Department of Environment and Conservation

Clearing Permit Decision Report

1. Application details

1.1. Permit application details

Permit application No.: 2515/1

Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Rocla Quarry Products

1.3. Property details

Property: LOT 21 ON PLAN 13583 (House No. 450 FLYNN NEERABUP 6031)
LOT 21 ON PLAN 13583 (House No. 450 FLYNN NEERABUP 6031)
LOT 21 ON PLAN 13583 (House No. 450 FLYNN NEERABUP 6031)

Local Government Area: City Of Wanneroo

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
43.4		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: 6: Medium woodland - tuart and jarrah; 949: Low woodland - banksia. (Shepherd 2007; SAC Bio datasets 16/10/2008) Heddle Vegetation Complex: Cottesloe Complex - Central and South: Mosaic of woodland of E. gomphocephala and open forest of E. gomphocephala - E. marginata - E. calophylla; closed heath on the limestone outcrops. (Heddle et al. 1980)	The proposed clearing consists of 43.4 ha of native vegetation to be cleared for the extraction of sand and limestone. The areas under application consist of approximately 37.6 ha north west of the existing Rocla Quarry site on Flynn drive Neerabup and two patches being approximately 4.0 ha and 1.8 ha south west of the existing quarry site. The area under application to the north west of the existing quarry site supports two vegetation associations these being Dryandra sessilis heathland and Eucalyptus decipiens subsp. decipiens woodland. Vegetation under application north west of the existing quarry ranges in condition from very good to excellent with the majority in excellent condition. This area supports structurally intact and floristically diverse vegetation communities with little to no weed invasion. Approximately 33 ha of the	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Description and condition of the vegetation under application was determined from the site inspection (DEC, 2007). Vegetation ranges in condition from excellent to good with the areas being primarily in excellent condition. RPS Environmental (2007) conducted an opportunistic flora survey of the area under application in October 2006 and conducted plot based surveys in April 2007.

	area under application north west of the existing quarry are in excellent condition.		
As above	The areas under application south west of the existing quarry site support two vegetation associations these being Tuart Woodlands and Dryandra sessilis heathlands.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	As above
	Approximately 7 ha of the area under application south west of the existing quarry have been identified as being in good condition.		
As above	Approximately 3 ha of the area under application including portions of the area under application north west and south west of the existing quarry site have been identified as being in very good condition.	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	As above

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

During a site inspection (DEC, 2007) the areas under application were observed to support four vegetation associations these being Dryandra sessilis heath, Tuart Woodlands, Jarrah/Marri Woodlands and Eucalyptus decipiens woodlands. The majority of vegetation is in excellent condition (approximately 33 ha), supporting structurally intact and floristically diverse vegetation communities with little to no weed invasion.

The large size of the areas under application, the excellent condition of the vegetation and the range of vegetation associations present, the areas under application are considered to provide significant habitat for indigenous fauna.

RPS Environmental (2007) recorded a total of 80 taxa within the areas under application and surrounding native vegetation with this estimated to be only 60% of the flora species likely to exist on site. Ninety two percent (74 species) of the species recorded were native. Thus confirming the high floristic diversity of the area under application.

During a spring flora survey undertaken by RPS Environmental (2008) one priority flora species, being Stylidium maritimum (P3); and Pimelea calcicola a Swan Coastal Plain endemic, which is considered to have conservation significance, were identified within the area under application. In addition, statistical analysis of quadrat data confirmed that the four vegetation associations identified within the areas under application were representative of Floristic Community Types (FCT) 24 and 28. FCT 24, Northern Spearwood Shrublands and Woodlands, that was identified over the majority of the area under application is list as a priority ecological community (P3).

Given the areas under application support high floristic diversity, includes priority flora, has been identified as a priority ecological community and comprise significant habitat for fauna, it is considered that the vegetation under application has a high level of biological diversity and the proposed clearing is therefore considered to be at variance to this Principle.

Methodology

References:
- DEC (2007)
- RPS Environmental (2007)
- RPS Environmental (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

Twelve indigenous fauna taxa of significance are recorded within a 10 km radius of the area under application.

During a site inspection (DEC, 2007) the areas under application were observed to support four vegetation associations these being Dryandra sessilis heath, Tuart Woodland, Jarrah/Marri Woodland and Eucalyptus decipiens woodland. The majority of vegetation (approximately 33 ha) is in excellent condition, supporting structurally intact and floristically diverse vegetation communities with little to no weed invasion.

A majority of the areas under application were observed to provide suitable foraging habitat for the Carnaby's Black Cockatoo with stands of Dryandra sessilis heath (DEC, 2007). DEC (2006a) states that Dryandra in Kwongan heathlands (being Dryandra sessilis) is a food source for Carnaby's.

Shah (2006) concludes that the greatest numbers of Carnaby's occur in areas where significant expanses of native vegetation, with favoured food sources, are located in close proximity to exotic pine plantations. The area under application supports the favoured native foods of this species and pine plantations of the Gnangara-Moore River State Forest are located less than a kilometre north east of the application site. Thus the areas under application are likely to form part of an important feeding ground and potential nesting habitat for this species (DEC, 2009).

Within the areas under application suitable habitat was also identified for the South West Carpet Python and Southern Brown Bandicoot with the Tuart Woodland, Dryandra sessilis heath and Eucalyptus decipiens woodland supporting structurally intact vegetation with areas of dense understorey and with these areas being in very good to excellent condition (DEC, 2007; DEC, 2006b; DEC, 2006c). Suitable habitat was also observed for the Western Brush Wallaby with areas of Jarrah/Marri open woodland (DEC, 2007; DEC, 2006d). The presence of Dryandra sessilis heathland habitat makes these areas under application suitable for the native cricket, Austrosaga spinifer (DEC, 2007).

The areas under application are well connected to large tracts of surrounding bushland. The Government of Western Australia (2000) has mapped the area under application as forming part of a contiguous or largely contiguous corridor of bushland / wetland areas. This corridor forms part of a network of conservation areas of regional significance within the Perth metropolitan area.

Given that the 43.4 ha of vegetation under application is predominantly in excellent condition and comprises habitat suitable for a range of fauna including fauna of conservation significance, it is considered that the proposed clearing is considered to be at variance to this Principle.

Methodology

References:
- DEC (2007)
- DEC (2009)
- Shah (2006)
- Government of Western Australia (2000)
- DEC (2006a)
- DEC (2006b)
- DEC (2006c)
- DEC (2006d)
- DEC fauna habitat notes. February 2007

GIS Databases:
- SAC Bio datasets 14/12/2007

(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 a 10km radius of the area under application there are two recorded species of rare flora, these being Eucalyptus argutifolia and Marianthus paralias, with the closest species, E. argutifolia located 1.8km to the north of the area under application.

During a site inspection (DEC, 2007) the areas under application were observed to support four distinct vegetation associations these being Dryandra sessilis heath, Tuart Woodland, Jarrah/Marri Woodland and Eucalyptus decipiens subsp. decipiens woodland.

Given that the vegetation complexes, topography and soil types present on site are not consistent with those preferred by the two rare flora species, the vegetation under application is not considered likely to support suitable habitat for the species (Brown et al. 1998).

During a spring flora survey undertaken by RPS Environmental (2008) no rare flora was identified within the areas under application.

Considering that no rare flora was identified during the spring flora survey, it is not considered likely that the vegetation under application includes or is necessary for the continued existence of rare flora.

Methodology

References:
- Brown et al. (1998)
- DEC (2007)
- RPS Environmental (2008)

GIS Databases:
- SAC Bio datasets 14/12/2007

(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

Within a 10 km radius of the area under application there are several occurrences of the Threatened Ecological Community (TEC) SCP 26a: Melaleuca huegelii - Melaleuca acerosa (currently M. systena) shrublands on limestone ridges.

During a site inspection (DEC, 2007) the areas under application north west of the existing quarry were observed to support Dryandra sessilis heath. Soils within the areas under application are yellow brown surface sands with deeper yellow sands on limestone of varying depth.

During the flora survey RPS (2007) identified a portion of the vegetation on Lot 21 as having similarities to Floristic Community Type (FCT) 26a. RPS (2008) advised that statistical analysis of the plot data confirmed the FCT of the vegetation as being FCT 24: Northern Spearwood Shrublands and Woodlands, a known priority 3 ecological community.

Given that statistical analysis confirmed that the vegetation under application is not a TEC, it is not considered that the vegetation under application is likely to comprise, or be necessary for the maintenance of, a TEC.

Methodology

References:
- DEC (2007)

GIS Databases:
- SAC Bio datasets 14/12/2007

(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

The Environmental Protection Authority (EPA) supports a 30% threshold level as recommended in the National Objectives Targets for Biodiversity Conservation; below which species loss appears to accelerate exponentially at an ecosystem level (EPA, 2000).

The areas under application support Heddle vegetation complex Cottesloe complex - north and south. The northern area under application supports Beard vegetation association 949, and the southern area under application west of the existing quarry site supports vegetation associations 949 and 6.

Heddle Vegetation Complex, Cottesloe Complex has greater than the recommended 30% minimum of Pre-European extent remaining (41.1% remaining) as does Beard Vegetation Association 949 (57.2% remaining). However Beard Vegetation Association 6 is below the recommended 30% minimum of Pre-European extent remaining, with 26.2% remaining.

Although this vegetation association covers less than the recommended 30% minimum of Pre-European extent remaining, the applied area is considered to be within a constrained area. The EPA (2006) recognises the Perth Metropolitan Region as a constrained area, providing for the reduction of vegetation complexes to a minimum of 10% of Pre- European extent.

Although the area under application is located within the constrained area of the Perth Metropolitan Region the vegetation under application is part of a large remnant which would be considered significant as a remnant of native vegetation and therefore the clearing as proposed may be at variance to this Principle.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregion*				
Swan Coastal Plain^	1,501,208	583,140	38.8	
City of Wanneroo*	67,697	33,637	49.7	
Beard vegetation type*				
6	56,343	14,749	26.2	34.2
949	218,193	124,864	57.2	49.1
Heddle vegetation complex**				
Cottesloe Complex-Central And\South	44,995	18,474	41.1	8.8

* (Shepherd, 2007)
** (EPA, 2006)
^ Area within Intensive Land Use Zone

Methodology

References:
-Commonwealth of Australia (2001)
-EPA (2006)
-Shepherd (2007)
GIS Databases:
-Heddle Vegtation Complexes
-Interim Biogeographic regionalisation of Australia
-SAC Bio datasets 16/10/2008

(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

The nearest wetland to the areas under application is a Resource Enhancement Wetland (REW) located 730 m west of the application site. Another Resource Enhancement Wetland is located 2.7 km north and Conservation Category Wetlands are located 2.7 km east and 2.9 km south of the application site. No watercourses are located in the local area of the application.

Given the distance from these wetlands and the local groundwater hydrology of the area, the vegetation under application is not considered likely to be growing in, or in association with a watercourse or wetland.

Methodology

GIS Databases:
- Hydrography, linear
- Hydrography, linear (hierarchy)
- Geomorphic Wetlands (Classification), Swan Coastal Plain
- Topographic Contours, Statewide

(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 vegetation under application lies within soils associated with an undulating dune landscape with chief soils being siliceous sands with smaller areas of brown sands and leached sands in the wetter sites (Northcote et al. 1960-68).

During site inspection (DEC, 2007) soils on site were observed to mainly be yellow sands on top of limestone of varying depth with some limestone outcropping, which is consistent with sands of the Spearwood dune system that have a high wind erosion risk (State of Western Australia 2005).

Given the high risk of wind erosion of the sandy soils on site, the removal of the 43.4 ha of vegetation under application is likely to result in wind erosion causing appreciable land degradation. The proposed clearing therefore may be at variance to this Principle.

The risk of wind erosion is likely to be handled under dust management conditions of the development approval and Extractive Industry License issued by the City of Wanneroo.

Methodology

References:
- DEC (2007)

- Northcote et al. (1960-68)
- State of Western Australia (2005)

GIS Database:
- 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 southern area under application is located 50 m to Bush Forever site 384 (Neerabup Lake and Adjacent Bushland Neerabup) on the western side. Bush Forever site 293 is located 700 m north of the northern area under application. Bush Forever site 383, which includes Neerabup National Park, is located to the west of the areas under application and at its nearest point is 1.2 km south west of the southern area under application. The Gnangara Moore River State Forest is located 1 km north west of the northern area under application.

For a nearby extractive industry proposal Bush Forever office (DPI, 2007) recommended a minimum 50-100 m landscape buffer of undisturbed vegetation to the Bush Forever site. Given the southern area under application is located 50 m away from Bush Forever site 384, which allows for a buffer, it is not considered that the proposed clearing is likely to impact on the environmental values of a conservation area.

Methodology

Reference:
- DPI (2007)

GIS Database:
- Bushforever
- CALM Managed Lands and Waters

(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 may be at variance to this Principle

The nearest wetland to the area under application is located 730 m west of the application site and no watercourses are located in the local area of the application.

During a site inspection (DEC, 2007) soils on site were observed to be yellow sands on top of limestone of varying depth with some areas of brown sands. This makes the site consistent with sands of the Spearwood dune system which is characterised by soils with poor nutrient retention ability (State of Western Australia, 2005). During a site inspection (DEC, 2007) soils on site were observed to be yellow sands on top of limestone of varying depth with some areas of brown sands.

The removal of vegetation from the site may result in increased water run-off and nutrient loss off-site, resulting in deterioration in groundwater quality, or surface water quality in nearby wetlands. It is therefore considered the proposal may be at variance to this principle.

Methodology

References:
- DEC (2007)
- State of Western Australia (2005)

GIS Databases:
- Hydrography, linear
- Geomorphic Wetlands (Classification), Swan Coastal Plain
- Groundwater Salinity, Statewide
- Public Drinking Water Source Areas (PDWSAs)
- Salinity Risk LM 25m

(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 vegetation under application lies within soils associated with an undulating dune landscape with chief soils being siliceous sands with smaller areas of brown sands and leached sands in the wetter sites (Northcote et al. 1960-68).

The nearest wetland to the area under application is located 730 m west of the application site and no watercourses are located in the local area of the application.

Given the distance to the nearest watercourse and the sandy soils on site, the proposed clearing is not likely to cause or exacerbate the incidence of flooding.

Methodology Reference:
- Northcote et al. (1960-68)

GIS Databases:
- Hydrography, linear
- Geomorphic Wetlands (Classification), Swan Coastal Plain

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

Comments

City of Wanneroo (2007) advised that an environmental offset should be required, of a size equivalent to the area to be cleared.

The State Planning Policy 2.4 Basic Raw Materials identifies Lot 21, which includes the areas under application, as being within a priority area for basic raw material extraction such as limestone.

The area under application is located on an Aboriginal Site of Significance this site being Lake Neerabup (Department of indigenous Affairs 2007).

On the 22 May 2008 the Department sent Rocla Quarry Products a letter requesting further information on the issues of the potential occurrence of a threatened ecological community and the potential impacts to the adjacent Bush Forever site that where identified during the assessment.

The original area under application had the southern area under application immediately adjacent to Bush Forever site 384 (Neerabup Lake and Adjacent Bushland Neerabup) on the western side; however, after discussions between the applicant and Bush Forever office, the applicant requested the southern area be amended to allow a 50 m buffer from the proposed sand extraction and the Bush Forever site (Rocla, 2008).

On the 1 October 2008 the Department received a copy of the flora and vegetation report (RPS Environmental (2008). No rare or priority flora was identified within the two areas under application and statistical analysis of the plot data confirmed the vegetation as being floristic community type 28: Spearwood Banksia attenuata or Banksia attenuata-Eucalyptus woodlands.

Lot 21 on Plan 13583 is freehold land and the areas under application are zoned industrial under the Metropolitan Regional Scheme. The area under application is also covered by the Neerabup Local Structure Plan.

In response to a letter from DEC dated 15 October 2009 Rocla correspondence dated 22 October 2009 advised that the company intends to lodge an extractive industries licence and development application with the City of Wanneroo within a fortnight and expects a decision within the coming months and requested a further extension until the end of April 2010. DEC first advised Rocla of the need to obtain the relevant planning approvals from the City of Wanneroo in October 2008.

Rocla (2009) also considered that principle b is at variance because it 'forms part of a contiguous corridor of bushland' and the assessment has not adequately considered the zoning of the area and that bushforever site 384 was established to preserve fauna habitat and the north-south corridor. As outlined in principle b, DEC considers that not only does the area under application form part of the north south corridor, it also provides significant habitat for a range of fauna include foraging and potential nesting habitat for Carnaby's Cockatoo and is therefore at variance. DEC considers that the zoning of Lot 21 was adequately considered and noted in the preliminary assessment report.

Methodology References:
- City of Wanneroo (2007)
- Department of indigenous Affairs (2007)
- Rocla (2008)
- RPS Environmental (2007)
- RPS Environmental (2008)

GIS Databases:
- Cadastre
- Metropolitan Regional Scheme

4. Assessor's comments

Comment

The assessable criteria have been addressed and the clearing as proposed is at variance to Principles (a) and (b); may be at variance to Principles (e), (g) and (i); and is not likely to be at variance to the remaining Principles

5. References

Brown A., Thomson-Dans C. and Marchant N.(1998). Western Australia's Threatened Flora, Department of Conservation and Land Management, Western Australia.

City of Wanneroo (2007) Direct interest submission for CPS 2141/1 and CPS 2515/1. TRIM Ref DOC39050

Commonwealth of Australia (2001) National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.

DEC (2008) Site Inspection 11 December 2007 on Lot 21 Flynn Drive, Neerabup; Department of Environment and Conservation (DEC), Western Australia. TRIM Ref: DOC100929 apdated from CPS 2142 TRIM Ref: DOC43504

DEC (2009) Fauna Advice. Species and Communities Branch. Department of Environment and Conservation Trim Ref DOC100878

DEC. (2006a). NatureBase - Fauna Species Profile: Carnaby's Black Cockatoo. Accessed at http://www.naturebase.net/content/view/840/1288/. Accessed 13/06/2008. Department of Environment and Conservation, Western Australia.

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DEC. (2006d). NatureBase - Fauna Species Profile: Western Brush Wallaby. Accessed at http://www.naturebase.net/content/view/840/1288/. Accessed 13/06/2008. Department of Environment and Conservation, Western Australia.

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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.

Rocla (2008) request to amend the areas under application to include a 50m buffer from proposed clearing to Bush Forever site 384. TRIM Ref DOC60513

Rocla (2009) Letter dated 22 October in response to additional information request. TRIM Ref DOC106715

RPS Environmental. (2007). Flora and Vegetation Survey: Rocla Neerabup. Subiaco: RPS Environmental.

RPS Environmental. (2008). Level 2 Flora and Vegetation Survey: Rocla Neerabup. Subiaco: RPS Environmental.

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.

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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)