



Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 6220/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Donald Kimberley North

1.3. Property details

Property: Mining Lease 47/442
Local Government Area: Shire of Roebourne
Colloquial name: Seven Mile Gravel Project

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
160		Mechanical Removal	Gravel extraction and associated infrastructure

1.5. Decision on application

Decision on Permit Application: Grant
Decision Date: 12 February 2015

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 and are useful to look at vegetation in a regional context. One Beard vegetation association has been mapped within the application area (Government of Western Australia, 2013; GIS Database):

- 589: Mosaic: Short bunch grassland – savannah / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex

A flora and vegetation survey was undertaken over the application by West Ecology in May 2011 (West Ecology, 2011). The following vegetation types were recorded:

Vegetation Type 17 – Scattered shrubs to open shrubland of *Acacia ancistrocarpa*, *Acacia bivenosa* and *Acacia inaequilatera* over hummock grassland on plains

Vegetation Type 18 – Mosaic tussock grassland to closed tussock grassland of *Sorghum timorense*, *Panicum decompositum*, *Eragrostis xerophila*, *Aristida latifolia* and *Dichanthium sericeum* over patches of scattered herbs on cracking clay plains.

Clearing Description Seven Mile Gravel Project
Donald Kimberley North (North) proposes to clear 160 hectares of native vegetation within a total boundary of approximately 160 hectares for the purpose of gravel extraction and associated infrastructure. The project is located approximately 10 kilometres west of Karratha, in the Shire of Roebourne.

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

Comment The vegetation condition was determined by botanists from West Ecology.

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 at variance to this Principle**
The application area occurs within the Roebourne subregion of the Pilbara Interim Biogeographic Regionalisation of Australia (IBRA) bioregion (GIS Database). Quaternary alluvial and older colluvial 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* (CALM, 2002).

A flora and vegetation survey has been undertaken over the entire Mining Lease 47/442 by West Ecology (2011). A total of 65 plant taxa from 20 families and 45 genera were recorded within the tenement (West Ecology, 2011). The most prevalent and diverse families recorded were Poaceae (Grass family), Fabaceae (Pea family), and Malvaceae (Hibiscus family) (West Ecology (2011)).

One introduced species was recorded within M47/442; *Portulaca oleracea* (Purslane). The application area is generally in very good condition with weed invasion not being overly extensive (West Ecology, 2011). Potential impacts on biodiversity from invasive weed species may be minimised by the implementation of a weed management condition.

West Ecology (2011) reported that no Threatened or Priority flora species or Threatened Ecological Communities were recorded during the survey.

A Priority Ecological Community (PEC) was identified as occurring within the application area, "the Roebourne Plains coastal grasslands with gilgai microrelief on deep cracking clays" (Priority 1) (West Ecology, 2011). The PEC aligns with vegetation type 18: Mosaic tussock grassland to closed tussock grassland of *Sorghum timorense*, *Panicum decompositum*, *Eragrostis xerophila*, *Aristida latifolia* and *Dichanthium sericeum* over patches of scattered herbs on cracking clay plains.

The PEC is currently Priority 1 and has been recommended for listing as a Threatened Ecological Community (DPaW, 2014). DPaW has advised that the PEC is approximately 6,444 hectares in area and can be found in 18 occurrences around the Karratha region (DPaW, 2014).

The local occurrence that is subject to the proposed clearing is called "Cadjuput" and is approximately 585 hectares in area (DPaW, 2014). The Cadjuput occurrence is considered to be the best representation of this PEC and in the best condition, due to the exclusion of stock grazing from the area over the last 40 years (DPaW, 2014). All other occurrences of the PEC have been extensively modified by grazing and fragmented by construction and infrastructure for towns and mining (DPaW, 2014). No occurrence is within secure tenure or in conservation reserve (DPaW, 2014).

The application was to initially clear 160 hectares of native vegetation, which would have resulted in 115 hectares of clearing within the PEC. This represented a 20% loss of the Cadjuput occurrence which was considered to be a significant impact to the PEC. Through consultation between DMP and the proponent, the application area has been reduced to 62 hectares, so now 23.41 hectares of the PEC is proposed to be cleared. This represents approximately 4% of the Cadjuput occurrence and 0.3% of the whole PEC. The proposed alternative permit area incorporates the majority of the area not covered by the PEC and an area covered by the PEC which is identified for gravel extraction in the first five years of operation (Austwide Mining Title Management, 2014). This is considered to be less of an impact than what was originally proposed.

A fauna survey has not been undertaken over the application area. A search of NatureMap (DEC, 2014) indicates that 127 fauna species may occur within 20 kilometres of the application area, consisting of; 66 bird, 38 reptile, 19 mammal, 3 invertebrate and 1 amphibian. This would indicate that the area is high in reptile and bird diversity; however, this diversity can be attributed to the application area being located 10 kilometres from the Burrup Peninsula and Dampier Archipelago and the diverse of habitats in these areas (DEC, 2006). Therefore, the application area is expected to have lower fauna species diversity than indicated above.

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

Methodology Austwide Mining Title Management (2014)
CALM (2002)
DPaW (2014)
DEC (2006)
DEC (2014)
West Ecology (2011)
GIS Database:
- IBRA WA (Regions - Sub Regions)
- 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 fauna survey has not been undertaken over the application area.

Based on Beard vegetation mapping (Government of Western Australia, 2013; GIS Database) and the flora survey by West Ecology (2011), the habitat of the application area can generally be described as hummock/tussock grassland. This type of habitat has been found to be common in the Roebourne region (Government of Western Australia, 2013). The flora survey did not record any significant habitat features, such as caves, rocky outcrops, watercourses or vegetation capable of bearing logs or significant leaf litter (West Ecology, 2011).

A search of NatureMap by the assessing officer has found 30 conservation significant fauna species occurring within 10 kilometres of the application area (DEC, 2014). Twenty-six of these are species of bird, which are considered to be highly mobile and have extensive home ranges. The remaining conservation significant fauna species are Northern Quoll (Threatened), Woma (Specially Protected), Lined Soil-crevice Skink (DPaW - Priority 4) and Short-tailed Mouse (DPaW – Priority 4) (DEC, 2014). The Northern Quoll prefers rocky areas and eucalypt forests with hollow logs, rock crevices, caves and hollow trees to hide in (DotE, 2015), all of which are absent from the application area. The Woma and Short-tailed Mouse prefer open tussock and hummock grasslands (DEC, 2012a; 2012b), however both have wide distributions across north Western Australia, and are unlikely to be reliant on the habitat within the application area. Similarly the Lined Soil-crevice Skink has been recorded in numerous areas across the Pilbara (DEC, 2014)

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

Methodology DEC (2012a)
DEC (2012b)
DEC (2014)
DotE (2015)
Government of Western Australia (2013)
West Ecology (2011)

(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). The nearest record of Threatened Flora is located approximately 200 kilometres south-southeast of the application area (GIS Database).

The flora survey undertaken by West Ecology (2011) did not identify any Threatened flora within the application area.

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

Methodology West Ecology (2011)
GIS Database:
- Threatened and Priority 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.

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). The nearest known TEC is located approximately 175 kilometres south-west of the application area.

West Ecology (2011) did not identify any TECs in their flora and vegetation survey of the application area.

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

Methodology West Ecology (2011)
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 Pilbara Interim Biogeographic Regionalisation for Australia (IBRA) bioregion (GIS Database) in which approximately 99.58% of pre-European vegetation remains (Government of Western Australia, 2013). This gives it a conservation status of 'Least Concern' according to the Bioregional Conservation Status of Ecological Vegetation Classes (Department of Natural Resources and Environment, 2002).

The vegetation within the application area is recorded as Beard vegetation association:

- 589: Mosaic: Short bunch grassland – savannah / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex

Beard vegetation association 589 retains approximately 99% of its pre-European extent at the state and bio-region level (Government of Western Australia, 2013).

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Land
IBRA Bioregion - Pilbara	17,808,657	17,733,583	~99	Least Concern	8.37
Beard vegetation associations - State					
589	807,698	802,713	~99	Least Concern	1.59
Beard vegetation associations - Bioregion					
589	728,768	724,695	~99	Least Concern	1.77

* Government of Western Australia (2013)

** Department of Natural Resources and Environment (2002)

The vegetation under application is not considered a significant remnant in an area that has been extensively cleared.

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 is not at variance to this Principle**
Available databases show that there are no watercourses or wetlands within the application area (GIS Database).

West Ecology (2011) did not record any watercourses or riparian vegetation within the application area.

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

Methodology West Ecology (2011)
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 application area intersects the Horseflat Land System (GIS Database). This land system is described as gilgaied clay plains supporting tussock grasslands and minor grassy snakewood shrublands (Van Vreeswyk *et al*, 2004). Parts of some units of the system (non-gilgaied plains, alluvial plains and dissected slopes) are moderately to highly susceptible to erosion if vegetation is depleted, however flat units with clay soils, which describes the application area, are inherently resistant to erosion (Van Vreeswyk *et al*, 2004).

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

Methodology Van Vreeswyk *et al* (2004)
GIS Database:
- Rangeland Land Systems

(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 proposed clearing is not located within a conservation reserve (GIS Database). The nearest conservation area is the Murujuga National Park, which is located approximately nine kilometres north of the application area (GIS Database).

The proposed clearing is not likely to impact on the Murujuga National Park given the distance between the

Park and the application area.

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

Methodology GIS Database:
- DEC Tenure

(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

According to available databases, the application area is not located within a Public Drinking Water Source Area (PDWSA) (GIS Database). There are no permanent water bodies or watercourses within the application area (GIS Database).

The application area experiences an annual average rainfall of 272.8 millimetres and an average annual evaporation rate of approximately 3,400 millimetres per year (BoM, 2014; GIS Database). The only surface water runoff expected would be following significant storm events. The proposed clearing is not likely to impact on the quality of surface water runoff.

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

Methodology BoM (2014)
GIS Database:
- PDWSAs
- Evaporation Isopleths

(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 application area can be described as arid (semi-desert) tropical with highly variable rainfall, falling mainly in summer (CALM, 2002). Cyclonic activity is significant, with several systems affecting the coast and hinterland annually (CALM, 2002). Based on an average annual evaporation rate of approximately 3,400 millimetres (GIS Database), there is likely to be little surface flow during normal seasonal rains. Whilst large rainfall events may result in flooding of the area, the proposed clearing is not likely to lead to an increase in incidence or intensity of flooding.

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

Methodology BoM (2014)
CALM (2002)
GIS Database:
- Evaporation Isopleths

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

Comments

There is one Native Title Claims (WC1999/014) over the area under application (GIS Database). This claim has been determined by the Federal Court of Australia. 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 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 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 25 August 2014 by the Department of Mines and Petroleum inviting submissions from the public. One submission was received raising two issues; dust emissions from the clearing works and debris impacting the local road network from vehicle movements. The first issue is addressed under Principle (g). The second issue is not considered relevant to the clearing principles and will be managed under the relevant *Mining Act 1978* approval.

Methodology GIS Database:
- Aboriginal Sites of Significance
- Native Title Claims – Determined by the Federal Court

4. References

- Austwide Mining Title Management (2014) Mining Proposal - Norwest Sand and Gravel Pty Ltd – M47/442.
- BoM (2014) Climate Statistics for Australian Locations. A Search for Climate Statistics for Karratha, Australian Government Bureau of Meteorology, <http://www.bom.gov.au>.
- CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Department of Conservation and Land Management, Western Australia.
- DEC (2006) Proposed Burrup Peninsula Conservation Reserve: Draft Management Plan 2006-2016. Department of Environment and Conservation.
- 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.
- DEC (2012a) Fauna Profiles: Woma Python. Department of Environment and Conservation, Perth. <http://www.dpaw.wa.gov.au>.
- DEC (2012b) Fauna Profiles: Short-tailed Mouse. Department of Environment and Conservation, Perth. <http://www.dpaw.wa.gov.au>.
- DEC (2014) NatureMap: Mapping Western Australia's Biodiversity. Department of Environment and Conservation. <http://naturemap.dec.wa.gov.au/>.
- DotE (2015) *Dasyurus hallucatus* in Species Profile and Threats Database. Department of the Environment, Canberra. <http://www.environment.gov.au>.
- DPaW (2014) Advice to the assessing officer for clearing permit application CPS 6220/1. Received on 6 October 2014.
- 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.
- Van Vreeswyk, A.M.E., Payne, A.L., Leighton, K.A. and Hennig, P. (2004) Technical Bulletin - An Inventory and Condition Survey of the Pilbara Region, Western Australia, No. 92. Department of Agriculture, Government of Western Australia, Perth, Western Australia.
- West Ecology (2011) Flora and Vegetation Survey of Welcome Exploration Tenements M47/411, M47/524, M47/556, M47/442 and M45/1195. Unpublished report prepared for Welcome Exploration Pty Ltd.

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 DPaW 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.

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.