Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2860/1

Permit type: Purpose Permit

1.2. Proponent details

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

1.3. Property details

Property: LOT M1448 ON DIAGRAM 6412 (LENNARD BROOK 6503)

Local Government Area: Shire Of Gingin

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
49.28		Mechanical Removal	Extractive Industry

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
Beard vegetation association: 1027 - Mosaic: Medium open woodland; jarrah & marri, with low woodland; banksia / Medium sparse woodland; jarrah & marri (SAC Bio Datasets 13/11/2008; Shepherd, 2007) Heddle Vegetation Complexes: Karamal complex - south: Open forest of E. marginata - E. calophylla with second storey of B. grandis. Moondah complex: Low closed to low open forest of B. attenuata - B. menziesii - E. todtiana - B. prionotes on slopes, open woodland of E. calophylla - Banksia spp. in valley. (Heddle et al, 1980)	The proposal is to clear 49.28 hectares of native vegetation from a 160 ha remnant of native vegetation located within Lot M1448. The clearing is required for the purpose of sand extraction. Henson (2005) describes the vegetation under application as 'dominated by mixed Banksia species (B. attenuata and B. menziesii) with low woodland, low open forest with Eucalyptus todtiana present in most areas.' The vegetation under application comprises Eucalyptus species, Banksia attenuata, B. Menziesii, B. ilicifolia and Jacksonia species over an understorey dominated by Adenanthos cygnorum, Kunzea spp, Hibbertia hypericoides, Macrozamia riedlei, Mesomelaena spp, Gompholobium spp, Acacia spp, Conostylis spp, Patersonia occidentalis, Bracken Fern and grasses. Degraded areas were confined to access tracks and the north eastern portion of the are under application. The vegetation within the applied area is considered to be in overall very good condition.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	The vegetation condition was obtained from DEC site inspection on 11/12/2008 and flora report prepared by Henson (2005) on behalf of RPS Bowman Bishaw Gorham.

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments

Proposal may be at variance to this Principle

The vegetation under application comprises Eucalyptus spp, Banksia attenuata, B. grandis, B. menziesii and Jacksonia species over an understorey dominated by Adenanthos cygnorum, Kunzea spp, Hibbertia hypericoides, Macrozamia riedlei, Mesomelaena spp, Gompholobium spp, Acacia spp, Conostylis spp, Patersonia occidentalis, Bracken Fern and non-native grasses, and is considered to be in very good (Keighery, 1994) condition. The local area (10km radius) is highly cleared with approximately 35% vegetation remaining.

Within the local area there are five recorded species of rare flora and twenty two occurrences of priority flora species. Of the identified priority flora species, only Calytrix sylvana (P4) is found within the same vegetation complex and soil type as the area under application. However a flora survey conducted by Henson in February 2005 (Weston, 2005) did not identify any rare flora species within the area under application. The common flora species Blancoa canescens has been identified within the area under application (Weston, 2005). B. canescens is known as a significant species as its location is considered to be disjunct from its known geographical range (Government of Western Australia, 2000).

A number of passerine birds were observed within the areas of vegetation under application at the time of the site inspection, with the vegetation under application comprising mature hollow-bearing Eucalypts suitable for nesting by a range of bird species (DEC 2008). The area under application is in the known distribution range of the Carnaby's Black Cockatoo (Calyptorhynchus latirostris) (EPBC Act, Endangered) and provides feeding habitat for this conservation significant species. A bird of prey was also observed hovering within the applied area (DEC, 2008). Furthermore, areas of dense vegetation and woody debris are likely to provide suitable habitat for ground dwelling fauna species such as the Quenda.

Given that the local area has been highly cleared and the vegetation under application is in very good (Keighery, 1994) condition, the proposed clearing may be at variance to this principle.

Methodology

References:
- DEC (2008)
- Weston(2005)

GIS Databases:
- SAC BIO Datasets - accessed 18/12/2008

(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 at variance to this Principle

There are three fauna species of conservation significance recorded within the local area (10km radius) including, the Chuditch (Dasyurus geoffroii, VU), the Western Brush Wallaby (Macropus irma, P4); and Western Mud Minnow (Galaxiella munda, VU).

The area under application is also located within the distribution range of the Carnaby's Black-Cockatoo, which is known to feed on a large variety of plants including Proteaceous species (Banksia, Hakea and Grevillea), marri nuts (Corymbia calophylla), jarrah (Eucalyptus marginata), tuart (Eucalyptus gomphocephala), Casuarina species and a range of introduced species (Shah, 2006). This species is listed as a Schedule 1 species under the Wildlife Conservation (Specially Protected Fauna) Notice 2008 being "fauna that is rare or is likely to become extinct."

Surveys of Carnaby's populations and their feeding and roosting habits show that the Northern Region of the Swan Coastal Plain appears to be an important area throughout the season (Shah, 2006). Native species such as Banksia and Eucalypts play a significant role in the ecology of the Carnaby's Cockatoos on the Swan Coastal Plain (Shah, 2006).

The cumulative impacts from the reduction of Carnaby's foraging habitat on the Swan Coastal Plain has resulted in vegetation that provides a food source for Carnaby's cockatoos being considered as significant habitat; the continual net loss of critical habitat will result in additional pressure on the current population of Carnaby's cockatoos (DEC, 2009a). The vegetation under application has been identified as feeding habitat for Carnaby's Black Cockatoo (DEC, 2009b) In addition a hovering bird of prey was observed during the DEC site inspection (DEC, 2008).

During the DEC site inspection, Quenda diggings and Kangaroo skats were observed and it is considered that vegetation in good (Keighery, 1994) condition or better may provide habitat for ground dwelling species including the Quenda, Kangaroo, Chuditch and Western Brush Wallaby. However, given the absence of permanent water on site, the area under application is unlikely to provide suitable habitat for the Western Mud Minnow.

Mature Eucalyptus trees containing small hollows were also observed on site (DEC, 2008) which have the potential to be utilised for habitat by a range of bird species such as the Australian Ringneck Parrot (Barnadius zonarius).

Given the above and that the vegetation under application is likely to be utilised by a number of fauna species, including species of conservation significance, it is considered that the vegetation under application comprises significant habitat for fauna indigenous to Western Australia and is therefore considered to be at variance to this Principle.

Methodology References:
- DEC (2008)
- DEC (2009a)
- DEC (2009b)
- Keighery (1994)
- Shah (2006)

GIS Databases:
- SAC BIO datasets - accessed 18/12/2008

(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**

Within the local area (10km radius) there are five recorded species of rare flora, being Ptychosema pusillum, Chamelaucium lullfitzii, Eleocharis keigheryi, Grevillea curviloba subsp. incurva and Grevillea curviloba subsp. curviloba. Of the identified rare flora species, P. pusillum is a perennial herb that occurs on sands and flowers Aug-Oct. (Western Australian Herbarium, 1998) and is found within the same vegetation complex and soil type as that found within the area under application.

A flora survey conducted by Henson in February 2005 (Weston, 2005) did not identify any rare flora species within the area under application.

While the vegetation under application includes habitat suitable for rare and priority flora in the local area, it is not likely, given the results of a flora survey that the vegetation includes or is necessary for the continued existence of, rare flora.

Methodology References
- DEC (2008)
- Weston (2005)
- Western Australian Herbarium (1998)

GIS Databases:
- Heddle Vegetation Complex
- SAC BIO Datasets - accessed 23/12/2008
- Soils , Statewide - DA 11/99

(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 four Threatened Ecological Communities (TEC) that are known to occur in the local area (10 km radius), including:

- Perth to Gingin Ironstone Association;
- Herb-rich saline shrublands in claypans;
- Banksia attenuata woodlands over species-rich dense shrublands; and
- Forests and woodlands of deep seasonal wetlands of the Swan Coastal Plain.

The closest TEC, being Floristic Community Type 7 (FCT 7) - Herb-rich saline shrublands in claypans, is located approximately 2.9km southwest of the applied area. This TEC is found within a different vegetation complex and soil type to that found in the area under application.

Of the three remaining identified TEC's, all are found within different vegetation complexes and soil types to the area under application, with the exception of FCT 20a - Banksia attenuata woodlands over species-rich dense shrublands which is found within the same vegetation complex, but a different soil type to the applied area.

Given the distance to the nearest TEC and that a flora survey did not identify the vegetation under application as a TEC (Weston, 2005), it is not considered likely that the vegetation under application comprises, or is necessary for the maintenance of a TEC.

Methodology Refereneces:
- DEC (2008)
- Weston (2005)

GIS Databases:

- SAC BIO Datasets - accessed 31/12/2008
- Soils, Statewide - DA 11/99

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments

Proposal may be at variance to this Principle

Pre-European	Current extent (ha)	Remaining (ha)	In secure tenure (%)	(%)
IBRA Bioregion*				
Swan Coastal Plain^	1,501,208	583,140	38.84	32.55
Shire of Gingin*	319,671	168,783	52.80	41.87
Beard vegetation type				
1027*	39,809	22,315	56.06	30.88
Beard vegetation type in SCP Bioregion				
1027*	39,534	22,203	56.16	31.04
Heddle vegetation complexes**				
Karamal Complex South	24,017	14,278	59.4	27.3
Moondah Complex	17,715	6,864	38.7	9.8

* (Shepherd, 2007)
** (Heddle et al, 1980)
^ Area within Intensive Land Use Zone

As the above table indicates, the vegetation types under application retain more than the EPA supported threshold level (30%) recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

However, as the local area (10km radius) is highly cleared with approximately 35% vegetation remaining, and given that intensive agriculture occurs within close proximity to the applied area, the vegetation under application may by significant as a remnant on a regional scale.

Methodology

References:
- EPA (2000)
- Heddle et al (1980)
- Shepherd (2007)

GIS Databases:
- SAC BIO datasets - accessed 31/12/2008
- Soils, Statewide - DA 11/99

(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 likely to be at variance to this Principle

There are numerous wetlands located within a 10km radius of the area under application, the closest, Lennard Brook, is a Conservation Category Wetland and is located approximately 365 metres north of the area under application.

In addition, the nearest watercourses are Lennards Brook which is located approximately 590 metres to the north and two un-named minor non-perennial watercourses which are respectively located approximately 490 metres northeast and 580 metres southwest of the applied area.

Although there are not any mapped wetlands or watercourses within the area under application, during the DEC site inspection (2008), Bracken Fern and Kunzea spp were observed in the northern portion of the area under application which can be associated with damp areas.

Given the location of the area under application on a sandy rise it is unlikely that the vegetation within the applied area is growing in, or in association with, an environment associated with a watercourse or wetland.

Methodology

References:
- DEC (2008)

GIS Databases:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Hydrography, linear_1
- Hydrography, linear (hierarchy)

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments

Proposal may be at variance to this Principle

The soils within the area under application are described as red earthy sands which are associated with an undulating to low hilly dissected plateau (Northcote et al, 1960-68). The identified soils generally have a low risk of water logging and a minimal risk of salinity.

Land degradation risk associated with the removal of vegetation on the identified soil type is wind erosion (Department of Agriculture, 2005). High wind erosion potential is due to the sandy nature of the soils and the location of the applied area on a rise. Without appropriate vegetation cover, windbreaks or adequate dust suppression on exposed surfaces the proposal may result in appreciable land degradation.

Given that the proposed land use of the area under application is for sand extraction and has a high risk of wind erosion, the proposal may be at variance to this Principle.

Methodology

References:
- DEC (2008)
- Department of Agriculture (2005)
- Northcote et al (1960-68)

GIS Databases:
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide - DA 11/99

(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

There are numerous areas reserved for conservation purposes within a 10km radius of the area under application, the closest being Nulilla Nature Reserve which is located approximately 2.8km southwest of the applied area and Molecap Hill Quarry which is identified as a System 6 Reserve and is also listed on the Register of National Estate (id. 18167). Aerial mapping of the local area shows there is limited connectivity between the area under application and local conservation areas.

Given the distance to the nearest conservation and the limited connectivity, it is not considered likely that the proposed clearing would have an impact on the environmental values of any adjacent or nearby conservation area.

It is therefore considered that the proposal is not likely to be at variance to this Principle.

Methodology

GIS Databases:
- Bushforever
- CALM Managed Lands and Waters
- Gingin 50cm Orthomosaic - Landgate 2006
- Register of National Estate
- System 6 Conservation Reserves

(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 area under application has a low risk of salinity and is not located within a Public Drinking Water Source Area (PDWSA). The nearest waterbodies are Lennard Brook (Conservation Category Wetland) and an un-named non-perennial watercourse which are respectively located down slope approximately 365 metres north and 490 metres northeast of the area under application.

Given the high infiltration rates of the sandy soil identified within the applied area, and the distance to the nearest watercourse and wetland, it is not considered likely that the proposed clearing would cause deterioration in the quality of surface or underground water. Therefore, the proposed clearing is not likely to be at variance to this Principle.

Methodology

References:
- DEC (2008)

GIS Databases:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain

- Hydrology, linear_1
- Hydrography, linear (hierarchy)
- Public Drinking Water Source Areas (PDWSAs)
- Salinity Risk LM 25m - DOLA 00

(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 area under application is located approximately 365 metres south of Lennard Brook (Conservation Category Wetland) and approximately 490 metres southwest of an un-named non-perennial watercourse, at an elevation of between 125-200 metres.

Given the distance to the nearest wetland and watercourse and the high infiltration of the soils on site, it is not considered likely that the proposed removal of vegetation would impact on peak flood height or duration.

Methodology

GIS Databases:
- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain
- Hydrology, linear_1
- Hydrography, linear (hierarchy)
- Salinity Risk LM 25m - DOLA 00
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments

The area under application is zoned rural under the Town Planning Scheme and is highlighted as a priority resource location within state planning policy (SPP) 2.4 - Basic Raw Materials.

The Shire of Gingin granted the applicant an Extractive Industry Licence on the 8 July 2008 (active from 1 July 2008 to 30 June 2009). DEC understands that this licence is currently undergoing renewal.

In a submission an objection to the proposed clearing was lodged, stating that the area under application falls within the Lennard Brook sub catchment of Ellen Brook catchment and that the proposed clearing may have an impact of the water quality. These issues have been addressed under the clearing principles where appropriate (TRIM DOC. 72242).

Carnaby's Black-Cockatoo is classified as Endangered under Commonwealth Environment Protection and Biodiversity Conservation (EPBC) Act 1999.

There is one Aboriginal Site of Significance listed within the eastern portion of the area under application and the applicant will be advised of their obligations under the Aboriginal Heritage Act 1972.

Methodology

References:
- Submission, (2008) TRIM DOC 71740
- Submission, (2008) TRIM DOC 72242

GIS Databases:
- Aboriginal Sites of Significance
- Town Planning Scheme Zones

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and the proposed clearing is at variance to Principle (b) ; may be at variance to Principles (a), (e) & (g); and is not likely to be at variance to the remaining clearing Principles.

5. References

DEC (2007) DEC Fauna Habitat Notes.xls. February 2007. Department of Environment and Conservation, Western Australia.

DEC (2008) Site Inspection Report for Clearing Permit Application CPS 2860/1, Lot M1448 Lennards Road , Lennard Brook. Site inspection undertaken 11/12/2008. Department of Environment and Conservation, Western Australia (TRIM Ref. DOC 73111).

DEC (2009a) Fauna advice for CPS 3074/1 & CPS 2926; Species and Communities Branch, Department of Environment and Conservation. TRIM Ref DOC92367

DEC (2009b) Fauna advice,Species and Communities Branch, Department of Environment and Conservation. TRIM Ref DOC101892

EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority,

Western Australia.
Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.
Heddle, E. M., Loneragan, O. W., and Havel, J. J. (1980) Vegetation Complexes of the Darling System, Western Australia. In Department of Conservation and Environment, Atlas of Natural Resources, Darling System, Western Australia.
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. with 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.
Shah, B. (2006) Conservation of Carnaby's Black-Cockatoo on the Swan Coastal Plain, Western Australia. December 2006. Carnaby's Black-Cockatoo Recovery Project. Birds Australia, Western Australia.
Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
Submission (2008) TRIM DOC 71740.
Submission, (2008) TRIM DOC 72242.
Western Australian Herbarium (1998). FloraBase - The Western Australian Flora. Department of Environment and Conservation. http://florabase.dec.wa.gov.au/ (Accessed 5/12/2008).
Weston, A. S., (2005) Vegetation and Flora of Rocla Quarry, Creighton Road Gingin. Prepared for RPS Bowman Bishaw Gorham, Environmental Management Consultants. TRIM DOC. 68760.

6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment
DoIR	Department of Industry and Resources
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)