



1. Application details

1.1. Permit application details

Permit application No.: 2272/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Department of Education and Training

1.3. Property details

Property: LOT 299 ON PLAN 20003 (House No. 16 WALYUNGA CLARKSON 6030)

Local Government Area: City Of Wanneroo

Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2.36		Mechanical Removal	Building or Structure

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 949: Low woodland; banksia (Shepherd 2006).	The applied area of 2.36ha is located within Lot 229 (9.9ha) on plan 20003. The purpose for the clearing is construction of new school/TAFE facilities.	Good: Structure significantly altered by multiple disturbance; retains basic structure/ability to regenerate (Keighery 1994)	The condition of the native vegetation under application was sourced from the Site Inspection (2008). The vegetation was considered to be in overall good condition.
Hedde 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 (Hedde et al 1980).	The proposed vegetation to be cleared is of good condition, consisting of Eucalyptus gomphocephala (Tuart) and Banksia sp. The middle storey consists of Xanthorrhoea preisii, Acacia pulchella, Hakea sp and Macrozamia sp. The ground cover is dense with aggressive non-native grass species such as Ehrharta erecta (veldt grass) and Lagurus ovatus with scattered populations of native species such as Dryandra sp, Hibbertia sp and Jacksonia spp (Site inspection 2008).		
	All vegetation within the applied area will be cleared and the land will be cemented to be level with the adjacent road.		

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 proposed clearing of 2.36ha is in good condition, consisting of Eucalyptus gomphocephala (Tuart) and

Banksia sp. The middle storey consists of Xanthorrhoea preissii, Acacia pulchella, Hakea sp and Macrozamia sp. The ground cover is dense with aggressive non-native grass species such as Ehrharta erecta (veldt grass) and Lagurus ovatus with scattered populations of native species such as Dryandra sp, Hibbertia sp and Jacksonia spp (Site inspection 2008).

There is one record of the Priority 2 species Acacia benthamii in the local area (5km radius). A benthamii is a shrub that grows up to a metre high with yellow flowers that are in bloom from August to September (West Australian Herbarium 1998). The closest record of A. benthamii is located 656m north of the applied area and occurs on the same soil and vegetation association as the applied area.

The applied area contains several mature Tuart trees that may be suitable nesting sites for bird species. (Site inspection 2008). The applied area does have the potential to provide suitable habitat for smaller ground dwelling species such as the quenda (Isoodon obesulus fusciventer). However, it is unlikely to provide suitable habitat for larger species such as the western brush wallaby (Macropus irma).

The high level of disturbance and weed invasion within the applied area suggests that the original level of biodiversity has been impacted. The applied area is therefore may not be self sustaining into the future and does not contain higher levels of biodiversity of that found locally in the nearby reserves that are managed for conservation purposes. Thus, the proposed clearing is not considered likely to be at variance to this Principle.

Methodology Reference:
- Site Inspection (2008)
- West Australian Herbarium (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 not likely to be at variance to this Principle

There are 12 records of four fauna species of conservation significance within the local area (5km radius) including.

- Carnaby's black cockatoo (Calyptorhynchus latirostris) with the nearest record being 800m north.
- Quenda (Isoodon obesulus fusciventer) with the nearest record being 2.6km east.
- Western brush wallaby (Macropus irma) with the nearest record being 2.6km north.
- Austrosaga spinifer 2km east.

Carnaby's are known to move around seasonally in flocks and feed in areas of proteaceous shrubs and heaths (DEC Habitat notes 2007). The applied area also contains several mature Tuart trees that may be suitable nesting sites for bird species. The Carnaby's black-cockatoo is listed as a Schedule 1 species under the Wildlife Conservation (Specially Protected Fauna) Notice 2006.

The applied area also has the potential to provide suitable habitat for smaller ground dwelling species such as the quenda (Isoodon obesulus fusciventer). However, given that there is a large national park located approximately 890m east of the applied area it is not considered likely that the vegetation under application is significant.

The vegetation under application also has no connectivity to larger the larger tracts of vegetation within the local area. Therefore, it is unlikely to provide significant habitat for species with a larger home range such as the western brush wallaby.

Given there is a large national park within the local area, the area under application is not considered to be significant habitat. Also the isolation of the vegetation under application prevents it from being sufficient habitat for larger ground dwelling species. Therefore, it is not considered likely that the vegetation under application is whole or part of, or is necessary for the maintenance of a significant habitat for fauna indigenous to Western Australia.

Methodology References:
- DEC Fauna habitat notes.xls
- Site Inspection (2007)
GIS Databases:
- SAC Biodata sets16/01/2008

(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

There are several occurrences of the Declared Rare Flora (DRF) Eucalyptus argutifolia within the local area (5km radius). E. argutifolia is a Mallee that ranges from 1.5-4m high with smooth bark and white flowers that are in bloom from March to April (West Australian Herbarium 1998). The closest record of E. argutifolia is located 1.3km southwest of the area under application.

The area under application consists of an undulating dune landscape underlain by aeolianite with the chief soils being siliceous sands (Northcote et al 1960-68). *E. argutifolia* is known to predominately occur on shallow soils over limestone (Herbarium 1998). Therefore it is considered unlikely that the vegetation under application includes, or is necessary for the continued existence of rare flora.

Methodology Reference:
 - West Australian Herbarium (2008)
 GIS Database:
 - Pre-European DA 01/01
 - SAC Biodatasets (5/02/08)
 - 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 five known occurrences of Threatened Ecological Communities (TEC) within the local area (5km). The closest TEC is located 2.5km north east of the applied area. This TEC has been identified as Floristic Community Type 26a- *Melaleuca huegelii*-*M. acerosa* shrublands on limestone ridges.

A site inspection (2008) of the area under application identified no limestone ridges and no *Melaleuca huegelii*-*M. acerosa*. The applied area is open woodland, comprising of a *Tuart* and *Banksia* sp upper storey (Site Inspection 2008). The moderately dense middle storey consists of *Xanthorrhoea preisii*, *Acacia pulchella*, *Hakea* sp and *Macrozamia* sp. The ground is densely covered with aggressive non-native grass species such as *Ehrharta erecta* (veldt grass) and *Lagurus ovatus* with scattered native populations of *Dryandra* sp, *Hibbertia* sp and *Jacksonia* spp.

Given the vegetation under application does not comprise of *Melaleuca huegelii*-*M. acerosa* shrublands or located on a limestone ridge, and the distance to the nearest TEC, the vegetation applied to be cleared is not considered likely to comprise or be necessary for the maintenance of a Threatened Ecological Community.

Methodology Reference:
 - Site Inspection (2008)
 GIS Database:
 - SAC Bio Datasets 050208

(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 Beard vegetation association 949 and Heddle vegetation complex Cottesloe complex - central and south, which have current representation levels of 57.0% and 41.0% respectively (Shepherd 2006, EPA 2006).

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which includes a target that prevents the clearance of ecological communities with an extent below 30% of that present Pre-European settlement (Commonwealth of Australia 2001). The Beard vegetation association and the Heddle vegetation complex in the area under application are both above the recommended minimum of 30% representation.

Given the current representation levels of the vegetation under application and the fact that there is a large conservation reserve located within the local area that comprises of the beard vegetation association 949 and Heddle vegetation complex Cottesloe complex ? central and south, it is not considered likely that the vegetation under application is significant as a remnant.

	Pre-European (ha)	Current extent (ha)	Remaining (%)	In secure tenure (%)
IBRA Bioregions				
Swan Coastal Plain*	15,011,456	571,758	38.1	
City of Wanneroo**	68,070	34,047	50	
Beard Vegetation type:*				
949	218,204	124,461	57.0	23.1
Heddle Vegetation complex***				
Cottesloe Central and Sth	44995	18474	41	8.8
Shepherd (2006)*				

Del Marco (2004)**
EPA (2006)***

- Methodology** References:
- Commonwealth of Australia (2001)
 - EPA (2006)
 - Shephard (2006)
- GIS Databases:
- Heddle Vegetation Complexes DEP 21/06/95
 - Interim Biogeographic Regions of Australia EA 18/10/00
 - SAC Bio Datasets 06/03/08

(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 wetlands within the applied area. However, there are three wetlands located within the local area (5km radius). The nearest wetland is Neerabup Lake, located approximately 2.4km east of the applied area. Neerabup Lake is mapped as a Resource Enhancement Wetland (REW).

There are no watercourses mapped in the local area (5km) and a site inspection (2008) confirmed that there was no wetland dependant vegetation within the applied area.

Given the site inspection (2008) did not identify any wetland dependant vegetation and the distance to the nearest watercourse or wetland, the vegetation under application is not considered likely to be growing in, or association with a watercourse or wetland.

- Methodology** References:
- Site Inspection (2008)
- GIS Databases:
- Geomorphic wetlands (Mgt Categories)- Swan Coastal Plain DEC
 - Hydrography, linear - DOE 01/02/04

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

Comments Proposal is not likely to be at variance to this Principle

The landscape of the area under application can be described as an undulating dune landscape underlain by aeolianite with the chief soils being siliceous sands (Northcote et al 1960-68). These soils have a very high risk of wind erosion and phosphorus export (State of Western Australia 2005). The area under application is considered to have a low salinity risk.

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. It is noted, staged clearing and appropriate management practices would likely limit land degradation caused by wind erosion.

- Methodology** References:
- State of Western Australia (2005)
 - Northcote et al. (1960-68)
- GIS Databases:
- 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 five conservation reserves within the local area (5km radius) including Neerabup National Park (also a System 6 Conservation Reserve and Bush Forever Site 383) located approximately 890m east, Bush Forever Site 322 located 2.1km southwest, Bush Forever 384 located 2.2 east, Bush Forever Site 323 2.4km south and Bush Forever Site 397 located 2.4 km west of the applied area.

Given the distance to the nearest conservation reserve and the fact that there is no conductivity between the applied area and the local conservation areas, it is considered that the clearing as proposed will not have any direct or indirect impacts on nearby conservation area.

- Methodology** GIS databases:
- Bushforever - MFP 07/01

- DEC Managed Lands and Waters - CALM 1/07/05
- System 6 Conservation Reserves - DEP 06/95

(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

There are no wetlands within the applied area. However, there are three wetlands located within the local area (5km radius). The nearest wetland is Neerabup Lake, located approximately 2.4km east of the applied area. Neerabup Lake is mapped as a Resource Enhancement Wetland (REW).

There are no watercourses mapped in the local area (5km) and a site inspection (2008) confirmed that there was no wetland dependant vegetation within the applied area.

The area under application is located 5.8km northeast of the Gnangara mound and not situated within a Public Drinking Water Source Area. Therefore it is not considered likely that the proposed clearing will cause deterioration in the quality of surface or ground water.

Methodology GIS Databases:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain DEC
- Hydrography, linear - DOE 01/02/04
- Public Drinking Water Source Areas (PDWSAs) DOW

(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

There are no wetlands within the applied area. However, there are three wetlands located within the local area (5km radius). The nearest wetland is Neerabup Lake, located approximately 2.4km east of the applied area. Neerabup Lake is mapped as a Resource Enhancement Wetland (REW). There are no watercourses mapped in the local area (5km) and a site inspection (2008) confirmed that there was no wetland dependant vegetation within the applied area.

Given the distance to the nearest wetland or watercourse from applied area, the clearing as proposed is considered unlikely to be at variance to this Principle.

Methodology GIS Databases:

- Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain DEC
- Hydrography, linear - DOE 01/02/04

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

Comments

The City of Wanneroo (2008) advised if DEC considers the vegetation to be in good condition the applicant should be encouraged to retain the vegetation for education purposes. However, if DEC considered the vegetation is degraded, the City has no objection to the proposed clearing.

Submission (2008). The proposed clearing is opposed due to the following reasons:

- Tuart woodlands are of regional conservation value and remnants should be protected.
- The site is one of few bushland remnants in an urbanising landscape.
- The site contributes to ecological linkages across the landscape.
- The bushland has educational value.
- The bushland has landscape and heritage value.

These issues have been noted.

There is no other Works Approval or EP Act Licence that affects the area under application.

There are no Aboriginal Sites of Significance listed within the area under application.

Lot 299 on Plan 20003 is freehold land owned by Department of Education and Training. Lot 299 is zoned Urban under the Metropolitan Regional Scheme.

Methodology References:

- City of Wanneroo (2008)
- Submission (2008)
- Bush Forever (2007)

GIS Databases:

- Aboriginal Sites of Significance- DIA 28/02/03
- Metropolitan Regional Scheme- DPI 07/10/0

4. Assessor's comments

Purpose	Method	Applied area (ha)/ trees	Comment
Building or Structure	Mechanical Removal	2.36	The assessable criteria have been addressed and the clearing as proposed is unlikely to be at variance to any of the clearing Principles.

5. References

- City of Wanneroo (2008) Direct interest submission received 22/01/08, TRIM Ref DOC 43835.
- Commonwealth of Australia (2001). National Targets and Objectives for Biodiversity Conservation 2001-2005, AGPS, Canberra.
- Del Marco, A., Miles, C., Taylor, R., Clarke, K. and Savage, K. (2004) Local Government Biodiversity Planning Guidelines for the Perth Metropolitan Region - Edition 1. Western Australian Local Government Association, West Perth.
- EPA (2006) Guidance for the Assessment of Environmental Factors -level of assessment of proposals affecting natural areas within the System 6 region and Swan Coastal Plain portion of the System 1 Region. Report by the EPA under the Environmental Protection Act 1986. No 10 WA.
- 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.
- 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.
- Shepherd, D.P. (2006). 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.
- Shepherd, D.P., Beeston, G.R. and Hopkins, A.J.M. (2001) Native Vegetation in Western Australia, Extent, Type and Status. Resource Management Technical Report 249. Department of Agriculture, Western Australia.
- Site Inspection (2008) Site Inspection Report, Department of Environment and Conservation (DEC), Western Australia, TRIM Ref DOC46497.
- State of Western Australia (2005) Agmaps Land Manager CD Rom.
- Submission (2008) Direct interest submission received 13/02/08, TRIM Ref DOC 46497.
- Western Australian Herbarium (1998-). FloraBase The Western Australian Flora. Department of Environment and Conservation. <http://florabase.calm.wa.gov.au/> (Accessed 06/02 /2008).

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)