Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 3045/5
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Galaxy Resources Limited**

1.3. Property details

Property: Mining Lease 74/244
Local Government Area: Shire of Ravensthorpe
Colloquial name: Ravensthorpe Spodumene Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 12 July 2012

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 at a scale of 1:250,000 for the whole of Western Australia. One Beard vegetation association is located within the application area (GIS Database):

Beard vegetation association 352: Medium woodland; York Gum.

A flora and vegetation survey covering an area of approximately 614 hectares (which included the application area), was conducted by Botanica Consulting in October 2008. Botanica Consulting (2008) identified 12 vegetation communities during the flora and vegetation survey, two of which were mapped as occurring within the application area:

1. *Eucalyptus oleosa* subsp. *corvina* Woodland

The flora recorded in this vegetation group was representative of Eucalyptus Woodland. The species in the upper-storey included *Eucalyptus oleosa ssp. corvina*. The understorey species included *Acacia erinacea*, *Melaleuca elliptica*, *Daviesia nematophylla*, *Platysace trachymenioides*, *Olearia muelleri* and *Acacia sulcata ssp. platyphylla*.

2. Farm paddock

The flora species recorded in this vegetation group were representative of a farm paddock, being dominated by introduced flora. Species included **Carthamus lanatus* (Saffron Thistle), *Podolepis capillaris* (Wiry Podolepis), **Carrichtera annua* (Wards Weed) **Hordeum leporinum* (Barley Grass), **Phalaris minor* (Lesser Canary Grass) and **Raphanus raphanistrum* (Wild Radish) (Botanica Consulting, 2008). Broad scale clearing has occurred for agricultural purposes in this vegetation group within the survey area.

* = introduced flora species

Clearing Description

Galaxy Resources propose to clear up to 15 hectares of remnant native vegetation on cleared agricultural land, located approximately 1 kilometre north-west of Ravensthorpe (GIS Database). The application area totals approximately 480 hectares.

The proposed clearing will allow Galaxy Resources to commence mining operations (colloquially termed the Ravensthorpe Spodumene Project). The project will involve establishing an open cut pit and constructing associated infrastructure including a tailings storage facility, waste dump, processing plant, access roads and stockpile areas (Keith Lindbeck and Associates, 2009). Vegetation will be cleared via mechanical means and vegetation and topsoil will be stockpiled separately for use in rehabilitation works (Keith Lindbeck and Associates, 2009).

Vegetation Condition

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

to

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

Comment

The vegetation condition rating is based on a combination of sources including:

1. Results of Botanica Consulting's flora and vegetation survey in October 2008;

2. Results of Keith Lindbeck and Associates' Level 2 Spring fauna survey; and

3. A written account of the findings of a Department of Environment and Conservation (DEC) project officer from the Ravensthorpe regional office who visited the proposed clearing area on 16 June 2009.

Clearing Permit CPS 3045/1 was previously amended on 8 October 2009 to extend the duration of the permit to 31 July 2024. Clearing Permit CPS 3045/2 was previously amended on 1 July 2010 to reflect a change in the tenure underlying the clearing permit. Clearing Permit CPS 3045/3 was previously amended on 16 December 2010 to increase the permit boundary.

On 23 May 2012, the Permit Holder requested that Clearing Permit CPS 3045/4 be amended to increase the permit boundary from 420 hectares to 480 hectares. This extension is to accommodate the expansion of the existing waste dump and the construction of infrastructure from the Mount Marion shaft to enable access to the existing dam. The amount of area to be cleared will remain at 15 hectares.

3. Assessment of application against clearing principles

Comments

Galaxy Resources Limited has applied to increase the clearing permit boundary from approximately 420 to 480 hectares in order to extend the exisiting waste dump and construct infrastructure from the Mount Marion shaft to enable access to the exisiting dam. Part of the amendment to the clearing permit boundary includes removing an approximate 0.68 hectare area of native vegetation from the clearing permit area. The area authorised to clear will remain at 15 hectares.

The additional area within the new permit boundary consists of the same vegetation communities as the previous permits, with the majority of the area being the farm paddock community (Botanica Consulting, 2008). Like the vegetation within the previous permit boundary these additional areas are in 'degraded' to 'completely degraded' condition. None of the Prioirty Flora species recorded during the flora survey were recorded within the amended permit boundary (Botanica Consulting, 2008).

The fauna habitat within the additional areas is considered to be comparable to that within the previous permit boundary, therefore, it not likely to support a high level of faunal diversity or be significant habitat for local fauna species.

The amended application area intersects three additional minor ephemeral drainage lines (GIS Database). Two of these drainage lines are located within farm paddocks and one of these flows into an exisiting dam (GIS Database). The third is within native vegetation at the southern point of the application area but is only present within the application area for a 30 metre portion (GIS Database). This drainage line also flows into an existing dam (GIS Database). Therefore, there is not likely to be any further impacts to these drainage lines from the amendment of the clering permit boundary.

A review of current information has revealed that the permit area is now only cover by one Beard vegetation association (Beard vegetation association 352 - Medium woodland; York Gum) instead of two (GIS Database). This Beard vegetation association has approximately 19.84% remaining at a state level and 28.84% remaining at both a bioregion and subregional level (Government of Western Australia, 2011). The amendment application area includes additional remnants of vegetation (GIS Database). One of these is a larger remnant in the south east of the application area adjacent to the Ravensthorpe townsite (GIS Database). Only a portion of this remnant is within the amendment boundary and this area has been previosuly disturbed by the existing Mount Marion shaft. The other remnant consists of a scattering of trees that appear to have little to no understorey (GIS Database).

Based on current environmental information the assessment of the clearing principles is consistent with the assessment in Clearing Permit decision report CPS 3045/4 (GIS Database). The proposed amendment is not likely to have any significant environmental impacts above those already assessed under CPS 3045/4.

Methodology

Botanica Consulting (2008)
Government of Western Australia (2011)
GIS Database:
- DEC Tenure
- Evaporation Isopleths
- Groundwater Salinity, Statewide
- Hydrography, linear
- IBRA WA (Regions - Sub Regions)
- Pre-European Vegetation
- Public Drinking Water Source Areas (PDWSAs)
- Rainfall, mean Annual
- Rangeland Land System Mapping

- Ravensthorpe 1.4m Orthomosaic
- Rivers
- Threatened Ecological Sites Buffered
- Threatened and Priority Flora

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

Comments

There are two Native Title claims (WC96/109 and WC98/070) over the area under application (GIS Database). These claims have been registered with the National Native Title Tribunal on behalf of the claimant groups. 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 known 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 Sites of Significance area 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.

Clearing Permit application CPS 3045/5 was advertised on 4 June 2012 by the Department of Mines and Petroleum inviting submissions from the public. There was one submission received requesting further time to make a comment regarding the application.

Methodology

GIS Database:
- Aboriginal Sites of Signficance
- Native Title claims – Registered with the NNTT

4. References

Botanica Consulting (2008) Ravensthorpe Spodumene Flora and Vegetation Survey. Botanica Consulting, Western Australia.

Government of Western Australia (2011) Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). 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.

Keith Lindbeck and Associates (2009) Ravensthorpe Spodumene Project - Supporting Documentation for Clearing Permit Application. Keith Lindbeck and Associates, 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.