



# Clearing Permit Decision Report

## 1. Application details

### 1.1. Permit application details

Permit application No.: 6362/1  
Permit type: Purpose Permit

### 1.2. Proponent details

Proponent's name: **Rocla Quarry Products Limited**

### 1.3. Property details

Property: Mining Lease 70/776  
Local Government Area: City of Swan  
Colloquial name: Tick Road Sand Mine

### 1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
136.93		Mechanical Removal	Sand Mining

### 1.5. Decision on application

Decision on Permit Application: Grant  
Decision Date: 31 December 2014

## 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:

Beard vegetation association 949: Low woodland; banksia (GIS Database).

RPS (2014) ground-truthed the application area on 2 September 2014, and described one vegetation community within the application area as opportunistic native regrowth including areas of *Xanthorrhoea preissii*, *Stirlingia latifolia*, *Jacksonia densiflora* and *Anigozanthos humilis*. Mature trees and regrowth of *Pinus pinaster* were also scattered throughout the application area (RPS, 2014).

**Clearing Description** Tick Road Sand Mine.  
Rocla Quarry Products Limited proposes to clear up to 136.93 hectares of native vegetation within a total boundary of approximately 136.93 hectares, for the purposes of sand mining. The project is located approximately 21 kilometres north of Perth, in the City of Swan.

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

To:

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

**Comment** The vegetation condition was derived from a vegetation survey conducted by RPS (2014).

The application area was comprised of a pine plantation until 2010 to 2014 when the pine trees were cleared and harvested by the Forestry Products Commission (RPS, 2014).

## 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 Perth (SWA2) Interim Biogeographical Regionalisation of Australia subregion (GIS Database). This subregion is comprised of colluvial and Aeolian sands, alluvial river flats, and coastal limestone. It is characterised by Heath and/or Tuart woodlands on limestone, Banksia and Jarrah-Banksia woodlands on Quaternary marine dunes of various ages, and Marri on colluvial and alluvials (CALM, 2002).

The vegetation that occurs within the application area is regrowth from a Pine (*Pinus pinaster*) plantation that

had been cleared progressively from 2010 to 2014. The original native vegetation was cleared approximately 54 years ago to establish the Gnangara Pine Plantation. A walk over of the application area was undertaken by RPS (2014) on 2 September 2014. No vegetation units within the application area were considered to be of high conservation significance and habitat diversity was very low within the application area despite being within the Gnangara-Moore River State Forest (RPS, 2014; GIS Database).

No Threatened Flora, Priority Flora, Threatened Ecological Communities or Priority Ecological Communities were recorded during the botanical survey or have previously been recorded within the application area (RPS, 2014; GIS Database).

The condition of the vegetation within the application area ranged from 'degraded' to 'completely degraded' (Keighery, 1994). The assessing officer conducted a site inspection on 22 December 2014 and noted that the application area is abundant in dumped litter (broken glass, couches, rubbish), infested with weeds and has evidence of dieback (*Phytophthora cinnamomi*). Weeds and dieback have the potential to significantly change the dynamics of a natural ecosystem and lower the biodiversity of an area. Potential impacts to biodiversity as a result of the proposed clearing may be minimised by the implementation of a weed and dieback management condition.

Faunal habitats within the application area are limited due to the lack of vegetative cover and landform features, and the existing level of disturbance (RPS, 2014; GIS Database). The application area is not likely to have a higher level of faunal diversity than the surrounding area.

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

**Methodology** CALM (2002)  
Keighery (1994)  
RPS (2014)  
GIS Database:  
- IBRA WA (Regions - Subregions)  
- Perth Metropolitan Central 15cm Orthomosaic - Landgate 2011  
- 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**  
No fauna survey has been conducted over the application area. The application area is almost completely degraded and unlikely to provide habitat or a food source specific for any conservation significant fauna (RPS, 2014; Keighery, 1994; GIS Database). Aerial imagery identified nearby vegetation in the local area that is in significantly healthier condition in which fauna species are more likely to inhabit (GIS Database).

Fauna habitat within the application area is limited due to the sparse nature of the understorey and small stature of the re-growth/rehabilitated vegetation (GIS Database). There is one conservation significant species listed as Threatened under the *Environment Protection and Biodiversity Conservation Act 1999* or protected under Western Australian legislation (*Wildlife Conservation Act, 1950*), that may potentially occur within the application area (DPaW, 2014a); Carnaby Black Cockatoo (*Calyptorhynchus latirostris*) (EPBC Act - Endangered; WC Act - Schedule 1). The vegetation within the application area comprises of regrowth that is approximately 1 to 4 years old and is not considered mature enough or in a suitable condition to provide significant habitat for faunal species (RPS, 2014; GIS Database). The ecological values of the potential fauna habitats are therefore considered to be low.

The proposed clearing of 136.93 hectares of native vegetation is not likely to impact critical feeding or breeding habitat for any conservation significant fauna species as the application area does not contain significant faunal habitats.

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

**Methodology** Keighery (1994)  
RPS (2014)  
GIS Database:  
- Perth Metropolitan Area Central 15cm Orthomosaic - Landgate 2011  
- Threatened Fauna

**(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 known records of Threatened Flora within the application area (GIS Database). A search of the Department of Parks and Wildlife's Threatened and Priority Flora databases identified no Threatened Flora species as occurring within a 10 kilometre radius of the application area (DPaW, 2014).

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

**Methodology** DPaW (2014)  
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 known Threatened Ecological Communities situated within 10 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 likely to be at variance to this Principle**  
The application area falls within the Swan Coastal Plain IBRA bioregion (GIS Database). The vegetation within the application area is recorded as:

Beard vegetation association 949: Low woodland; banksia (GIS Database).

Beard vegetation association 949 retains approximately 56% of its pre-European extent which is more than the 30% threshold level recommended in the National Objectives Targets for Biodiversity Conservation below which, species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia, 2001). According to the Government of Western Australia (2013), Beard vegetation association 949 retains approximately 57% of its pre-European extent in the Swan Coastal Plain bioregion and Perth subregion. The local area has been extensively cleared, however the area proposed to be cleared is not a significant remnant of native vegetation.

	Pre-European area (ha)*	Current extent (ha)*	Remaining %*	Conservation Status**	Pre-European % in DPaW Managed Land (and post clearing %)
IBRA Bioregion - Swan Coastal Plain	1,501,222	587,708	~39.15	Depleted	10.77 (25.86)
IBRA Subregion - Perth	1,117,757	473,909	~42.40	Depleted	11.95 (26.20)
Local Government - City of Swan	104,252	45,544	~43.69	Depleted	6.80 (14.98)
Beard vegetation associations - State					
949	218,194	124,117	~56.88	Least Concern	14.02 (24.20)
Beard vegetation associations - Bioregion					
949	209,983	121,247	~57.74	Least Concern	14.16 (24.09)
Beard vegetation associations - subregion					
949	184,476	105,108	~56.98	Depleted	15.16 (26.12)

\* Government of Western Australia (2013)

\*\* Department of Natural Resources and Environment (2002)

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

**Methodology** Commonwealth of Australia (2001)  
Department of Natural Resources and Environment (2002)  
Government of Western Australia (2013)  
GIS Database:

- IBRA WA (regions - subregions)
- 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**

According to available databases, there are no permanent watercourses or wetlands within the application area (GIS Database). RPS (2014) did not identify any riparian vegetation within the application area.

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

**Methodology RPS (2014)**

GIS Database:

- Geodata, Lakes
- 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 at variance to this Principle**

The application area is associated with subdued dune-swale terrain by limestone at depth (Northcote et al, 1968; GIS Database). Chief soils are white sandy soils (Northcote et al, 1968). Generally, these soils have a high risk of wind erosion and a low risk of water erosion due to the high infiltration rates associated with sands. The majority of the area under application has a low risk of salinity. The proposed clearing has a high risk of wind erosion given the sandy soils associated with the area under application, and without appropriate management for exposed surfaces the proposal may cause appreciable land degradation. Potential land degradation impacts as a result of the proposed clearing may be minimised by the implementation of a staged clearing condition.

The application area intercepts areas categorised as 'low' to 'moderate' Acid Sulphate Soil (ASS) risk (GIS Database). ASS are likely to occur at depths of three metres or greater. The soil exposed from clearing native vegetation is not likely to form acid on exposure to air. On this basis, the proposed clearing activities are not likely to pose a significant ASS risk.

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

**Methodology Northcote et al (1960 - 986)**

GIS Database:

- Acid Sulfate Soils Risk Map, 50K
- 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 falls within Gngangara-Moore River State Forest which is managed by the Department of Parks and Wildlife (GIS Database).

The Gngangara-Moore River State Forest is over 7,000 hectares in area (GIS Database). The application area is a cleared Pine (*Pinus pinaster*) plantation, where the native vegetation was cleared approximately 54 years ago to establish the plantation (RPS, 2014). The degraded condition of the native vegetation is due to the high numbers of weeds, rubbish and historical clearing (GIS Database). Given this, the proposed clearing is not likely to provide a significant ecological linkage or fauna movement corridor and is not likely to impact the environmental values of the conservation area.

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

**Methodology Keighery (1994)**

RPS (2014)

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**

The application area is located within the Priority One Gngangara Public Drinking Water Source Area and is within the area covered by the *Environmental Protection (Gngangara Mound Crown Land) Policy 1992* (GIS Database). The Department of Water (DoW) have considered the proposal and offer no comment (DoW, 2014). The application area is located within the proclaimed Swan River groundwater area under the *Rights in*

*Water and Irrigation Act 1914* (GIS Database). Any groundwater extraction and/or taking or diversion of surface water for the purposes other than domestic and/or stock watering is subject to licence by the DoW.

There are no permanent or ephemeral water bodies located within the application area (GIS Database). The application area has a groundwater salinity that is fresh (<500 milligrams/Litre Total Dissolved solids (TDS)) (GIS Database). Although the proposed clearing may increase the amount of rainwater that infiltrates to the groundwater, given the nature of the overlying materials (ie. limestone ridges overlain by yellow or brown sand), the proposed clearing is not likely to adversely impact the quality of groundwater. The proposed clearing is unlikely to deteriorate the quality of underground water (GIS Database).

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

**Methodology** DoW (2014)  
GIS Database:  
- Geodata, Lakes  
- Groundwater Salinity, Statewide  
- Hydrography, Linear  
- Public Drinking Water Source Areas  
- 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 predominately comprised of leached Bassendean sands, which are generally considered to have high infiltration rates and therefore a low risk of water logging (Churchward & McArthur, 1980). Given the soils are well drained and that average annual evaporation rate (1,800 - 2,000 millimetres) is well above the annual rate of rainfall (775.1 millimetres), the risk of flooding is low (BoM, 2014).

Given the size of the area to be cleared (136.93 hectares) compared to the size of the Swan Avon catchment area (396,685 hectares) (GIS Database) it is not likely that the proposed clearing will lead to an appreciable increase in run off, and subsequently cause or exacerbate the 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)  
Churchward & McArthur (1980)  
GIS Database:  
- Hydrographic Catchments - Catchments  
- Hydrography, Linear

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

**Comments**

There is one Native Title claims over the area under application (WC2011/009) (GIS Database). 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, Department of Parks and Wildlife 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 24 November 2014 by the Department of Mines and Petroleum inviting submissions from the public. No submissions were received.

**Methodology** GIS Database:  
- Aboriginal Sites of Significance  
- Native Title Claims - Registered with the NNTT  
- Native Title Claims - Filed at the Federal Court  
- Native Title Claims - Determined by the Federal Court

**4. References**

BoM (2014) Climate Statistics for Australian Locations. A Search for Climate Statistics for Perth Airport, Australian Government Bureau of Meteorology, viewed 29 December 2014, <[http://reg.bom.gov.au/climate/averages/tables/cw\\_009021.shtml](http://reg.bom.gov.au/climate/averages/tables/cw_009021.shtml)>.  
CALM (2002) A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions. Swan Coastal Plain 2 (SWA2 - Perth

subregion) Department of Conservation and Land Management, Western Australia.

Churchward H. M. & McArthur W.M (1980) 'Landforms and Soils of the Darling System' in Atlas of Natural Resources, Darling System, Western Australia. Government of Western Australia.

Commonwealth of Australia (2001) National objectives and targets for biodiversity conservation 2001-2005. Commonwealth of Australia, Canberra, ACT.

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.

DoW (2014) Advice provided for CPS 6362/1. Department of Water, Swan-Avon Branch, December 2014.

DPaW (2014) NatureMap Department of Parks and Wildlife, viewed 29 December 2014 <<http://naturemap.dec.wa.gov.au>>.

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.

Northcote, K. H., Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.

RPS (2014) Purpose Permit Clearing Permit Application - Tick Road Sand Mine (Tenement M70/776). Prepared for Rocla Quarry Products Limited, November 2014.

## 5. Glossary

### Acronyms:

<b>BoM</b>	Bureau of Meteorology, Australian Government
<b>DAA</b>	Department of Aboriginal Affairs, Western Australia
<b>DAFWA</b>	Department of Agriculture and Food, Western Australia
<b>DEC</b>	Department of Environment and Conservation, Western Australia (now DPaW and DER)
<b>DER</b>	Department of Environment Regulation, Western Australia
<b>DMP</b>	Department of Mines and Petroleum, Western Australia
<b>DRF</b>	Declared Rare Flora
<b>DotE</b>	Department of the Environment, Australian Government
<b>DoW</b>	Department of Water, Western Australia
<b>DPaW</b>	Department of Parks and Wildlife, Western Australia
<b>DSEWPaC</b>	Department of Sustainability, Environment, Water, Population and Communities (now DotE)
<b>EPA</b>	Environmental Protection Authority, Western Australia
<b>EP Act</b>	<i>Environmental Protection Act 1986</i> , Western Australia
<b>EPBC Act</b>	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Federal Act)
<b>GIS</b>	Geographical Information System
<b>ha</b>	Hectare (10,000 square metres)
<b>IBRA</b>	Interim Biogeographic Regionalisation for Australia
<b>IUCN</b>	International Union for the Conservation of Nature and Natural Resources – commonly known as the World Conservation Union
<b>PEC</b>	Priority Ecological Community, Western Australia
<b>RIWI Act</b>	<i>Rights in Water and Irrigation Act 1914</i> , Western Australia
<b>s.17</b>	Section 17 of <i>the Environment Protection Act 1986</i> , Western Australia
<b>TEC</b>	Threatened Ecological Community

### Definitions:

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

<b>T</b>	<p><b>Threatened species:</b> Specially protected under the <i>Wildlife Conservation Act 1950</i>, 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).</p> <p>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 <i>Calyptorhynchus latirostris</i> is specially protected under the <i>Wildlife Conservation Act 1950</i> as a threatened species with a ranking of Endangered.</p> <p><u>Rankings:</u> 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.</p>
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<b>X</b>	<p><b>Presumed Extinct species:</b> Specially protected under the <i>Wildlife Conservation Act 1950</i>, 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).</p>
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- 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.