Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 7328/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: **Kingston Resources Ltd**
Postal address: PO Box 181, SUBIACO WA 6904
Contacts: Phone: (02) 8249 4968
Email: Apaterson@kingstonresources.com.au

1.3. Property details

Property: Exploration Licence 74/543
Exploration Licence 74/571

Colloquial name: Mt Cattlin Project

1.4. Application

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

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 20 December 2016

2. Background

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description

The clearing permit application area has been broadly mapped as the following two Beard vegetation associations (GIS Database):

352: Medium woodland; York gum

516: Shrublands; mallee scrub, black marlock

A Level 1 flora and vegetation survey was undertaken over the application area in September 2016 by Woodman Environmental Consulting. A total of five vegetation associations were identified (Woodman Environmental Consulting, 2016):

VSA 1: Open Salmon Gum woodland over dense Acacia and mixed shrubs on brown or grey loam. This is comprised of Acacia midstorey over a mixed shrub understorey, with the understorey dominated by *Eremophila sp.* and shrubby acacias, and the soil with scattered small granite rocks. Salmon Gums are not continuous and other eucalypts occasionally present. The Salmon Gums in the north of the survey area are large with abundant hollows which are important for fauna. This association is located on hills and valleys mostly in the north and in the
small priority area adjacent to and south of Phillips River.

VSA 2: Phillips River and associated vegetation on exposed rock. This is comprised of dense Acacia over mixed shrub thickets of stunted *Melaleuca sp.* and samphire along margins of the Phillips River. The river contains moderately fast-flowing, tannin-stained and brackish water. It appears to be eroding through Greenstone and/or granite. This association extends into minor tributaries that flow seasonally between hills in the area.

VSA 3: Dense mallet eucalypt woodland over sparse understorey on grey loam. This is comprised of dense mallet, or thickets of eucalypts in some places, and soil with scattered rocks throughout. This association is located high on the hills in the far south of the survey area and in part of the southern priority area.

VSA 4: Closed low forest over sparse understorey on red-brown loam. This is comprised of tall *Acacia acuminata* and occasionally eucalypts forming a canopy over clumps of *Lepidosperma diurnum* and scattered low shrubs. This association is located along and south of Phillips River, generally low in the landscape and on slopes. This occurs over much of the southern priority area.

VSA 5: Acacia and mixed shrub thickets. This association is located on one south-facing slope in the south of the survey area. The vegetation is dense with a variety of shrubs and there is exposed rock at the surface in places. Ferns are a conspicuous component of the herb layer, suggesting persistent mesic conditions.

Clearing Description	Mt Cattlin Project. Kingston Resources Limited proposes to clear up to 5 hectares of native vegetation within a total boundary of approximately 169.76 hectares for the purpose of mineral exploration. The project is located approximately 13 kilometres south west of Ravensthorpe, in the Shire of Ravensthorpe.
Vegetation Condition	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994). To Completely Degraded: No longer intact; completely/almost completely without native species (Kieghery, 1994).
Comment	The vegetation condition was derived from a flora and fauna survey undertaken by Woodman Environmental Consulting (2016) The proposed clearing will allow for a drilling program to be completed (Kingston Resources, 2016). The drilling program consists of 70 Reverse Circulation drill holes and associated access tracks.

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 may be at variance to this Principle

The application area falls within the Fitzgerald sub-region of the Esperance Plains Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database). This sub-region includes the Stirling Ranges Flora and the Fitzgerald River National Park (Biosphere), and has been recognised as a centre of species diversity in southwest Western Australia (CALM, 2002). The vegetation within this sub-region is characterised as having myrtaceous and proteaceous scrub and mallee heaths on sand plain overlying Eocene sediments; rich in endemics. Herb fields and heaths (rich in endemics) occur on abrupt granite tors and quartzite ranges that rise from the plain. Eucalypt woodlands occur in gullies and alluvial foot-slopes (CALM, 2002).

The application area falls within the Cocanarup Reserve (Crown Reserve 30795) which is recognised as an Environmentally Sensitive Area (GIS Database). The reserve is known to be comprised of *Eucalyptus salmonophloia* over *Acacia acuminata* woodlands on red loams and is considered to be an ecosystem at risk (CALM, 2002).

Two Beard vegetation associations are located within the application area, 352 and 516. Vegetation association 516 is well represented at both a state and bioregional level however vegetation association 352 is considered vulnerable (less than 30% of pre-European extent remaining). Despite vegetation association 352 retaining levels below the recommended 30% threshold of pre-European settlement levels of native vegetation (Commonwealth of Australia, 2001), there are large areas of native vegetation that remain in the local area and region, including the Fitzgerald River National Park, which is situated approximately 14 kilometres south west and has an extent of over 280,000 hectares (GIS Database).

A Level 1 flora and vegetation survey was undertaken over the application area in September 2016 by Woodman Environmental Consulting (2016). A total of 120 taxa consisting of 37 families and 76 genera were identified. No Priority or Threatened flora were recorded during the survey (Woodman Environmental Consulting, 2016). No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) are known within the application area (GIS Database) and none were identified during the flora and vegetation survey (Woodman Environmental Consulting, 2016).

Several weed species were recorded within the application area (Woodman Environmental Consulting). Weeds have the potential to out-compete native flora and reduce the biodiversity of an area. The presence of dieback has been difficult to determine within the Mt Cattlin area however the area is considered a dieback risk zone (Kingston Resources, 2016). Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed and dieback management condition.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology

CALM (2002)
Commonwealth of Australia (2001)
Woodman Environmental Consulting (2016)

GIS Database:
- IBRA Australia
- Pre-European vegetation
- Threatened and Priority Ecological Communities Boundaries
- Threatened and Priority Ecological Communities Buffers

(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 may be at variance to this Principle

A Level 1 fauna survey was undertaken over the application area in September 2016 by Bamford Consulting Ecologists (2016). The survey identified several conservation significant species that have been recorded or are likely to occur within the application area (Bamford Consulting Ecologists, 2016). Impacts to the majority of local fauna species (including species of conservation significance) are not likely to be significant due to the small size of the proposed clearing and large amount of surrounding vegetation. However, DPaW (2016) have advised that impacts to the Numbat (*Myrmecobius fasciatus* - EN), Carnaby's black-cockatoo (*Calyptorhynchus latirostris* - EN) and Malleefowl (*Leipoa ocellata* - VU) may potentially be significant if key habitat/breeding features are present.

The Numbat is of concern, given that the application area was previously used as a translocation site. A fire that occurred in 2008 impacted on the population, and it is likely that they are no longer extant in the area. However, a survey should be conducted targeting suitable habitat for numbats within the application area and adjoining bushland. If numbats or recent evidence of numbats is found then the clearing may have a significant impact on the local population (DPaW, 2016).

The proposed clearing area falls within a confirmed breeding area for the Carnaby's black-cockatoo, and therefore the area has the potential to be used for breeding and/or foraging. If hollow bearing trees are identified as being utilised by Carnaby's black-cockatoo, a buffer should be placed around the tree and clearing should take place outside of breeding season to minimise any disturbance (DPaW, 2016).

There are recent (2005 onwards) records of Malleefowl within the vicinity of the application area, therefore the application area has the potential to be used for nesting, foraging and/or traversing through the landscape (DPaW, 2016). While the area proposed to be cleared is a very small proportion of the surrounding vegetation, if Malleefowl mounds are located, a buffer should be placed around the mound. If a mound is found to be active, then clearing should take place outside of breeding season to minimise any disturbance (DPaW, 2016).

Potential impacts to the Numbat, Carnaby's black-cockatoo and Malleefowl as a result of the proposed clearing may be minimised by the implementation of fauna management conditions.

The Fitzgerald River National Park is connected to the application area via relatively continuous vegetation (GIS Database) and while local fauna may prefer the higher quality vegetation of the national park, it is likely that local fauna forage and traverse through the application area, particularly as parts of the national park were burnt in late 2015.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology

Bamford Consulting Ecologists (2016)
DPaW (2016)

GIS Database
- DPaW Tenure

(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 datasets, there are no known records of Threatened flora within the application area (GIS Database). No Threatened flora were identified during a flora and vegetation survey of the application area (Woodman Environmental Consulting, 2016).

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

Methodology

Woodman Environmental Consulting (2016)

GIS Datatbase:
- 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

According to available databases, there are no known Threatened Ecological Communities (TECs) within the application area (GIS Database). No TECs were identified during a flora and vegetation survey of the application area (Woodman Environmental Consulting, 2016).

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

Methodology Woodman Environmental Consulting (2016)

GIS Database:
- Threatened and Priority Ecological Communities Buffers
- Threatened and Priority Ecological Communities Boundaries

(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 may be at variance to this Principle

The application area occurs within the Esperance Plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion, in which approximately 51.6% of the pre-European vegetation remains (see table below) (GIS Database; Government of Western Australia, 2015)

The vegetation within the application area has been mapped as Beard vegetation association 352 and 516 (GIS Database).

Beard vegetation association 352 is considered to be 'Vulnerable' within the state, bioregion, subregion and local shire, with between 10-30% of pre-European levels of native vegetation remaining in all categories (Department of Natural Resources and Environment, 2002; Government of Western Australia 2015; GIS Database). Despite this vegetation association retaining levels below the recommended 30% threshold of pre-European settlement levels of native vegetation (Commonwealth of Australia, 2001), there are large areas of native vegetation that remain in the local area and region, including the Fitzgerald River National Park, which is situated approximately 14 kilometres south west and has an extent of over 280,000 hectares (GIS Database). Given the small scale of the proposed clearing (5 hectares) and large amount of connected native vegetation in the local area and region, the native vegetation under application is not considered to be a remnant in a highly cleared area. However, given that Beard vegetation association 352 is poorly represented, the proposed clearing may be at variance to Principle (e).

Beard vegetation association 516 is well represented at both a state and bioregional level. Given the amount of vegetation remaining in the local area and bioregion, the vegetation proposed to be cleared is not considered to represent remnant vegetation.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Lands
IBRA Bioregion - Esperance Plains	2,899,941	1,495,046	~51.6	Least Concern	28.8
Beard vegetation associations - State					
352	724,272	142,749	19.7	Vulnerable	1.8
516	607,434	332,979	54.8	Least Concern	24.28
Beard vegetation associations - Bioregion					
352	22,817	6,566	28.8	Vulnerable	0.1
516	318,746	219,798	68.96	Least Concern	28.8

* Government of Western Australia (2015)
** Department of Natural Resources and Environment (2002)

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology Commenwealth of Australia (2001)
Government of Western Australia (2015)

GIS Database:
- IBRA Australia
- 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 may be at variance to this Principle

Phillips River runs through the northern part of the application area (GIS Database, 2016). The proposed drill holes and tracks are not located in close proximity to the river banks (Programme of Works 60016). Several minor non-perennial watercourses also intersect the application area (GIS Database, 2016). Potential impacts

to vegetation growing in association with a watercourse may be minimised by the implementation of a watercourse management condition.

Based on the above, the proposed clearing may be at variance to this Principle.

Methodology GIS Database:
- 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 proposed clearing of five hectares of native vegetation is to occur within a clearing permit boundary of approximately 169.76 hectares. 70 drill holes and 3.35 kilometres of tracks are proposed.

The application area is mapped as being composed of undulating to hilly ridge and slope topography with flat to gently sloping crests to the ridges; rock outcrops are common on slopes: chief soils are hard alkaline yellow mottled and red mottled soils (Northcote et al. 1960-68; GIS Database).

Given the small scale of the disturbance activities (five hectares for tracks and drill holes), the proposed clearing is unlikely to cause appreciable land degradation.

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

Methodology Northcote et al (1960-68)

GIS Database:
- Soils, Statewide

(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 an area designated for conservation (GIS Database). However, the application area falls within the Cocanarup Reserve (Crown Reserve 30795) which is recognised as an Environmentally Sensitive Area (GIS Database), is known to be comprised of *Eucalytpus salmonophloia* over *Acacia acuminata* woodlands on red loams and is considered to be an ecosystem at risk (CALM, 2002). The Cocanarup Reserve was also previously used as a translocation site for the Numbat (*Myrmecobius fasciatus* - EN) and therefore has been managed or protected for the purposes of conservation.

The application area is also connected to the Fitzgerald River National Park via relatively continuous vegetation (GIS Database).

Given the relatively small scale and low impact nature of clearing activities, the proposed clearing is unlikely to result in significant impacts to adjacent or nearby conservation areas, or any areas used for the purpose of conservation.

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

Methodology CALM (2002)

GIS Database:
- DPaW Tenure
- Imagery

(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**
There are no Public Drinking Water Source Areas within or in close proximity to the clearing permit application area (GIS Database).

The Phillips River and several minor non-perennial watercourses intersect the application area (GIS Database) and it is possible that some minor increases in sedimentation may occur within these watercourses, should they hold water following a rain event (Kingston Resources Limited, 2016). Potential impacts to surface water quality as a result of the proposed clearing may be minimised by the implementation of a watercourse management condition.

The groundwater salinity of the application area is considered saline (7000 to 14000 milligrams/Litre Total Dissolved solids) (GIS Database). The proposed clearing of 5 hectares of native vegetation is considered unlikely to result in a further deterioration in the quality of groundwater.

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

Methodology Kingston Resources Limited (2016)

GIS Database:
- Groundwater Salinity, Statewide
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)
- 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 is located within the Culham Inlet Phillips West Steere Catchment Area (GIS Database). Given the size of the area to be cleared (five hectares) in relation to the size (71,405 hectares) of the catchment area (GIS Database), the proposed clearing is not likely to increase the potential of flooding on a catchment scale.

Mean annual rainfall for Ravensthorpe is approximately 427 millimetres (BoM, 2016). The Esperance Plain region is typical of a Mediterranean climate, with the majority of rain falling in the winter months (BoM, 2016) Watercourses that intersect the application area will likely flow following significant rain events.

The proposed clearing is of five hectares of native vegetation. Given the relatively small scale and low impact nature of clearing activities, an increase in the incidence or intensity of flooding is unlikely to result.

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

Methodology BoM (2016)

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

Comments There are two Native Title Claims (WC 1996/109 and WC 2003/006) over the area under application (DAA 2015). 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 that intersect with the application area (DAA, 2015). 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 Water, and the Department of Parks and Wildlife, 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 14 November 2016 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were recieved.

Methodology DAA (2016)

4. References

Bamford Consulting Ecologists (2016) Kingston Resources Limited Ravensthorpe Mt Cattlin Project, Fauna Assessment. Report prepared for Kingston Resources Limited, by Bamford Consulting Ecologists, October 2016.

BoM (2016) Climate Statistics for Australian Locations, Raventhorpe. Bureau of Meteorology. http://www.bom.gov.au (Accessed 1 December 2016).

CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia

Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005. Commenwealth of Australia, Canberra.

DAA (2016) Aboriginal Heritage Enquiry System. Department of Aboriginal Affairs. http://maps.dia.wa.gov.au/AHIS2/ (Accessed 1 December 2016).

DPaW (2016) Advice received in relation to Clearing Permit CPS 7017/1. Department of Parks and Wildlife, Western Australia, 10 March 2016.

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 (2015) 2015 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Department of Environment and Conservation, Western Australia, June 2015.

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

Woodman Environmental Consulting (2016) Mt Cattlin Project, Level1 Flora and Vegetation Assessment. Report prepared for Kingston Resources Limited, by Woodman Environmental Consulting, October 2016.