



1. Application details

1.1. Permit application details

Permit application No.: 1446/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Angelo and Maria Squillace and Pino Gangemi (Bronzewing Investments Pty Ltd and Highdale Holdings Pty Ltd)

1.3. Property details

Property: Lot 108 on Diagram 76718 (House No. 1426 Pinjarra Road RAVENSWOOD 6208)
Local Government Area: Shire Of Murray
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
3.6		Mechanical Removal	Grazing & Pasture

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
Bassendean Complex Central and South (85%) - Vegetation ranges from woodland of <i>E.marginata</i> - <i>C.fraseriana</i> - <i>Banksia</i> spp. to low woodland of <i>Melaleuca</i> species, and sedgelands on the molster sites. This area includes the transition of <i>E.marginata</i> to <i>E.todtiana</i> in the vicinity of Perth.	Vegetation consisted of <i>Kunzea</i> woodlands with the occasional <i>Melaleuca</i> , <i>Eucalyptus</i> and <i>Nuytsia floribunda</i> . The understorey was limited to isolated pockets where the condition would be considered good but generally the vegetation under application was considered degraded to completely degraded	Degraded: Structure severely disturbed; regeneration to good condition requires intensive management (Keighery 1994)	Vegetation clearing description based on site inspection conducted 30 November 2006.

Swan Complex (15%) - Fringing woodland of *E.rudis* - *M.rhaphiophylla* with localised occurrence of low open forest of *Casuarina obesa* and *M.cutticularis*.

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 vegetation under application comprises mainly *Kunzea glabrescens* with the occasional *Eucalypt* species and *Nuytsia floribunda*. The area under application did not provide significant habitat for fauna and it is therefore not be considered likely that the vegetation proposed to be removed is representative of higher biological diversity in the local area.

Methodology DEC Site visit 30 November 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 not likely to be at variance to this Principle

The vegetation under application did not provide any tree hollows or significant species diversity of flora that would be used for feeding by indigenous fauna. The understorey was sparse and would not be considered significant habitat for native ground dwelling fauna.

Given the lack of diversity, hollows and significant understorey the vegetation under application is not considered likely to comprise significant habitat for indigenous fauna.

Methodology DEC Site visit 30 November 2006

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments Proposal may be at variance to this Principle

A review of CALM 's Flora List has identified four known populations of DRF or Priority Flora, in the local area (5km radius) including *Drosera occidentalis subsp. Occidentalis* (P4) 280m to the east of the area under application and the DRF *Synaphea stenoloba*, *Diuris drummondii*, and *D. purdiei* located to the southeast.

Given that the DRF *Diuris* species in the local area occur within the same position in the landscape, within the same vegetation complex and within a similar Bassendean soil type as the applied area, the proposal may be at variance with this Principle.

Methodology GIS Databases:
Declared Rare and Priority Flora List - CALM 01/07/05
Soils, Statewide - DA 11/99
Hedde Vegetation Complexes - DEP 21/06/95

(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, the closest of which is Floristic Community Type 2 (*Southern Wet Shrublands*), located approximately 2.6km to the southeast. The vegetation under application comprises mainly *Kunzea glabrescens* with the occasional Eucalypt species and *Nuytsia floribunda*.

Given the low species diversity of the flora within the area under application and due to its degraded condition it is not considered likely to represent, or comprise the diversity of, FCT 2 (Gibson *et al.* 2004).

Methodology DEC Site visit 30 November 2006

(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 majority (85%) of the vegetation under application is identified by Hedde *et al.* (1980) as 'Bassendean complex -Central and south' of which there is 27.0% of pre-European vegetation remaining, and which is considered to be of a 'vulnerable' status for biodiversity conservation (Department of Natural Resources and Environment 2002). The remaining portion of the applied vegetation is identified as 'Swan Complex' (Hedde *et al.* 1980) of which there is 15.6% remaining, and which is also considered to be vulnerable (Department of Natural Resources and Environment 2002).

Although the identified vegetation complexes have below the minimum 30% of pre-European representation target set in the National Objectives Targets for Biodiversity Conservation, and below the minimum 15% in reserves, the vegetation under application is considered to be in degraded to completely degraded condition. The applied vegetation is therefore not considered likely to be representative of the identified vegetation complexes and the proposal is not likely to be at variance to this Principle.

	Pre-European (ha)	Current (ha)	Remaining %	Conservation status*** % in reserves
IBRA Bioregion - SCP	1,529,235	657,450,	43.0*	
LGA - Shire of Murray	181,526	98,552	54.3*	
Hedde vegetation complex **				
Bassendean Complex C & S	87,477	23,624	27.0	0.7
Swan Complex	15,783	2,454	15.6	0.0
Beard vegetation associations				
- 999				

275,380

32,451

11.8*

8.1

* (Shepherd et al. 2001)

** (EPA, 2003)

*** (Department of Natural Resources and Environment 2002)

Methodology DEC Site visit 30 November 2006
Department of Natural Resources and Environment (2002)
EPA (2000)
(EPA, 2003)
Shepherd et al. (2001)
GIS Databases:
Heddl Vegetation Complexes - DEP 21/06/95
NLWRA, Current Extent of Native Vegetation - DA 30/01/01
Pre-European Vegetation - DA 01/01

(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 at variance to this Principle**
Although the area under application is not associated with any wetlands of a high conservation value the area under application is part of a large palusplain multiple use wetland. The site inspection identified *Kunzea* and *Melaleuca spp.* that were growing in association with this wetland that would be cleared as part of this proposal.

Given the proposal includes the clearing of vegetation that is growing in association with a wetland, it is considered to be at variance with this Principle.

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

(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**
Soils within the applied area are identified as Bassendean B2 Phase, which comprise flat to very gently undulating sandplains with well to moderately well drained deep bleached grey sands with a pale yellow B horizon or a weak iron-organic hardpan (State of Western Australia 2005).

These soils are associated with a low risk of salinity and water logging but have a low phosphorus retention index and therefore pose a high risk of nutrient loss. The iron-organic hard pan associated with this soil type also results in a increased run-off of groundwater from the site as little water actually penetrates the hardpan, therefore increasing the flow of water towards the Murray River. The sandy nature of the Bassendean soil results in a high risks of wind erosion of soil following the removal of vegetation.

Given the potential for nutrient loss due to the low phosphorus retention of the soil and the potential of wind erosion if pasture is not established the proposal may be at variance to this principle.

Methodology DAFWA (2006)
State of Western Australia (2005)

(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 (10km radius of the applied area) the only conservation area is an unnamed nature reserve on Pinjarra Road, 2500m to the south east. The clearing of the vegetation under application is not considered likely to have a direct or indirect impact on this reserve.

There is however a likelihood that the removal of vegetation as proposed will result in high levels of phosphorous leaving the site. Given the close proximity of the Murray River (less than 200m away) the additional nutrients leaving the site may contribute to the impact nutrients are having on the River and conservation areas further downstream within the Peel-Harvey Estuary. The proposal therefore may be at variance to this Principle.

Methodology DAFWA (2006)
GIS Database: DEC Managed Lands and Waters - CALM 1/07/05

(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 at variance to this Principle

The area under application has a low risk of salinity and acid sulphate soils, however the soil type has a poor nutrient retention ability. The removal of vegetation from the site may result in increased water run-off and nutrient loss off-site through groundwater that has the potential to contain high levels of nutrients. In addition the iron-organic hard pan associated with this soil type results in a further increased run-off of groundwater from the site as little water actually penetrates the hardpan, therefore increasing the flow of water towards the Murray River.

The removal of vegetation as proposed has the potential to increase infiltration of rainwater and the subsequent agricultural use is likely to elevate nutrient loss, and therefore the nutrient concentrations of groundwater. Given this, and the close proximity (less than 200m) to the Murray River, it is considered likely that the proposal will result in a increase in discharge of nutrients including nitrogen and phosphorus that would add to the nutrient load in the Murray River and may increase eutrophication of the Peel-Harvey Estuary.

Methodology DAFWA (2006)

(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

Although a portion of the area under application is within the 100 year flood fringe the soils identified on-site are well-drained and the clearing as proposed is not considered likely to cause or exacerbate the incidence, peak height or duration of flooding.

Methodology DEC site visit
GIS Databases:
Hydrography, linear (hierarchy) - DOW

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

Comments

The area under application is within the gazetted Peel Harvey Catchment. On 4 January 1989 the Minister for Environment approved a management strategy for the Peel Inlet and Harvey Estuary.

This was followed in October of 1991 by conditions that were placed on the Minister for Agriculture, Minister for Transport (Read current Minister for Planning and Infrastructure) and the Minister for Waterways (read current Minister for Environment). Condition 5 of this ministerial statement imposed a moratorium on land clearing in the gazetted Peel Harvey Catchment until such time as the Minister for Environment was satisfied that land clearing within the catchment was environmentally acceptable.

Consideration of the proposed clearings impact on land degradation is made in relation to the intentions of the condition set at a ministerial level to impose a moratorium on land clearing in the catchment. The retention of deep rooted perennials within the Peel Harvey Catchment and minimising activities likely to lead to nutrient loss within the catchment must be considered at this level to ensure consistency with water quality improvement objectives currently being finalised under the proposed EPA Water Quality Improvement Plan for the Catchment.

Additionally Under section 51P of the Environmental Protection Act 1986, the CEO shall refuse to grant a clearing permit if the CEO considers that the associated effect on the environment would be inconsistent with any approved policy. This requirement should be considered in relation to the existing Environmental Protection (Peel Inlet - Harvey Estuary) Policy 1992 and as noted above the Water Quality Improvement Plan for the Catchment that is currently being finalised.

Lot 108 Pinjarra Road 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.

Methodology

4. Assessor's comments

Purpose	Method Applied	area (ha)/ trees	Comment
Grazing Pasture	Mechanical Removal	3.6	<p>The assessable criteria have been addressed, and the proposed clearing is at variance to Principles f and i. In Particular:</p> <ul style="list-style-type: none">- The clearing of wetland dependent vegetation that is growing in association with a palusplain wetland; and-The clearing of vegetation is likely to lead to appreciable land degradation in the form of eutrophication and potentially wind erosion. <p>In addition the proposal may be at variance to Principles c, g and h.</p> <p>Given the proposal was at variance to a number of principles, the direction provided by Section 51P of the EP Act and the consideration that should be given to ensure consistency with previous EPA bulletins and decisions made at a ministerial level the assessing officer recommends this application be refused.</p>

5. References

- DAFWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture and Food Western Australia. DoE TRIM ref DOC6674.
- 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.
- EPA (2003) 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.
- Heddie, 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.
- 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.
- State of Western Australia (2005) Agmaps Land Manager CD Rom.

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)