



1. Application details

1.1. Permit application details

Permit application No.: 4021/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Viet Hoa Ta and Kim Chi Dong

1.3. Property details

Property: LOT 12 ON PLAN 32520 (House No. 134 ZIATAS PINJAR 6078)
Local Government Area: City of Wanneroo
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
2		Mechanical Removal	Horticulture

1.5. Decision on application

Decision on Permit Application: Refuse
Decision Date: 13 January 2011

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 & jarrah (Shepherd, 2009)	The proposal is to clear 2 hectares of native vegetation which ranges in condition from very good to excellent (Keighery, 1994). The vegetation around the boundary of the property is in a very good (Keighery, 1994) condition with moderate disturbance including structure alteration, weed invasion and rubbish dumping. The remainder of the of the property is in an excellent (Keighery, 1994) condition.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	The condition of the vegetation was determined via a site inspection (DEC, 2010) and through digital imagery (Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007).
949 - Low woodland; Banksia (Shepherd, 2009)		To	
Hedde Vegetation Complexes: Pinjar Complex: Vegetation ranges from woodland of <i>E. marginata</i> - Banksia species to a fringing woodland of <i>E. rudis</i> - <i>M. preissiana</i> and sedgelands. (Hedde et al, 1980)	Overstorey consists predominantly of <i>Banksia attenuata</i> , <i>Banksia menziesii</i> , <i>Banksia ilicifolia</i> , <i>Melaleuca preissiana</i> , <i>Nuytsia floribunda</i> , <i>Eucalyptus todtiana</i> , <i>Eucalyptus marginata</i> and <i>Allocasuarina fraseriana</i> (sheoak). Mid storey is dominated by <i>Xanthorrhoea preissii</i> , with few <i>Adenanthos cygnorum</i> , <i>Macrozamia riedlei</i> , <i>Jacksonia furcellata</i> , <i>Hypocalymna angustifolium</i> . Under storey is predominantly <i>Dasypogon bromeliifolius</i> ; with native sedges, small shrubs and herbs including <i>Desmocladius asper</i> , <i>Hibbertia hypericoides</i> , <i>Patersonia occidentalis</i> , <i>Stylidium</i> sp, <i>Regelia ciliata</i> , <i>Pericalymma ellipticum</i> and <i>Alexgeorgea nitens</i> (DEC, 2010).	Very Good: Vegetation structure altered; obvious signs of disturbance (Keighery 1994)	

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 proposal is to clear 2 hectares of native vegetation within Lot 12 on Plan 32520, Pinjar, for the purpose of growing strawberries. The property under application is approximately 4 hectares, of which 2 hectares has been previously cleared. The proposal to clear a further 2 hectares will see all native vegetation removed from the property.

The vegetation under application ranges in condition from very good to excellent (DEC, 2010; Keighery, 1994). The vegetation around the boundary of the property is in a very good (Keighery, 1994) condition with moderate disturbance including structure alteration, weed invasion and rubbish dumping (DEC, 2010). The remainder of the property is in an excellent (Keighery, 1994) condition.

The closest recorded fauna species of conservation significance were *Calyptorhynchus latirostris* (Carnaby's black cockatoo), *Isodon obesulus fusciventer* (Quenda) and *Leioproctus contraries* (bee). Twelve Carnaby's black cockatoo roost sights were recorded within the local area (5km radius). In addition the application area contains flora species suitable as foraging habitat for Carnaby's black cockatoo. Therefore, it is highly likely that Carnaby's will utilise the vegetation under application.

Priority flora recorded within 1.5km of the application include; *Calectasia* sp. Pinjar (C. Tauss 557) (P1), *Drosera x sidjamesii* (P1), *Stenanthemum sublineare* (P2) and *Cyathochaeta teretifolia* (P3). All four of these species were recorded on the same vegetation and soil types. Given the favourable habitat conditions there is potential for *Calectasia* sp. Pinjar (C. Tauss 557), *Stenanthemum sublineare* and *Cyathochaeta teretifolia* to occur within the project area. It is unlikely that *Drosera x sidjamesii* will be present as its habitat requirements are not met. *Calectasia* sp. Pinjar has a highly restricted know distribution therefore a targeted survey would need to be undertaken to determine the presence or absence of this species and their environmental significance.

The area under application is located within 160 meters of the boundary of Gngangara - Moore River State Forest.

Given the condition of the vegetation under application, the potential for priority flora and its proximity to State Forest it is likely that it contains a high level of biological diversity.

Therefore, this application may be at variance to this clearing principle.

Methodology References:
DEC (2010)

GIS Database:

- Clearing Regulations - Environmentally Sensitive Areas - 30 May 2005
- Geomorphic Wetlands (Mt Categories), Swan Coastal Plain - 11/04/07
- Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 9 Nov 2010

(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

Fauna species of conservation significance recorded within the local area (5km radius) were; *Leioproctus contraries* (bee), *Hylaeus globuliferus* (bee), *Isodon obesulus fusciventer* (Quenda), *Synemon gratiosa* (Graceful Sunmoth), *Macropus irma* (Western Brush Wallaby), *Falco peregrinus* (Peregrine Falcon) and *Calyptorhynchus latirostris* (Carnaby's black cockatoo).

Within the local area 12 Carnaby's black cockatoo roost sights were recorded. The closest roost site was recorded 200 meters north of the application area.

The application area contains flora species suitable as foraging habitat for Carnaby's black cockatoo (*Calyptorhynchus latirostris*). Carnaby's black cockatoo is listed as endangered, with populations declining dramatically due to land clearing for agriculture in regional areas and for urban development around Perth (Shah, 2006). Clearing of feeding habitat on the Swan Coastal Plain poses a significant threat to the long term survival of Carnaby's black cockatoos.

Within the application area one potential habitat tree containing hollows was observed (DEC, 2010).

Given the local area has a high percentage (approximately 65%) of vegetation in State Forest and Bush Forever sites the vegetation under application may not be significant habitat for other fauna species, however as the area under application contains foraging habitat for Carnaby's black cockatoo it is considered to be significant.

Therefore, this application is at variance to this clearing principle.

Methodology References:
DEC (2010)
Shah (2006)

- GIS Database:
 - Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007
 - Pre European Vegetation - DA 01/01
 - SAC Biodatasets - accessed 9 Nov 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**
 No declared rare flora was recorded within the local area (5km radius).

Therefore, the proposed clearing is not likely to be at variance to this clearing principle.

- Methodology** GIS Database:
 - Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007
 - Pre European Vegetation - DA 01/01
 - SAC Biodatasets - accessed 9 Nov 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**
 One threatened ecological community (TEC) has been recorded within the local area (5km radius) - Banksia attenuata woodland over species rich dense shrublands (FCT 20a). This TEC record is 2.9km south west of the application area on the same vegetation type.

There are only five known occurrences of this TEC (Gibson et. al, 1994). The area under application contains many tree, shrub and herb species that are also identified within the five known occurrences of TEC FCT 20a however, Melaleuca species were also identified on site which would infer that this is a traditional community and therefore not likely to support this TEC.

Given the above, the clearing as proposed is not likely to be at variance to this principle.

- Methodology** References:
 Gibson et. al (1994)
- GIS Database:
 - Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007
 - Pre European Vegetation - DA 01/01
 - SAC Biodatasets - accessed 9 Nov 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 may be at variance to this Principle**

	Pre-European (ha)	Current extent (ha)	Remaining (%)
IBRA Bioregions*			
Swan Coastal Plain	1 501 209.19	587 889.09	39.16
Shire*			
City of Wanneroo	97 698.09	32 088.84	47.40
Beard Vegetation Association*			
6	56 343.01	14 579.25	25.88
949	218 193.94	125 008.96	57.29
Beard Vegetation Association within Bioregion*			
6	56 343.01	14 579.25	25.88
949	209 983.26	122 087.03	58.14
Hedde Vegetation Complex**			
Pinjar Complex	4 892.65	1 139.93	23.30

* (Shepherd et al. 2009)

** (Hedde et. al, 1980)

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).

Both Beard Vegetation Association 6 and Pinjar Complex are represented below this recommended 30 per cent.

Only 0.5 per cent (23 hectares) of the Pinjar Complex is protected in secure tenure (National Parks, Conservation Parks, Nature Reserves and CALM Managed Lands).

Approximately 50 per cent of the local area (5km radius) falls within the Gnangara - Moore River State Forest. Digital imagery (Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007) indicates that the area under application is not a significant remnant within an area that has been extensively cleared. However, two of the vegetation complexes under application are not well represented, therefore this proposal may be at variance to this clearing principle.

Methodology

References:

Commonwealth of Australia (2001)
Hedde et. al (1980)
Shepherd (2009)

GIS Database:

- Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 9 November 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 may be at variance to this Principle

A Multiple Use Wetland (Lake Pinjar) is located adjacent to the area under application. The majority of this wetland has already been cleared for horticulture. Multiple Use wetlands are said to have few important ecological attributes and functions remaining (Water and Rivers Commission, 2001).

The western portion of Lake Pinjar is a Conservation Category Wetland. Conservation Category wetlands are the highest priority wetlands as they support a high level of ecological attributes and functions (Water and Rivers Commission, 2001).

Three other Conservation Category Wetlands are located within 1km of the applied area and another two within 2km.

Five Resource Enhanced Wetlands were recorded within 1.6km of the application area. Resource Enhanced category wetlands are considered priority wetlands which may have been partially modified but still retain substantial ecological attributes and functions (Water and Rivers Commission, 2001).

A minor, perennial watercourse is located 1.5km north east of the area under application.

Although no water courses or wetlands are mapped within the application area, the area contains wetland dependant vegetation, including *Melaleuca preissiana* and *Banksia ilicifolia* (DEC, 2010).

Given this, the clearing as proposed may be at variance to this clearing principle.

Methodology

References:

DEC (2010)
Water and Rivers Commission (2001)

GIS Database:

- Acid Sulphate Soil Risk Map, Swan Coastal Plain - DEC 07/08/06
- EPP Lakes - dep 14/05/97
- Geomorphic Wetlands (Mt Categories), Swan Coastal Plain - 11/04/07
- Hydrogeology, Linear - DOC13/07/06
- Hydrogeology, Statewide - DOC13/07/06
- SAC Biodatasets - accessed 19 May 2010

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

Comments **Proposal is at variance to this Principle**
The North Metropolitan and Gingin West Soil Surveys indicate that the area proposed to be cleared comprises of the following soil types;

Bassendean, Pinjar Phase. Map Unit 212Bs_P
Extensively swampy flats on sand over alluvial deposits. Wet and semi-wet soils.

Bassendean Jandakot Phase. Map Unit 212Bs_Ja
Low, gently sloping dunes on Aeolian sands. Pale and deep sands (Commissioner of Soil and Land Conservation, 2010).

Bassendean Jandakot Phase soil type has a very high risk of wind erosion and waterlogging (Commissioner of Soil and Land Conservation, 2010).

Water erosion is unlikely to occur due to the soil types present and the lack of sufficient land slope (Commissioner of Soil and Land Conservation, 2010).

No salinity was observed on or off site (Commissioner of Soil and Land Conservation, 2010).

The risk of land degradation occurring in the form of wind erosion and water logging is very high. Therefore, the clearing as proposed is at variance to this clearing principle.

Methodology **References:**
Commissioner of Soil and Land Conservation (2010)

GIS Database:

- Acid Sulphate Soil Risk Map, Swan Coastal Plain - DEC 07/08/06
- Geomorphic Wetlands (Mt Categories), Swan Coastal Plain - 11/04/07
- Hydrogeology, Linear - DOC13/07/06
- Hydrogeology, Statewide - DOC13/07/06
- SAC Biodatasets - accessed 9 Nov 2010

(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 may be at variance to this Principle**
Within the local area (5km radius) approximately 50 per cent of the land falls within the Gnangara - Moore River State Forest. The area under application is located within 160 meters of the boundary of this State Forest.

The area under application falls within a System 6 reserve. System 6 reserves represent areas recommended for conservation as determined by the Environmental Protection Authority.

Two large Bush Forever sites are located within 700 meters of the application area. Bush Forever site 398 (Chitty Road Bushland, Pinjar) is located 160 meters east of the area under application and site 382 (Lake Pinjar and Adjacent Bushland, Pinjar) is located approximately 700 meters to the west.

Soil disturbance and removal of native vegetation increases the risk of weeds and pathogens, such as dieback (*Phytophthora cinnamomi*), being introduced or spread. The management of dieback is of particular importance as the proposed clearing is in close proximity to state forest.

Considering the above the proposed clearing may be at variance to this clearing principle.

Methodology **GIS Database:**

- DEC Tenure
- Perth Metropolitan Area North 20cm Orthomosaic - Landgate 2007
- System 1 to 5 and 7 to 12 areas - DEC 11/7/06

(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 local area contains Multiple Use wetlands, Resource Enhanced wetlands and Conservation Category wetlands. The closest recorded wetland was a Multiple Use wetland which was recorded directly adjacent to the area under application.

Groundwater salinity is mapped as less than 500 (mg/L), therefore the small scale of proposed clearing is not

likely to increase groundwater salinity.

This application is not likely to be at variance to this clearing principle.

Methodology GIS Database:
- Geomorphic Wetlands (Mt Categories), Swan Coastal Plain - 11/04/07
- Hydrogeology, Linear - DOC13/07/06
- Hydrogeology, Statewide - DOC13/07/06
- SAC Biodatasets - accessed 9 November 2010

(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 proposed clearing is not expected to increase the incidence or intensity of flooding due to the soil types present (Commissioner of Soil and Land Conservation, 2010).

Therefore, the clearing as proposed is not likely to be at variance to this principle.

Methodology References:
Commissioner of Soil and Land Conservation (2010)

GIS Database:
- Geomorphic Wetlands (Mt Categories), Swan Coastal Plain - 11/04/07
- Hydrogeology, Linear - DOC13/07/06
- Hydrogeology, Statewide - DOC13/07/06
- SAC Biodatasets - accessed 9 Nov 2010

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

Comments

The Commissioner of Soil and Land Conservation (2010) has advised that the risk of eutrophication is likely to increase with the clearing of native vegetation on this site due to the soil types present. A portion of the proposed area to be cleared is of Bassendean, Pinjar Phase soil type which has a very high to extreme risk of phosphorous loss (Commissioner of Soil and Land Conservation, 2010).

The property under application is zoned as General Rural. The City of Wanneroo (2010) has advised that the objectives of the General Rural Zone are to:
(a)Accommodate agriculture, horticultural and equestrian activities
(b)Maintain and enhance the rural character and amenity of the areas designated for rural use and to protect their ground water and environmental values.

The vegetation under application is mapped as belonging to the Pinjar Complex. The City of Wanneroo's Draft Local Biodiversity Strategy (2010-2015) includes a target to protect all remaining vegetation within the Pinjar Complex (City of Wanneroo, 2010).

The City of Wanneroo (2010) has stated that his proposal will require development approval and at this stage no application has been received. Additionally, an application to extend current horticultural practises has not been received and is required.

A restrictive covenant exists over Lot 12. This covenant states;
1(d) not to remove, cut down or damage any vegetation on the land within the area identified as 'Native Vegetation' on Management Plan, unless prior written approval is granted by the City;
Approval has not been sought from the City.

The area under application falls within the Wanneroo Groundwater Area which is an area proclaimed under the Rights in Water and Irrigation Act 1914. The department of Water has advised that they have no objections to the proposed clearing. However, if any additional water is required for this proposal, the proponent will need to apply to amend their existing licence (DoW, 2010).

Methodology References:
City of Wanneroo (2010)
Commissioner of Soil and Land Conservation (2010)
DoW (2010)

GIS Database:
- RiWI Act, Groundwater Areas - DoW
- RiWI Act, Irrigation Districts - DoW
- Town Planning Scheme Zones - MFP 31/08/98

4. References

- City of Wanneroo (2010) Advice for clearing permit application CPS 4021/1 received 26/11/2010 (DEC Ref: A351340)
- Commissioner of Soil and Land Conservation (2010); Land Degradation Advice and Assessment Report for clearing permit application CPS 4021/1 received 29/11/2010; Department of Agriculture and Food Western Australia (DEC Ref: A341726).
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001-2005, Canberra.
- DEC (2010) Site Inspection Report for Clearing Permit Application CPS 4021/1, Lot 12 Ziatas Road, Pinjar. Site inspection undertaken 19/11/2010. Department of Environment and Conservation, Western Australia (DEC Ref: A350834).
- DoW (2010) Water advice for clearing permit application CPS 4021/1 received 17/11/2010. Department of Water, Western Australia (DEC Ref: A348973).
- 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.
- Hedde, 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.
- 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. (2009) 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.
- Water and Rivers Commission (2001) Position Statement: Wetlands, Water and Rivers Commission, Perth.

5. 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)