



1. Application details

1.1. Permit application details

Permit application No.: 3675/1
Permit type: Purpose Permit

1.2. Proponent details

Proponent's name: Oakford Land Company Pty Ltd

1.3. Property details

Property: LOT 8 ON DIAGRAM 53380 (NOWERGUP 6032)
Local Government Area:
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
15.54		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
<p>Beard Vegetation Associations: - 949: Low woodland; banksia</p> <p>- 998: Medium woodland, tuart (SAC Bio Datasets 7/05/2010; Shepherd 2007).</p> <p>Hedde Vegetation Complex: - Cottesloe Complex Central and South: Mosaic of woodland of E. gomphocephala and open forest of E. gomphocephala-E. marginata- C. calophylla; closed heath on the Limestone outcrops (Hedde et al. 1980).</p>	<p>The clearing proposal is to clear up to 15.54 ha within a 54 ha property (Lot 8), for sand and limestone extraction.</p> <p>The vegetation under application can be described as, depending on the location in the landscape, Xanthorrhoea preissii and Banksia sessilis closed heath on the slopes with limestone outcropping (Melaleuca spp is common in these areas with the limestone outcropping) or Banksia grandis-Eucalyptus woodland with Xanthorrhoea preissii on yellow sand over limestone; both communities have dense shrub layers with the vegetation including Calothamnus sp, Hibbertia sp and Acacia sp. There were limited disturbances observed with areas in degraded and completely degraded condition (Keighery, 1994) being located outside (south) of the area under application (DEC, 2010).</p>	<p>Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)</p>	<p>The vegetation and clearing description is based on information obtained during a site inspection by DEC officers (DEC, 2010).</p>

3. Assessment of application against clearing principles

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

Comments	Proposal is at variance to this Principle
	<p>The area under application (15.54 hectares) has vegetation in excellent (Keighery, 1994) condition (DEC, 2010) with limited disturbance observed during the site inspection; the areas in degraded and completely degraded (Keighery, 1994) condition are located outside (south) of the area under application (DEC, 2010).</p> <p>The vegetation under application is described as Xanthorrhoea preissii and Banksia sessilis closed heath on the slopes with limestone outcropping, and Banksia grandis-Eucalyptus woodland with Xanthorrhoea preissii on yellow sand over limestone; both communities have dense shrub layers with the vegetation including Calothamnus sp, Hibbertia sp and Acacia sp (DEC, 2010). This dense understorey is considered to comprise significant habitat for ground dwelling fauna and the vegetation is considered to provide foraging habitat for specially protected Carnaby's black cockatoos.</p> <p>A flora survey report by Regeneration Technology (2006) for Lot 8, which includes the area under application, concluded that the south-eastern area of Lot 8 supports Jacksonia sericea a priority 4 species. From the survey it is not certain if this species occurs within the area under application. Furthermore, the flora survey</p>

(Regeneration Technology Pty Ltd, 2006) identified significant flora species *Eucalyptus foecunda* (poorly reserved and endemic to Swan Coastal Plain), *Leschenaultia linarioides* (poorly reserved) and *Eucalyptus petrensis* (poorly reserved and endemic to Swan Coastal Plain); these species may occur within the area under application.

Given the vegetation is in excellent (Keighery, 1994) condition, is likely to provide suitable habitat for fauna including fauna of conservation significance, and priority and significant flora may potentially occur within the area under application; it is considered that the vegetation comprises a high level of biodiversity.

Methodology References:
- DEC (2010)
- Keighery (1994)
- Regeneration Technology Pty Ltd (2006)

(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 eight species of conservation significant fauna recorded within the local area (5 km radius); including Graceful Sun moth (*Synemon gratiosa*) and Carnaby's black cockatoo (*Calyptorhynchus latirostris*).

It is noted that the assessment of clearing permit CPS 2807/1 granted on 27 November 2008, against the clearing principles differed in the variance of clearing principle (b). DEC acknowledges this difference and advises that its understanding and assessment of Carnaby's black cockatoo foraging habitat has evolved since the decision to grant clearing permit CPS 2807/1.

Eight known roost sites for Carnaby's have been recorded in the local area. Carnaby's black cockatoo is classified as Endangered under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 and Specially Protected under the Western Australian Wildlife Conservation Act 1950.

A significant number of birds visit the Swan Coastal Plain to utilise food resources during the non-breeding season. The population of Carnaby's black cockatoo has declined by over 50 per cent in the last 45 years (three generations) and decline is continuing. A major ongoing cause of the decline in population/distribution is the clearing of vegetation on the Swan Coastal Plain, including for purposes associated with urban development. Without intervention it is likely that Carnaby's black cockatoo will continue to decline and eventually meet the criteria for ranking as critically endangered.

The vegetation under application comprises *Xanthorrhoea preissii* and *Banksia sessilis* closed heath, and *Banksia grandis*-*Eucalyptus* woodland with *Xanthorrhoea preissii* (DEC, 2010). It is considered that the area under application would be utilised by Carnaby's as a food source. Carnaby's black cockatoos are known to feed on seeds, nuts and flowers of a large variety of plants including *Eucalypts*, *Banksia*, *Hakea*, *Xanthorrhoea* and *Grevillea* with the Northern Region of the Swan Coastal Plain considered being an important area throughout the season for this species (Shah, 2006).

Shah (2006) concludes that *Banksia* sp. constitute more than half of the native plant diet of this species and 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 Gngangara-Moore River State Forest are located less than a kilometre north east of the application site. Thus the area under application is likely to form part of an important feeding ground and may provide nesting habitat for this species.

DEC has assessed the supporting documentation provided by the applicant (RPS, 2010). DEC acknowledges that there are significant areas of native vegetation within the local area. In addition to the cumulative impacts from the reduction of Carnaby's foraging habitat on the Swan Coastal Plain and in the local area, DEC also considers that the area under application is of a size and species composition such that it comprises a significant habitat for Carnaby's in its own right. The continual net loss of significant habitat will continue to reduce available food resources for Carnaby's black cockatoos and contribute to its ongoing decline.

The Graceful Sun Moth (*Synemon gratiosa*) has been recorded 3.8 km south-east of the area under application. A Graceful Sun Moth (GSM) survey undertaken by GHD in March 2010 did not observe any GSMs and that the area was dominated by limestone outcrops, which reduced the availability of soil and therefore *Lomandra* spp. (RPS, 2010). Given this, it is not likely that the application area is suitable habitat for GSMs.

The vegetation under application is in excellent (Keighery, 1994) condition and includes a dense understorey (DEC, 2010) that would provide suitable habitat for ground-dwelling fauna such as conservation significant species, *Quenda* (*Isodon obesulus fusciventer*) and Western Brush Wallaby (*Macropus irma*).

Given the vegetation is in excellent (Keighery, 1994) condition and is likely to provide suitable foraging habitat for specially protected Carnaby's black cockatoo; it is considered likely the vegetation proposed to be cleared

(15.54 ha) comprises and is necessary for the maintenance of significant habitat for fauna indigenous to Western Australia. Therefore, the proposed clearing is at variance to this Principle.

- Methodology** **References:**
- DEC (2010)
 - DEC (2010a)
 - Keighery (1994)
 - RPS (2010)
 - Regeneration Technology Pty Ltd (2006)
 - Shah (2006)
 - Williams (2009)
- GIS Database:**
- SAC Bio Datasets 7/05/2010

(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

There are 10 records of one rare flora species, *Eucalyptus argutifolia* within the local area (5 km radius). The closest known record is known to occur ~550 metres north-east of the area under application.

A flora survey conducted by Regeneration Technology (2006) during September and October 2006 did not identify *Eucalyptus argutifolia* within the area under application. Several groves of mallees were observed within the applied area, these mallees were identified as *E. petrensis* and *E. foecunda* and not *E. argutifolia* (Regeneration Technology Pty Ltd, 2006).

The flora survey did not identify any rare flora within the applied area. Therefore, it is considered the proposed clearing is not likely to be at variance to this Principle.

- Methodology** **Reference:**
- Regeneration Technology Pty Ltd (2006)
- GIS Database:**
- SAC Bio Datasets 7/05/2010

(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 is one occurrence of a Threatened Ecological Community (TEC) mapped on Lot 8 Wattle Avenue. This TEC is known as Floristic Community Type (FCT) 26a, 'Melaleuca huegelii-Melaleuca systema shrublands on limestone ridges' (Gibson et al. 1994).

Approximately 8.5 ha within Lot 8 comprise the mapped TEC and a 100m buffer. This limestone ridge community within Lot 8 has been previously cleared and has substantially regenerated. This 8.5 ha area is located immediately adjacent to the area under application.

Given the application provides a 100m buffer to the TEC, it is considered the area under application is not necessary for the maintenance of FCT 26a; therefore, the proposal is not likely to be at variance to this Principle.

- Methodology** **Reference:**
- Gibson et al. (1994)
- GIS Databases:**
- SAC Bio Datasets 7/05/2010

(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 vegetation within the area under application is identified as a component of Beard vegetation associations 949 and 998, and Heddle Cottlesloe Complex Central and South, of which there is 57.2%, 41.6% and 41.1% of Pre-European extent remaining respectively (Shepherd, 2007; EPA, 2006). In addition, there is ~63% of native vegetation remaining in the local area.

The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001). The vegetation complexes mapped within the area under application are above the recommended minimum of 30% representation.

Given the extent of vegetation remaining in the City of Wanneroo (49.7%), the current representation levels of the Heddle complex and Beard vegetation associations and the extensive remnants within the local area, it is not considered likely that the vegetation under application is significant as a remnant in an area that has been extensively cleared.

	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	33,697	49.7	
Local area (5 km radius)	7,850	~4,950	~63	
Beard vegetation types*				
949	218,193	124,864	57.2	49.1
998	51,015	21,225	41.6	38.1
Heddle vegetation complex**				
Cottesloe Central/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 (2000)
 - EPA (2006)
 - Shepherd (2007)
 GIS Databases:
 - Heddle Vegetation Complexes
 - Interim Biogeographic Regionalisation of Australia
 - NLWRA, Current Extent of Native Vegetation
 - SAC Bio Datasets 7/05/2010

(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 no watercourses or wetlands associated with the area under application (DEC, 2010). There are three lakes within the local area, being Neerabup Lake (~1 km west), Lake Pinjar (~3 km east) and Nowergup Lake (~3.5 km north-west).

Given that the vegetation applied to be cleared is representative of an upland community associated with limestone ridges (DEC, 2010) and the distance to the nearest watercourse or wetland, the vegetation under application is not considered likely to be associated with a watercourse or wetland.

Methodology Reference:
 - DEC (2010)
 GIS databases:
 - EPP, Areas
 - 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 may be at variance to this Principle

The area under application is associated with an undulating dune landscape underlain by limestone which is frequently exposed. Chief soils are siliceous sands (Northcote et al, 1960-68). 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 and limestone.

The proposed clearing has a high risk of wind erosion given the sandy soils on site and without appropriate ground cover, windbreaks or adequate dust suppression on exposed surfaces the proposal may cause appreciable land degradation. Therefore, the clearing as proposed may be at variance to this Principle.

Methodology Reference:

- Northcote et al (1960-68)
- 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

There are two DEC managed conservation areas, Gngangara-Moore River State Forest (~1 km east) and Neerabup National Park (~3.3 km), and 23 Bush Forever Sites (including Bush Forever site 293, 50 m from the area under application) within the local area.

Bush Forever Site 293 (known as Shire View Hill and adjacent bushland) occurs in the south-east corner of Lot 8 Wattle Ave and is 50m from the southern edge of the area under application. Bush Forever site 293 and the vegetation under application are part of a regionally significant contiguous bushland/wetland linkage providing a north/south and east/west ecological linkage (Government of Western Australia, 2000).

The clearing as proposed provides a vegetated buffer of 50m to the adjacent Bush Forever site 293. Bush Forever office (DPI 2007) recommends a minimum 50-100m landscape buffer of undisturbed vegetation to the Bush Forever site. The proposed buffer of 50m is the minimum required buffer for the protection of the Bush Forever Site from significant impacts such as the introduction or spread of weed species and dieback by machinery.

Given the proposed buffer meets the minimum requirement requested by Bush Forever office and therefore limits the potential for the proposed clearing to impact on the adjacent conservation areas, the clearing as proposed is not likely to be at variance to this Principle.

Methodology

References:

- DPI (2007)
- Government of Western Australia (2000)

GIS databases:

- Bushforever
- 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 area under application is situated between two protected Public Drinking Water Source Areas (PDWSA), Gngangara Underground Water Pollution Control Area (Priority 1, ~2.5 km east) and Perth Coastal Underground Water Pollution Control Area (Priority 3, ~2.3 km west). Groundwater generally flows north-east to south-west and depth varies from 25-65 m within the applied area. Given the depth to groundwater and distance to the nearest PDWSA the proposed clearing is not considered likely to cause deterioration in the quality of groundwater.

There are three lakes within the local area. Neerabup Lake (~1 km west), Lake Pinjar (~3 km east) and Nowergup Lake (~3.5 km north-west) of the applied area. It is considered any development within 200 m of the wetland boundary would have a secondary influence on the wetland (Hill et al, 1996). Given that the vegetation under application is outside the 200 m zone of influence (Hill et al, 1996), the proposed clearing is not considered likely to impact the surface water quality of these lakes.

Given the depth to groundwater and distance to closest wetland, the proposed clearing is not considered likely to cause deterioration in surface water or groundwater.

Methodology

Reference:

- Hill et al. (1996)

GIS databases:

- EPP, Areas
- Geodata, Lakes
- Groundwater Contours, Historic Maximum
- Hydrography, linear
- Public Drinking Water Source Areas (PDWSAs)
- Topographic Contours, Statewide

(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 closest wetland is Neerabup Lake, ~1 km west of the applied area. The closest watercourse is a minor tributary of Lake Pinjar ~5 km from the area under application. The vegetation under application occurs on

yellow sand over limestone (DEC, 2010).

Given the distance to the nearest water body and high infiltration rates associated with sandy soils over limestone, the clearing as proposed is considered unlikely to cause or exacerbate the incidence of flooding.

Methodology Reference:
- DEC (2010)
GIS databases:
- Geodata, Lakes
- Hydrography, linear

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

Comments

DEC has given a vegetation conservation notice (VCN) over an 8.5 ha area (comprises of TEC and 100 m buffer) that is immediately adjacent to the area under application. The VCN requires restoration, monitoring and weed control of the vegetation within the previously cleared area.

The applicant previously submitted a proposal to clear 30 ha of native vegetation within Lot 8 Wattle Avenue for the purpose of limestone and sand extraction (CPS 2077/1). A permit to clear for this proposal was refused on 5 June 2008. An appeal for this decision was not lodged.

The applicant then re-submitted a proposal to clear 39.23 ha, amended to 29.23 ha of native vegetation within Lot 8 Wattle Avenue (CPS 2688/1). A permit to clear for this proposal was refused on 27 November 2008. An appeal on this decision was lodged on 23 December 2008. On 24 September 2009 the Minister for Environment dismissed the appeal.

In addition, a new clearing application (CPS 2807/1) of 9.96 ha of native vegetation for the remaining northern area within Lot 8 Wattle Avenue was received and this application was granted a clearing permit on 27 November 2008. It is noted that the assessment of 9.96 ha of native vegetation against the clearing principles differed in the variance of clearing principle (b) 'may be at variance'. DEC acknowledges this difference and advises that its understanding and assessment of Carnaby's black cockatoo foraging habitat has evolved since the decision to grant clearing permit CPS 2807/1.

Lot 8 Wattle Ave is freehold land, zoned Rural under the Metropolitan Regional Scheme.

The State Planning Policy 2.4 - Basic Raw Materials identifies Lot 8 Wattle Avenue as being within a priority resource area for extraction of basic raw material. The status of the site as a Priority Resource Location is a matter of relevance in decision-making as this is a planning instrument for the purposes of section 51O of the EP Act. Statement of Planning Policy 2.4 specifically states that the development of land for the extraction of basic raw materials should not adversely affect the environment. DEC is therefore of the view that the SPP should not be an overriding concern in light of the significant impacts on Carnaby's Black Cockatoo.

If the clearing were to proceed, it is likely that the action will require referral to the Commonwealth Department of the Environment, Heritage, Water and the Arts (DEHWA).

The Western Australian Planning Commission and City of Wanneroo have granted the relevant planning approvals including an extractive industries licence for Lot 8 Wattle Ave, which is zoned Rural Resource under the City of Wanneroo District Planning Scheme No. 2 (City of Wanneroo, 2010).

Oakford Land Company anticipates 5,000 kL of groundwater is required for dust suppression associated with the limestone extraction works on site (Landform Research, 2007).

The area under application is located within an area identified as an Aboriginal Site of Significance under the Aboriginal Heritage Act 1972. It is the responsibility of the proponent to ensure that no Aboriginal Sites of Significance are damaged through the clearing process.

Methodology References:
- City of Wanneroo (2010)
- Landform Research (2007)
- RPS (2010)
GIS databases:
- Aboriginal Sites of Significance
- Cadastre
- Metropolitan Regional Scheme

4. References

City of Wanneroo (2010) Direct Interest Submission (Email), City of Wanneroo. DEC Ref A304664

- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2010) Site Inspection Report for Clearing Permit Application CPS 3675/1, Lot 8 Wattle Drive, Nowergup. Site inspection undertaken 21/04/2010. Department of Environment and Conservation, Western Australia. DEC Ref A303697
- DPI (2007) Department for Planning and Infrastructure Bush Forever Office Submission Letter Lot 8 Wattle Ave, Nowergup. TRIM Ref DOC 100932
- 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.
- EPA (2006) Guidance for the Assessment of Environmental Factors - Level of Assessment for Proposals Affecting Natural Areas Within the System 6 Region and Swan Coastal Plain Portion of the System 1 Region. Guidance Statement No 10. Environmental Protection Authority, Western Australia.
- Gibson N., Keighery B., Keighery G., Burbidge A. and Lyons M. (1994) A Floristic Survey of the Southern Swan Coastal Plain. Western Australian Department of Conservation and Land Management and the Western Australian Conservation Council.
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- Regeneration Technology Pty Ltd (2006). Lot 8 Wattle Ave, Nowergup- Flora and Vegetation Assessment. Prepared for Oakford Land Company.
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- 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.
- Williams M.R (2009) Butterflies and Day-flying Moths in a Fragmented Urban Landscape, South-west Western Australia: Patterns of Species Richness. Pacific Conservation Biology V15,p 32-46. TRIM Ref DOC88237

5. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management (now DEC)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment (now DEC)
DoW	Department of Water
DMP	Department of Mines and Petroleum (ex DoIR)
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)

