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

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5712/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Shalinden Pty Ltd**

1.3. Property details

Property: Mining Lease 74/49
Mining Lease 74/61
Local Government Area: Esperance
Colloquial name: Lake Tay Gypsum

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
9.3		Mechanical Removal	Gypsum extraction and associated activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 12 September 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 association is located within the application area (Government of Western Australia, 2013; GIS Database)

125: Bare areas; salt lakes

Environworks Consulting (Enviroworks) (2013) conducted a flora and vegetation assessment over the application area and identified three vegetation units, which were then broken down into two subunits each:

1. Gypsum dune crests and slopes

1A: Es.Ss – *Eucalyptus spreta* and *Callitris columellaris* low open woodland to low isolated trees (less than about 6m in height) over *Scaevola spinescens* and *Darwinia* sp. Karonie (K. Newbey 8503) and *Calytrix tetragona* open heath to low open shrubs less than about 1m in height.

1B : Cc.Hi – *Callitris columellaris* low isolated trees (less than about 6m in height) over *Hibbertia inclusa*, *Scaevola spinescens* and *Darwinia* sp. Karonie (K. Newbey 8503) low open shrubs less than about 1m in height.

2. Lower dune slopes and playa interface

2A: Ms/Mb.Ts – *Melaleuca sparsiflora* and *Melaleuca brevifolia* mid-dense patchy scrub to heath over *Tecticornia syncarpa* low, mid-dense heath less than about 0.4m in height and sparse *Austrostipa juncifolia* grasses.

2B: **Aj** - Narrow band of *Austrostipa juncifolia*

3. Saline playa

3A: **Thc.Mo** - *Tecticornia halocnemoides* subsp. *caudata, Maireana oppositifolia* and *Frankenia cinerea* patchy, mid-dense samphire heath less than about 0.4m in height.

3B:**Fc.Thc** - *Frankenia cinerea -Tecticornia halocnemoides* subsp. *caudata* low open shrubs less than 0.4m in height.

Clearing Description

Shalinden Pty Ltd Lake Tay Gypsum Mine. The proposal is for clearing of 9.3 hectares of native vegetation for the purpose of gypsum extraction and associated activities on Mining Leases 74/49 and 74/61.

Vegetation Condition

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

To

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

Comment

The proposed clearing will be for establishing excavation and stockpile areas. The application area is located within the South Coast region of Western Australia and is situated approximately 139 kilometres north west of Esperance.

The vegetation condition was assessed by botanists from Enviroworks.

3. Assessment of application against clearing principles

Comments

The application area is located within the Eastern Mallee subregion of the Mallee Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (Government of Western Australia, 2013; GIS Database). A level 2 flora survey conducted over the application area recorded 52 flora taxa (Enviroworks, 2013). This is not considered to be a high level of species diversity compared with other vegetation types known from the bioregion (Enviroworks, 2013).

Beard vegetation association 125: Bare areas; salt lakes was found to occur within the application area (GIS Database). Approximately 90% of this vegetation association remains across the State and approximately 96% remains within the Shire of Esperance (Government of Western Australia, 2013). The vegetation does not appear to represent a significant remnant of vegetation.

No threatened or priority flora species were recorded within the application area (Enviroworks, 2013). The permit boundary avoids three priority flora species that were recorded in the greater survey area and Enviroworks has confirmed that no priority flora species will be impacted by the proposed clearing (Enviroworks, 2013; pers comm. Enviroworks, 2013)

No Threatened or Priority Ecological Communities were identified within the application area (Enviroworks, 2013; GIS Database).

Enviroworks (2013) did not record any significant habitats within the application area. Previous surveys over the area (Hart et al, 1988; Dinglebird Environmental, 2012) noted that the vegetation cover and leaf litter layer were relatively sparse, and that the alkaline soils would be hostile to fauna species. For these reasons it is not considered likely that the application area provides valuable habitat.

The priority fauna species Crested Bellbird (DPaW - Priority 4) was recorded within the application area (Enviroworks, 2013). This species has an extensive distribution across the state (DEC, 2013) and the application area is unlikely to form core habitat for this species.

A threatened fauna database search recorded five conservation significant fauna species occurring within 50 kilometres of the application area (Enviroworks, 2013). These species were:

- Carnaby's Black Cockatoo (Endangered under *Environmental Protection and Biodiversity Conversation Act 1999* (EPBC Act) and *Wildlife Conservation Act 1950 (*WC Act))
- Malleefowl (Vulnerable under EPBC Act and WC Act)
- Peregrine Falcon (Specially protected under WC Act)
- Rainbow Bee-eater (Migratory under EPBC Act)
- Australian Bustard (DPaW - Priority 4)

Based on the range and preferred habitat for these species, the application area does not form significant habitat and their occurrence within the application area is considered unlikely (Enviroworks, 2013).

The proposed clearing is located next to Lake Tay, a playa salt lake which is part of a chain of salt lakes in the Kalgoorlie-Norseman region (Enviroworks, 2013). The proposed clearing is not within the lake itself and only a small proportion of the vegetation in the proposed permit area has been identified as growing in association with a wetland or watercourse (Enviroworks, 2013). The small scale of the clearing activities is unlikely to significantly impact the functioning of the lake, nor cause a deterioration to the quality of water (Enviroworks, 2013).

Soil within the application area has been mapped as Ya29, which Northcote *et al* (1960 – 1968) describes as: gently undulating plains characteristically studded with seasonal lakes and clay pans, lunettes, and dunes; calcrete (kunkar) underlies the soils in places and acid clays commonly occur below depths of 5-6 ft: chief soils of the plains are sandy alkaline yellow and yellow mottled soils. The proposed clearing may have a risk of causing wind erosion due to the sandy nature of the soil. A staged clearing condition is proposed to minimise the risk of erosion.

The permit boundary does not intersect with any conservation areas (GIS Database).

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

Methodology

DEC (2013)
Dinglebird Environmental (2012)
Enviroworks (2013)
Government of Western Australia (2012)
Hart et al (1988)
Northcote et al (1960 – 1968)
GIS Database
- DEC Tenure
- Hydrography, linear
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation
- Public Drinking Water Source Areas (PDWSAs)
- Soils, Statewide
- Threatened Ecological Sites Buffered
- Threatened and Priority Flora
- Topographic Contours, Statewide

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

Comments

There is one native title claim over the application area; WC1996/064 (GIS Database). This claim has been registered with the National Native Title Tribunal on behalf of the claimant group. 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 (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 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 proponents' responsibility to liaise with the Department of Environment Regulation (formally 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 5 August 2013 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received raising no objections.

Methodology

GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims - Registered with the NNTT

4. References

DEC (2013) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. http://naturemap.dec.wa.gov.au/default.aspx (date accessed 27 August 2013).

Dinglebird Environmental (2013) Lake Tay Gypsum Mine Level 2 Flora and Vegetation Assessment. Perth, Western Australia. Unpublished report prepared for Shalinden Pty Ltd.

Enviroworks (2013) Clearing Permit Application - Lake Tay Gypsum Mine. Unpublished report for Shalinden Pty Ltd.

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.

Hart, Simpson and Associates (1988) Proposed Gypsum Mine Site Lake Tay Environmental Appraisal. Perth Western Australia. Unpublished report prespared for MacKay and Schnellmann Pty Ltd.

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

Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

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.