



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 5967/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: D & K Corps Investments Pty Ltd

1.3. Property details

Property: Mining Lease 47/455
Local Government Area: Shire of Roebourne
Colloquial name: Nickol River Quarry

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
12.48		Mechanical Removal	Quarrying operations and associated activities

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 27 March 2014

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
<p>The clearing permit application area has been broadly mapped as Beard vegetation association 157: Hummock grasslands, grass steppe; hard spinifex, <i>Triodia wiseana</i> (GIS Database).</p> <p>A flora and vegetation survey conducted over the application area by Astron Environmental Services (Astron) identified the following seven vegetation associations (Astron, 2013):</p> <p>Ta2: <i>Triodia angusta</i> open hummock to closed hummock grassland with scattered low shrubs; Cc3: <i>Acacia coriacea</i> / <i>A. colei</i> / <i>A. xiphophylla</i> scattered to open tall shrubland (was dense now burnt) over <i>Cenchrus ciliaris</i> tussock to closed tussock grassland over open herbs; SEx1: <i>Scleroleana hostilis</i> low open shrubland to shrubland over <i>Eragrostis xerophila</i> tussock grassland. Patchy <i>Sorghum plumosum</i> and <i>Chrysopogon fallax</i>; SEx2: <i>Scleroleana glabra</i>, <i>Atriplex codonocarpa</i> open dwarf to dwarf shrubland over <i>Eragrostis xerophila</i> patchy open to tussock grassland with patchy <i>Triodia angusta</i> and <i>Sporobolus virginicus</i> in low depressions; AsTr1: <i>Acacia stellaticeps</i> low shrubland to closed low shrubland over <i>Triodia angusta</i> open to hummock grassland. Can be scattered <i>Acacia colei</i>; AsTr2: <i>Acacia stellaticeps</i> low shrubland to closed low shrubland over <i>Triodia wiseana</i> hummock grassland with patchy <i>T. angusta</i>. Scattered <i>Senna glutinosa</i> subsp <i>pruinosa</i> shrubs; and ATw4: <i>Acacia inaequilatera</i> tall open to tall shrubland over <i>Triodia wiseana</i> hummock grassland.</p>	<p>Nickol River Quarry project. D & K Corps Investments Pty Ltd (D & K Corps) proposes to clear up to 12.48 hectares of native vegetation within a boundary of approximately 12.48 hectares, for the purpose of a quarry. The project is located approximately 14 kilometres east of Karratha, within the Shire of Roebourne.</p>	<p>Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery, 1994).</p> <p>To</p> <p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery, 1994).</p>	<p>The vegetation condition was derived from a vegetation survey conducted by Astron Environmental Services (Astron, 2013).</p> <p>Vegetation clearing is for the purpose of a gravel and hard rock quarry and associated infrastructure and access road.</p>

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 is located on the boundary of the Roebourne and Chichester subregions of the Pilbara Bioregion of the Interim Biogeographic Regionalisation for Australia (IBRA) (GIS Database). The Chichester subregion is described as undulating granite and basalt plains with significant areas of basaltic ranges. Plains support a shrub steppe characterised by *Acacia inaequilatera* over *Triodia wiseana* hummock grasslands, while *Eucalyptus leucophloia* tree steppes occur on the ranges (CALM, 2002). The Roebourne sub-region is described as coastal and subcoastal plains with a grass savannah of mixed bunch and hummock grasses, and dwarf shrub steppe of *Acacia stellaticeps* or *A. pyrifolia* and *A. inaequilatera*. Uplands are dominated by *Triodia* hummock grasslands. Ephemeral drainage lines support *Eucalyptus victrix* or *Corymbia hamersleyana* woodlands. Samphire, *Sporobolus* and mangal occur on marine alluvial flats and river deltas (CALM, 2002).

The clearing permit application area is made up of three separate areas, approximately three kilometres apart (MMWC, 2014).

The vegetation condition within the application area ranges from Good to Excellent with parts of the application area having been previously disturbed by grazing and historical mining activities (Astron, 2013).

The application areas are located within the Mt Welcome pastoral lease (GIS Database), and previous vegetation disturbance has occurred from pastoral activities, including substantial weed invasion particularly by the introduced pastoral grass species *Cenchrus ciliaris* (Buffel Grass) (Astron, 2013; MMWC, 2014).

The application area occurs within the buffer zone of a Priority Ecological Community (PEC), the Roebourne Plains Coastal Grasslands (GIS Database), which occurs on deep cracking clays surrounded by clay plains, clay flats, and sandy coastal and alluvial plains (Astron, 2013). A flora and vegetation survey was conducted over the application area and surrounding areas during June and August 2013 by Astron Environmental Services (Astron, 2013). Astron (2013) reported that the vegetation associations within the application area were not representative of the PEC. No Threatened Ecological Communities, or Threatened flora species were recorded in the survey. Two Priority flora species were recorded in the broader survey area, however none were recorded within the clearing permit application area (Astron, 2013).

A search of relevant databases identified four fauna species of conservation significance with the potential to occur within the application area. However none of these species have been recorded within the application area (MMWC, 2014).

The vegetation associations and fauna habitat types found in the application area are well represented and widespread within the region (Astron, 2013; MMWC, 2014; GIS Database).

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

Methodology

Astron (2013)
CALM (2002)
MMWC (2014)
GIS Database:
- Pastoral Leases
- Pre-European Vegetation
- Threatened Ecological Sites Buffered

(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 is not likely to be at variance to this Principle

A vegetation survey conducted by Astron (2013) identified the following three broad habitat types within the application area:

- Grassland: *Triodia angusta* hummock grassland / *Cenchrus ciliaris* tussock grassland;
- Low Shrubland: *Scleroleana* spp. low shrubland over *Eragrostis xerophila* tussock grassland / *Acacia stellaticeps* low shrubland over mixed *Triodia* hummock grassland; and
- Tall Shrubland: *Acacia* spp. mixed tall shrubland over mixed low shrubland over *Triodia wiseana* hummock grassland (Astron, 2013).

Substantial areas of similar habitat occur outside of the application areas, and the application areas were considered unlikely to represent significant habitat for fauna in comparison to surrounding areas (Astron, 2013; MMWC, 2014).

A database search identified the following four fauna species of conservation significance, all listed as Schedule 1 under the *Wildlife Conservation Act 1950*, which had the potential to occur within the application area based on known distributions:

- Northern Quoll (*Dasyurus hallucatus*);
- Greater Bilby (*Macrotis lagotis*);
- Northern Marsupial Mole (*Notoryctes caurinus*); and

- Pilbara Leaf-nosed Bat (*Rhinoicteris aurantia*).

None of these species have been recorded within the application area, and MMWC (2014) consider that these species are unlikely to occur, due to habitat preferences.

No conservation significant fauna species were recorded within the application areas (MMWC, 2014). Although some conservation significant species may pass through or forage within the application areas, abundant areas of similar habitat occur outside of the application areas and hence these species are considered unlikely to be reliant on the habitat found within the application areas (MMWC, 2014).

The proposed clearing of up 12.48 hectares of native vegetation in three separate areas is unlikely to have any significant impact on available fauna habitats at either a local or regional scale.

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

Methodology Astron (2013)
MMWC (2014)
GIS Database:
- Pre-European Vegetation

(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

A flora survey of the application area did not record any species of Threatened Flora (Astron, 2013).

The vegetation associations recorded within the application areas are well represented in surrounding areas (Astron, 2013; GIS Database; MMWC, 2014), and the vegetation proposed to be cleared is unlikely to be necessary for the continued existence of any species of rare flora.

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

Methodology Astron (2013)
MMWC (2014)
GIS Database:
- Declared Rare and Priority Flora List
- Pre-European Vegetation

(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

There are no known Threatened Ecological Communities (TEC's) located within a 100 kilometre radius of the application area (GIS Database).

Surveys of the application area did not identify any Threatened Ecological Communities (Astron, 2013; MMWC, 2014).

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

Methodology Astron (2013)
MMWC (2014)
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 areas applied to be cleared are located within the Pilbara IBRA bioregion (GIS Database). There is approximately 99% of Pre-European vegetation remaining within the bioregion (Government of Western Australia, 2013).

The vegetation of the application area is broadly mapped as Beard vegetation association: 157 - Hummock grasslands, grass steppe; hard spinifex, *Triodia wiseana* (GIS Database). Approximately 99% of the pre-European extent of this vegetation association remains uncleared at both the state and bioregion level (Government of Western Australia, 2013). Hence, the vegetation proposed to be cleared does not represent a significant remnant of vegetation in an area that has been extensively cleared.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in IUCN Class I-IV Reserves
IBRA Bioregion - Pilbara	17,808,657	17,733,584	~ 99	Least Concern	6.3
Beard vegetation association - State					
157	502,729	499,312	~ 99	Least Concern	17.95
Beard vegetation association - Bioregion					
157	199,832	198,409	~ 99	Least Concern	5.65

* Government of Western Australia (2013)

** Department of Natural Resources and Environment (2002)

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

Methodology Department of Natural Resources and Environment (2002)
Government of Western Australia (2013)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- 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

There are no permanent watercourses or wetlands within or in close proximity to the application area (GIS database).

The three application areas are located approximately five kilometres from the coastline, but in the vicinity of a series of estuaries which extend two to three kilometres inland from the coastline. Saline mudflats surround and extend further inland from the estuaries and are subject to occasional inundation (GIS Database). The saline mudflats are approximately 100 metres from the application area, at the nearest point (GIS Database).

One or two seasonal watercourses pass through each of the three application areas, draining towards the saline flats to the south of the application area (GIS Database). These drainage lines are dry for most of the year, only flowing briefly following significant rainfall events (MMWC, 2014). Approximately four hectares of vegetation associated with the seasonal drainage lines is proposed to be cleared. Removal of drainage line vegetation may result in a minor increase in sediment flow towards the mudflats area. However any sediment flows will be restricted to a very small portion of the total mudflat area and the overall impact to the mudflats is likely to be minimal.

Based on the above, the proposed clearing may be at variance to this Principle. However, the proposed clearing is unlikely to result in any significant impact on the ephemeral watercourses, saline flats, or any other watercourse or wetland.

Methodology MMWC (2014)
GIS Database:
- Geodata, Lakes
- Hydrography, linear
- Dampier and Extensions 50cm Orthomosaic - Landgate 2008

(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 application areas fall within the Ruth Land System (GIS Database). The Ruth Land System is characterised by hills and ridges of volcanic and other rocks supporting spinifex grasslands (predominantly hard spinifex) (Van Vreeswyk et al., 2004). This land system is not susceptible to erosion (Van Vreeswyk et al., 2004).

The proposed clearing will be undertaken in stages over the three separate application areas, and management practices will be implemented to minimise the risk of erosion (MMWC, 2014). The proposed clearing of 12.48 hectares of native vegetation within three separate areas is unlikely to result in significant land degradation.

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

Methodology MMWC (2014)
Van Vreeswyk et al. (2004)
GIS Database:
- Rangeland Land System Mapping

(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 nearest conservation area is the Murujuga National Park, located on the Burrup Peninsula approximately 22 kilometres west-northwest of the application area, at its nearest point (GIS Database). The proposed clearing is unlikely to have any impacts on the environmental values of this or any other conservation area.

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

Methodology GIS Database:
- DEC proposed 2015 pastoral lease exclusions
- DEC Tenure
- Pastoral Leases

(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 within a Public Drinking Water Source Area. There are no permanent watercourses or wetlands within the application area (GIS Database). Several seasonal watercourses pass through the three application areas (GIS Database). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (MMWC, 2014). Management practices will be implemented to minimise the risk of erosion and potential impacts to surface water quality (MMWC, 2014).

The proposed clearing is unlikely to result in increased sedimentation of any watercourse, or cause deterioration in the quality of surface or underground water.

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

Methodology MMWC (2014)
GIS Database:
- 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 climate of the region is semi-arid, with a low average rainfall of approximately 200-300 millimetres per year (Astron, 2013; Van Vreeswyk et al., 2004). Drainage lines in the area are dry for most of the year, only flowing briefly immediately following significant rainfall (MMWC, 2014).

There are no permanent water courses or waterbodies within the application area (GIS Database). Several minor seasonal water courses pass through the application area. Temporary localised flooding may occur during heavy rainfall events. However, the proposed clearing is unlikely to increase the incidence or intensity of natural flooding events.

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

Methodology Astron (2013)
MMWC (2014)
Van Vreeswyk et al. (2004)
GIS Database:
- Hydrography, linear

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

Comments
The clearing permit application was advertised on 10 February 2014 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received in relation to this application.

There is one native title claim (WC1999/014) over the area under application (GIS Database). This claim has

been registered with the National Native Title Tribunal on behalf of the claimant group. However, the 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 located within or in close proximity to 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 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.

Methodology GIS Database:

- Aboriginal Sites of Significance
- Native Title Claims - Determined by the Federal Court
- Native Title Claims - Filed at the Federal Court
- Native Title Claims - Registered with the NNTT

4. References

- Astron (2013) Karratha Earthmoving Tenements M47/435, M47/127, M47/1421, M47/1401, M47/577, M47/455, M47/1491 Flora and Vegetation Survey. Prepared for Karratha Earthmoving Pty Ltd. Astron Environmental Services, September 2013.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002. Department of Conservation and Land Management, Western Australia.
- 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 (2013) 2012 Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of October 2012. 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.
- MMWC (2014) Karratha Earthmoving and Sand Supplies Proposed Nickol River Quarry M47/455 - Application for a Native Vegetation Clearing Permit (Purpose Permit). MMWC Environmental Pty Ltd, Western Australia, January 2014.
- Van Vreeswyk, A.M.E., Payne, A.L., Hennig, P., and Leighton, K.A. (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
DAA	Department of Aboriginal Affairs, Western Australia
DAFWA	Department of Agriculture and Food, Western Australia
DEC	Department of Environment and Conservation, Western Australia (now DPaW and DER)
DER	Department of Environment Regulation, Western Australia
DMP	Department of Mines and Petroleum, Western Australia
DRF	Declared Rare Flora
DotE	Department of the Environment, Australian Government
DoW	Department of Water, Western Australia
DPaW	Department of Parks and Wildlife, Western Australia
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
EPA	Environmental Protection Authority, Western Australia
EP Act	<i>Environmental Protection Act 1986</i> , Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (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
PEC	Priority Ecological Community, Western Australia
RIWI Act	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
s.17	Section 17 of the <i>Environment Protection Act 1986</i> , Western Australia
TEC	Threatened Ecological Community

Definitions:

{DPaW (2013) Conservation Codes for Western Australian Flora and Fauna. Department of Parks and Wildlife, Western Australia}-

- T** **Threatened species:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 1 of the Wildlife Conservation (Specially Protected Fauna) Notice for Threatened Fauna or the Wildlife Conservation (Rare Flora) Notice for Threatened Flora (which may also be referred to as Declared Rare Flora).
Threatened Fauna and Flora are further recognised by the Department according to their level of threat using IUCN Red List criteria. For example Carnaby's Cockatoo *Calyptorhynchus latirostris* is specially protected under the *Wildlife Conservation Act 1950* as a threatened species with a ranking of Endangered.
Rankings:
CR: Critically Endangered - considered to be facing an extremely high risk of extinction in the wild.
EN: Endangered - considered to be facing a very high risk of extinction in the wild.
VU: Vulnerable - considered to be facing a high risk of extinction in the wild.
- X** **Presumed Extinct species:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 2 of the Wildlife Conservation (Specially Protected Fauna) Notice for Presumed Extinct Fauna and Wildlife Conservation (Rare Flora) Notice for Presumed Extinct Flora (which may also be referred to as Declared Rare Flora).
- IA** **Migratory birds protected under an international agreement:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 3 of the Wildlife Conservation (Specially Protected Fauna) Notice.
Birds that are subject to an agreement between governments of Australia and Japan, China and The Republic of Korea relating to the protection of migratory birds and birds in danger of extinction.
- S** **Other specially protected fauna:**
Specially protected under the *Wildlife Conservation Act 1950*, listed under Schedule 4 of the Wildlife Conservation (Specially Protected Fauna) Notice.
- P1** **Priority One - Poorly-known species:**
Species that are known from one or a few collections or sight records (generally less than five), all on lands not managed for conservation, e.g. agricultural or pastoral lands, urban areas, Shire, rail reserves and Main Roads WA road, gravel and soil reserves, and active mineral leases and under threat of habitat destruction or degradation. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under immediate threat from known threatening processes.
- P2** **Priority Two - Poorly-known species:**
Species that are known from one or a few collections or sight records, some of which are on lands not under imminent threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, unallocated Crown land, water reserves, etc. Species may be included if they are comparatively well known from one or more localities but do not meet adequacy of survey requirements and appear to be under threat from known threatening processes.
- P3** **Priority Three - Poorly-known species:**
Species that are known from collections or sight records from several localities not under imminent threat, or from few but widespread localities with either large population size or significant remaining areas of apparently suitable habitat, much of it not under imminent threat. Species may be included if they are comparatively well known from several localities but do not meet adequacy of survey requirements and known threatening processes exist that could affect them.
- P4** **Priority Four - Rare, Near Threatened and other species in need of monitoring:**
(a) Rare. Species that are considered to have been adequately surveyed, or for which sufficient knowledge is available, and that are considered not currently threatened or in need of special protection, but could be if present circumstances change. These species are usually represented on conservation lands.
(b) Near Threatened. Species that are considered to have been adequately surveyed and that do not qualify for Conservation Dependent, but that are close to qualifying for Vulnerable.
(c) Species that have been removed from the list of threatened species during the past five years for reasons other than taxonomy.
- P5** **Priority Five - Conservation Dependent species:**
Species that are not threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.