Government of Western Australia
Department of Mines and Petroleum

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 4618/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Argyle Diamonds Limited

1.3. Property details

Property: Diamond (Argyle Diamond Mines Joint Venture) Agreement Act 1981, Mining Lease 259SA (AM 70/259)
Local Government Authority: Shire of Wyndham - East Kimberley
Colloquial name: Argyle Diamond Mine

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
0.5		Mechanical Removal	Pipeline Construction and Maintenance

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 10 November 2011

2. Background

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
Beard vegetation associations have been mapped for the whole of Western Australia. The vegetation of the application area is broadly mapped as Beard vegetation association: 833 - Grasslands, short bunch grass savanna sparse low tree; scattered Snappy Gum over arid short grass on plains (Shepherd, 2009; GIS Database). A flora survey conducted by Mattiske (2004), mapped 14 vegetation units within the study area however the vegetation within the application area was mapped as cleared/disturbed. The application area is located in close proximity to one mapped vegetation unit: **W5** Mixture of Open Woodland and Low Open Woodland of *Adansonia gregorii*, *Buchanania obovata*, *Bauhinia cunninghamii* and *Eucalyptus brevifolia* over patches of *Typha domingensis*, *Heteropogon contortus*, *Cenchrus elymoides* and *Chloris truncata*.	Argyle Diamonds Limited is proposing to clear up to 0.5 hectares of native vegetation for the purpose of pipeline construction and maintenance (Argyle Diamonds, 2011). The pipeline is required for seasonal dewatering of the underground mine. The Installation of the pipeline will require the removal of 0.5 hectares of native vegetation within a 3.1 hectare application area.	Completely Degraded: No longer intact; completely/almost completely without native species (Keighery, 1994) To Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).	The application area is located in the Ord Victoria Plains bioregion of Western Australia and is situated approximately 113 kilometres south-west of Kununurra within the Argyle Diamond minesite. Vegetation condition has been determined using aerial imagery and the results of a flora survey conducted over the application area by Mattiske (2004).

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 is not likely to be at variance to this Principle

The application area occurs within the Ord (OVP1) subregion of the Ord Victoria Plains Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). The Ord subregion is characterised by level to gently undulating plains with scattered hills on Cambrian volcanic and Proterozoic sedimentary rocks; vertosols on plains and predominantly skeletal soils on hills (CALM, 2002). The overall vegetation is grassland with scattered Bloodwoods (*Eucalyptus* sp.) and Snappy Gum (*Eucalyptus brevifolia*) with spinifex and annual grasses (CALM, 2002).

associated with areas previously disturbed for Argyle Diamond mine infrastructure, these areas are not likely to comprise the whole or a part of, or be necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

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

Methodology Argyle Diamonds (2011)
Bamford Consulting Ecologists (2005)
Shepherd (2009)

(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 databases, there are no records of Declared Rare Flora (DRF) within the application area (GIS Database). A search of the Department of Environment and Conservation's NatureMap database identified no DRF species as occurring within the Argyle Diamond lease (DEC, 2011). Additionally no DRF species have been recorded during flora surveys conducted within the Argyle Diamond lease (Argyle Diamonds, 2011).

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

Methodology Argyle Diamonds (2011)
DEC (2011)
GIS Database:
- 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

A search of the available databases shows that there are no Threatened Ecological Communities situated within 100 kilometres of the application area (GIS Database).

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

Methodology GIS Database:
- Threatened Ecological Sites Buffered

(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 is not at variance to this Principle

The application area falls within the Ord Victoria Plain bioregion (GIS Database). Shepherd (2009) reports that approximately 100% of the pre-European vegetation still exists in this bioregion (see table below).

The vegetation within the application area consists of Beard vegetation association 833, which is common and widespread throughout the Ord Victoria Plains bioregion, with approximately 100% of the pre-European vegetation extent remaining (Shepherd, 2009; GIS Database).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Ord Victoria Plain	38,498	38,498	~100	Least Concern	-
Beard vegetation associations - State					
833	38,675	38,675	~100	Least Concern	-
Beard vegetation associations - Bioregion Ord Victoria Plain					
833	38,498	38,498	~100	Least Concern	-

* Shepherd (2009)
** Department of Natural Resources and Environment (2002)

The proposed clearing of 0.5 hectares is for the construction and maintenance of a dewatering pipeline. As vegetation clearing will be associated with areas which have been previously disturbed and the vegetation is common and widespread within the region it is not considered that the vegetation is likely to be significant as a remnant in an area that has been extensively cleared.

(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

The application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). There is one minor perennial watercourse (GIS Database) which intersects the application area. The application area is located adjacent to Jacko's Dam. The clearing is required to construct and maintain a seasonal dewatering pipeline to transport seasonal inflow water from the underground mine to Jacko's Dam (Argyle Diamonds (2011).

Argyle Diamonds (2011) have identified that groundwater across the site is generally 15 metres below the ground surface. The regional direction of groundwater flow is towards the AK1 pit (located northwest of the application area) largely due to dewatering influences.

The groundwater in the application area is of marginal salinity (500-1,000 milligrams/Litre Total Dissolved Solids) (GIS Database). The application area occurs within the Ord River catchment, and given the size of the catchment area (4,526,080 hectares) (GIS Database) in relation to the application area, the clearing of 0.5 hectares of native vegetation is not likely to cause deterioration in the quality of surface or underground water.

The application area experiences a dry hot tropical, semi-arid climate with tropical rainfall (CALM, 2002). The application area receives an average annual rainfall of 762.4 millimetres/year with an average annual pan evaporation rate of approximately 2,600-2,800 millimetres/year (BoM, 2011). The removal of 0.5 hectares of native vegetation for the construction and maintenance of a dewatering pipeline is not likely to result in significant changes to surface water flows.

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

Methodology

Argyle Diamonds (2011)
BoM (2011)
CALM (2002)
GIS Database:
- Geodata, Lakes
- Groundwater Salinity, Statewide
- Hydrographic Catchments - Catchments
- Hydrography, Linear
- Public Drinking Water Source 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 experiences a dry hot tropical, semi-arid climate with tropical rainfall, where the annual evaporation rate exceeds the annual rainfall (CALM, 2002; BoM, 2011). The application area is located within the Ord River catchment area (4,526,080 hectares) (GIS Database). The proposed clearing of native vegetation is not likely to significantly impact on the drainage characteristics of the catchment or increase the potential for flooding.

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

Methodology

BoM (2011)
CALM (2002)
GIS Database:
- Hydrographic Catchments - Catchments

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

Comments

Proposal is not likely to be at variance to this Principle

There are no Native Title claims over the area under application. 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 is one registered Aboriginal Site 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 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 26 September 2011 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

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.