h) is consistent with the assessment in clearing permit decision report CPS 4743/1 and clearing permit decision report CPS 4743/2.

Methodology

Astron (2011)
Astron (2012)
DEC (2014)
Van Vreeswyk et al. (2004)
GIS Database:

- Acid Sulfate Soil Risk Map, Pilbara Coastline
- Dampier and Extensions 50cm Orthomosaic - Landgate 2008
- Pre-European Vegetation
- Rangeland Land System Mapping
- Threatened and Priority Flora
- Threatened Ecological Sites Buffered

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

Comments

There is one Native Title claim over the area under application (WC99/14). The claim WC97/72 was determined by the Federal Court on 11 May 2005. 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 Regulation, the Department of Parks and Wildlife 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 amended application was advertised on 9 June 2014 by the Department of Mines and Petroleum inviting submissions from the public. There was one submission received advising of no objections.

Methodology

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

4. References

Astron Environmental Services (2011) Nickol River Tenement M47/559 Vegetation and Flora Survey. Consultants report prepared for Louis Rinaldi, August 2011.

Astron (2012) Further information provided to the assessing officer for CPS 4743/2 on 12 March 2012.

DEC (2014) NatureMap: Mapping Western Australia's Biodiversity, Department of Environment and Conservation, http://naturemap.dec.wa.gov.au/default.aspx, viewed June 2014.

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

Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A & Hennig, P. (2004) An Inventory and Condition Survey of the Pilbara Region, Western Australia, Department of Agriculture, Western Australia.

5. Glossary

Acronyms:

BoM	Bureau of Meteorology, Australian Government
CALM	Department of Conservation and Land Management (now DEC), Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia
DEH	Department of Environment and Heritage (federal based in Canberra) previously Environment Australia
DEP	Department of Environment Protection (now DEC), Western Australia
DIA	Department of Indigenous Affairs
DLI	Department of Land Information, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DoE	Department of Environment (now DEC), Western Australia
DoIR	Department of Industry and Resources (now DMP), Western Australia
DOLA	Department of Land Administration, Western Australia
DoW	Department of Water
EP Act	Environmental Protection Act 1986, Western Australia
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Federal Act)
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
IBRA	Interim Biogeographic Regionalisation for Australia
IUCN	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
RIWI Act	Rights in Water and Irrigation Act 1914, Western Australia
s.17	Section 17 of the Environment Protection Act 1986, Western Australia
TEC	Threatened Ecological Community

Definitions:

{Atkins, K (2005). ***Declared rare and priority flora list for Western Australia, 22 February 2005*****. Department of Conservation and Land Management, Como, Western Australia} :-**

P1 **Priority One - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals, etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

P2 **Priority Two - Poorly Known taxa**: taxa which are known from one or a few (generally <5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.

P3 **Priority Three - Poorly Known taxa**: taxa which are known from several populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in need of further survey.

P4 **Priority Four – Rare taxa**: taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5–10 years.

R **Declared Rare Flora – Extant taxa** *(= Threatened Flora = Endangered + Vulnerable)*: taxa which have been adequately searched for, and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

X **Declared Rare Flora - Presumed Extinct taxa**: taxa which have not been collected, or otherwise verified, over the past 50 years despite thorough searching, or of which all known wild populations have been destroyed more recently, and have been gazetted as such, following approval by the Minister for the Environment, after recommendation by the State's Endangered Flora Consultative Committee.

{Wildlife Conservation (Specially Protected Fauna) Notice 2005} [Wildlife Conservation Act 1950] :-

Schedule 1 **Schedule 1 – Fauna that is rare or likely to become extinct:** being fauna that is rare or likely to become extinct, are declared to be fauna that is need of special protection.

Schedule 2 **Schedule 2 – Fauna that is presumed to be extinct:** being fauna that is presumed to be extinct, are declared to be fauna that is need of special protection.

Schedule 3 **Schedule 3 – Birds protected under an international agreement:** being birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is need of special protection.

Schedule 4 **Schedule 4 – Other specially protected fauna:** being fauna that is declared to be fauna that is in need of special protection, otherwise than for the reasons mentioned in Schedules 1, 2 or 3.

{CALM (2005). *Priority Codes for Fauna*. Department of Conservation and Land Management, Como, Western Australia} :-

P1 **Priority One: Taxa with few, poorly known populations on threatened lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, active mineral leases. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P2 **Priority Two: Taxa with few, poorly known populations on conservation lands**: Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown land, water reserves, etc. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P3 **Priority Three: Taxa with several, poorly known populations, some on conservation lands**: Taxa which are known from few specimens or sight records from several localities, some of which are on lands not under immediate threat of habitat destruction or degradation. The taxon needs urgent survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna.

P4 **Priority Four: Taxa in need of monitoring**: Taxa which are considered to have been adequately surveyed, or for which sufficient knowledge is available, and which are considered not currently threatened or in need of special protection, but could be if present circumstances change. These taxa are usually represented on conservation lands.

P5 **Priority Five: Taxa in need of monitoring**: Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Categories of threatened species (*Environment Protection and Biodiversity Conservation Act 1999)*

EX **Extinct:** A native species for which there is no reasonable doubt that the last member of the species has died.

EX(W) **Extinct in the wild:** A native species which:
(a) is known only to survive in cultivation, in captivity or as a naturalised population well outside its past range; or
(b) has not been recorded in its known and/or expected habitat, at appropriate seasons, anywhere in its past range, despite exhaustive surveys over a time frame appropriate to its life cycle and form.

CR **Critically Endangered:** A native species which is facing an extremely high risk of extinction in the wild in

the immediate future, as determined in accordance with the prescribed criteria.

EN **Endangered:** A native species which:
(a) is not critically endangered; and
(b) is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.

VU **Vulnerable:** A native species which:
(a) is not critically endangered or endangered; and
(b) is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

CD **Conservation Dependent:** A native species which is the focus of a specific conservation program, the cessation of which would result in the species becoming vulnerable, endangered or critically endangered within a period of 5 years.

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.