



1. Application details

1.1. Permit application details

Permit application No.: 908/1

Permit type: Area Permit

1.2. Proponent details

Proponent's name: Mr Nghia (Peter) Doan

1.3. Property details

Property: LOT 1 ON DIAGRAM 27845

Local Government Area: City Of Wanneroo

Colloquial name:

1.4. Application

| | | | |
|--------------------|-----------|--------------------|---------------------|
| Clearing Area (ha) | No. Trees | Method of Clearing | For the purpose of: |
| 2.8 | | Mechanical Removal | Horticulture |

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 1949; Low woodland; banksia on low sandhills, swamps in swales with tea-tree and paperbark (Hopkins et al. 2001, Shepherd et al. 2001). | The area under application (4ha) is intended on being cleared for intensive horticulture. | Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994) | Vegetation clearing description based on information obtained during the site inspection on 20 February 2006 (DEC TRIM ref: DOC 8641) |
| Heddle Vegetation complex; Bassendean Complex - North - Transition Vegetation Complex: A transition complex of low open forest and low woodland of Banksia species - E. tottiana on a series of high sand dunes. The understorey species reflect similarities with both the Bassendean-North and Karrakatta-North vegetation complexes (Heddle et al. 1980) | The vegetation under application consists of scattered trees (predominantly of Eucalyptus tottiana and Banksia attenuata) over an understorey of Adenanthos and Conostylis sp, with large weed infestations observed throughout the property. No hollows were observed in the trees under application. | | |
| | The majority of the applied area was observed to be in a degraded condition, having limited diversity of species and subject to relatively high levels of weed infestation. Vegetation within the western portion of the property is considered to be in good condition, having a relatively intact vegetation structure and higher diversity of species relative to other areas under application. Weed invasion through this good area was still relatively high. | | |

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 area under application is located south of a Bush Forever site and north and east of land cleared predominantly for horticulture.

Bush Forever site 326 (335 ha) is located approximately 20m north of the proposal area, separated by Joyce Road.

The vegetation in the area under application is generally in a degraded condition with weed invasion prevalent throughout and access tracks throughout sections of the property fragmenting the existing vegetation (Site inspection, 2006).

Given the level of disturbance, it is unlikely that the vegetation applied to be cleared comprises a high level of biodiversity. Further, it has been proposed that the existing areas of better vegetation condition (ie. with a higher level of biological diversity) along the northern boundary of the property be fenced and remain uncleared.

Methodology **Reference:**

- Site Inspection (20/2/06) (DEC TRIM ref: DOC 8641)
- GIS Databases:
- Bushforever - MFP 07/01
- Swan Coastal Plain Orthomosaic 40cm - DLI 05

(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**

A site inspection of the area under application identified the vegetation as being in a predominantly degraded condition, with the southern portion being largely cleared of vegetation, containing limited mature trees and a sparse understorey that is infested with weeds.

Based on the relatively degraded condition of the vegetation under application, and the proximity to nearby stands of remnant vegetation and reserves, including 335 ha of Bush Forever site 326 immediately north of the area under application, it is considered that the applied area is unlikely to represent significant habitat for indigenous fauna.

Methodology **Reference:**

- Site Inspection (20/2/06) (DEC TRIM ref: DOC8641)
- GIS Databases:
- Swan Coastal Plain Orthomosaic 40cm - DLI 05

(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**

Declared Rare Flora (DRF) and Priority Flora records from within a 5km radius of the notified area identify *Pityrodia axillaris* (R), *Caladenia huegelii* (R), *Acacia benthamii* (P2), *Cyathochaeta teretifolia* (P3), *Hibbertia helianthemoides* (P3), and *Jacksonia sericea* (P4) as being present within the local area.

Biodiversity Conservation Section (BCS)(2006) advises that *Caladenia huegelii* grows in sandy soils, in mixed woodland of *Eucalyptus marginata* and *Banksia* sp. Given the degraded understorey and weed infestations noted during the site inspection undertaken on 20 February 2006, it appears unlikely that *Caladenia huegelii* would appear on site.

It is noted that the position of the WA Herbarium record for *Pityrodia axillaris* is questionable, as records of this species are in the Pithara, Morawa, and Lake Moore areas.

Of the Priority species known from the area, *Jacksonia sericea* is the only species that may occur within the notified area, as limestone breakaways, swamps, creek edges, hills and scree slopes are not present. Given the vegetation disturbance and degraded understorey, BSC (2006) advise there is a low probability of DRF or priority flora occurring on site.

Methodology **References:**

- Biodiversity Conservation Section (2006) (TRIM Ref: DOC11878)
- Site Inspection (20/2/06) (DEC TRIM ref: DOC 8641)

(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 6 occurrences of Threatened Ecological Communities (TEC) Type SCP 20a within a 5km radius of the applied area (BCS 2006). This TEC is described as 'Banksia attenuata woodland over species rich dense shrublands', and is categorised as 'Endangered'. The closest occurrence of this TEC is approximately 3.4km south of the applied area.

BCS (2006) recognise that without an appropriately timed flora survey, it is difficult to make an informed assessment against this principle. However there are no known occurrences of TECs on the Heddle vegetation type represented.

Following the site inspection on 20 February 2006, understorey vegetation was observed to reflect similarities with both the 'Bassendean - North' and 'Karrakatta - North' vegetation complexes (Heddle et al. 1980). There are many occurrences of SCP26a - 'Limestone ridges' on the 'Karrakatta - North' vegetation complex, however there is no evidence to suggest that limestone ridges are present within the notified area.

Given the above, it is not likely that the vegetation applied to be cleared comprises or is necessary for the maintenance of the TEC.

Methodology References:

- Biodiversity Conservation Section (2006) (TRIM Ref: DOC11878)
- Site Inspection (20/2/06) (DEC TRIM ref: DOC 8641)

(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

Vegetation within the area under application is identified as a component of Heddle vegetation complex 'Bassendean Complex - North Transition Complex' (Heddle et al. 1980) and Beard vegetation association 1949 (Shepherd et al. 2001). The vegetation representations of these communities have been calculated as 92.3% and 25.6% respectively of their pre-European extent.

The State Government is committed to the National Objectives and Targets for Biodiversity Conservation which outlines a target that prevents clearance of ecological communities with an extent 30% below that present Pre-European settlement (Department of Natural Resources and Environment 2001, EPA 2000).

| reserves/CALM | Pre-European (ha)* | Current extent (ha)* | Remaining (%)* | Conservation***% status | In managed land |
|---|-----------------------|-------------------------|-------------------|----------------------------|--------------------|
| IBRA Bioregions Swan Coastal Plain | 1 529 235 | 657 450 | 43 | Depleted | NA |
| City of Wanneroo | 78 809 | 45 361 | 57.6 | Least concern | NA |
| Vegetation type: Beard: Unit 1949 | 132 958 | 34 012 | 25.6 | Vulnerable | NA |
| Heddle: Bassendean Complex North - Transition Complex | 17 675 | 16 308 | 92.3 | Least concern | 57.8 |

* (Shepherd et al. 2001)

** (Department of Natural Resources and Environment 2002)

Taking into account the above representation figures and the degraded condition of the vegetation under application, the proposed clearing may be at variance to this Principle.

Methodology References:

- Site Inspection (20/2/06) (DEC TRIM ref: DOC 8641)
- Department of Natural Resources and Environment (2001)
- EPA (2000)
- Hopkins et al. (2001)
- Shepherd et al. (2001)
- Heddle et al. (1980)
- GIS Databases:
 - Bushforever - MFP 07/01
 - Pre-European Vegetation - DA 01/01.
 - Heddle Vegetation Complexes - DEP 21/06/95.
 - Interim Biogeographic Regionalisation of Australia - EA 18/10/00.

(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. Wetland mapping of the area surrounding the application indicates that there are three wetlands located within relatively close proximity to the applied area, a conservation category wetland 520m north west, resource enhancement wetland 340m west, and a multiple use wetland 320m south.

Water and Rivers Commission (2001) provides recommended distances for which development should occur from wetlands, with a minimum distance of 200 metres for transmissive soils such as those on site. All of the identified wetlands occur at distances greater than that recommended.

As the vegetation under application is not growing in, or in association with, an environment associated with a watercourse or wetland, the proposed clearing is considered unlikely to be at variance with this Principle.

Methodology Reference:

- Water and Rivers Commission (2001)

GIS Databases:

-Geomorphic Wetlands (Mgt Categories), Swan Coastal Plain - DOE 15/9/04

-EPP Lakes - DEP 28/07/03

-Topographic Contours, Statewide - DOLA 12/09/02

(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 Department of Food and Agriculture (DAFWA 2006) advise that the property consists of two soil landscapes. Spearwood sand phase extending over approximately 70% of the proposed area and Karrakatta sand yellow phase covering approximately 30% of the applied area. The land is gently undulating with a couple of steeper areas with slopes of up to 10%. These soils are recognised as having a high risk of both wind erosion and eutrophication, however it is noted that these risks can be reduced with appropriate management.

In addition, DAFWA (2006) advise that while there may be a slight increase in localised waterlogging, when looking at the scale of the proposed clearing, this is considered to be insignificant.

Conditions of development approval imposed by the City of Wanneroo require the implementation of Nutrient Irrigation Management Plan (NIMP) and the retention of adequate vegetative cover for the management of erodible conditions. It is considered that these conditions should adequately address the concerns of eutrophication and wind erosion as raised by DAFWA.

Acid Sulphate Soil (ASS) risk mapping of the applied area identifies Lot 1 as having a Class 3 risk of ASS, defined as having no known risk of ASS or potential ASS. Lot 1 is also identified as being within a low salinity risk area (<500mg/l), and thus the clearing is not expected to contribute to increased salinity (DAFWA, 2006).

Methodology References:

- City of Wanneroo - Approval to Commence Development (2006) (DEC TRIM ref: DOC 8398)

- DAFWA (2006) (DEC TRIM ref: IN 25992)

- Site Inspection (20/2/06) (DEC TRIM ref: DOC 8641)

GIS Databases:

-Acid Sulfate Soil Risk Map, SCP - DOE 04/11/04

-Groundwater Salinity, Statewide - 22/02/00

(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

Lot 1 Joyce Road is located directly adjacent to Bush Forever site 326 to the north, separated from the site by the Joyce Road reserve.

Given the degraded condition of the vegetation under application, and the road barrier between the area under application and the Bush Forever site, it is considered unlikely that the proposed clearing would have a direct impact on the environmental values of the Bush Forever site.

Furthermore, vegetation identified as being in good condition during the site inspection has been amended from the application, providing a 30 metre vegetated buffer to the north.

The applied area is also located approximately 350 metres east of the Gngara - Moore River State Forest,

sufficiently distant so that the clearing is unlikely to have any detrimental impact on the forest.

Methodology Reference:
- Site Inspection (20/2/06) (DEC TRIM ref: DOC 8641)
GIS Databases:
-Bushforever - MFP 07/01
-CALM Managed Lands and Waters - CALM 01/08/04
-Register of National Estate - EA 28/01/03

(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 not located within a Public Drinking Water Source Area or a groundwater protection area. Topographic mapping indicates water flow from the site would be to the south west and south east, away from any conservation areas.

While DAFWA (2006) identifies the potential for land degradation in the form of eutrophication, the City of Wanneroo (2006) have advised that conditions have been placed in the development approval for the property, requiring the proponent to implement a Nutrient Irrigation Management Plan. It is considered that potential impacts to the groundwater table associated with eutrophication can be adequately managed through this conditioned implementation.

It is therefore considered unlikely that the proposed clearing will cause deterioration in the quality of surface or underground water.

Methodology Reference:
- City of Wanneroo - Approval to Commence Development (2006) (DEC TRIM ref: DOC8398)
GIS Databases:
-Public Drinking Water Source Areas (PDWSAs) - DoE 29/11/04
-EPP, Areas - DEP 06/95
-EPP, Lakes - DEP 1/12/92
-Topographic Contours, Statewide - DOLA 12/09/02

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments **Proposal is not likely to be at variance to this Principle**
The area under application is located in a medium rainfall zone (approximately 800mm annually), with topographic mapping and observations made during the site inspection (2006) revealing the area to be relatively flat, with the gradient leading down to the south of the property.

As the proposed clearing is predominantly limited to understorey vegetation in a degraded condition, DAFWA (2006) advise that there may be a slight increase in localised waterlogging. However, considering the scale of the proposed clearing, this is considered to be insignificant.

It is therefore considered that flooding impacts are unlikely to occur as a result of the proposed clearing.

Methodology Reference:
- DAFWA (2006) (DEC TRIM ref: IN25992)
GIS Databases:
- Topographic Contours, Statewide - DOLA 12/09/02

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

Comments
The applicant currently holds a Licence to Take Water (GWL 49308(4)) from the Department of Water for 50500kL per year for irrigation of 0.2ha of lawns and gardens and irrigation of up to 3.3ha of vegetables.

Lot 44 Joyce Road, Gnangara is part of a Native Title Claim however, since it is privately owned, the Native Title has been extinguished under the Native Title Act. Therefore the clearing as proposed should not fall under the future acts process of the Native Title Act 1993.

There is no other Works Approval, or EP Act Licence that will affect the area that has been applied to clear.

Methodology

4. Assessor's comments

| Purpose | Method Applied | Comment |
|---------|----------------|---------|
|---------|----------------|---------|

| | | | |
|--------------|------------|-------------------------|--|
| | | area (ha)/ trees | |
| Horticulture | Mechanical | 2.8 | |
| | Removal | | |

The proposed clearing has been assessed against the ten clearing principles as listed in Schedule 5 of the Environmental Protection Act 1986, and assessment has found the proposal may be at variance is Principles (e) and (g).

As the permit condition includes the retention of vegetation identified in good or better condition, the assessing officer recommends that a clearing permit be granted.

5. References

- City of Wanneroo (2006). Approval to Commence Development (DEC TRIM ref: DOC 8398)
 Clearing Assessment Unit's biodiversity advice for land clearing application. Advice to Director General, Department of Environment and Conservation (DEC), Western Australia. TRIM ref DOC11878.
- DAFWA (2006) Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DEC TRIM ref: IN 25992
- Department of Natural Resources and Environment (2002) Biodiversity Action Planning. Action planning for native biodiversity at multiple scales; catchment bioregional, landscape, local. Department of Natural Resources and Environment, Victoria.
- Government of Western Australia (2000) Bush Forever Volumes 1 and 2. Western Australian Planning Commission, Perth WA.
- Heddl, 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.
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- 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 (2006) (TRIM Ref: DOC8641)
- Water and Rivers Commission (2001). Position Statement: Wetlands.

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) |