



1. Application details

1.1. Permit application details

Permit application No.: 454/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: Kerime Kilicoglu

1.3. Property details

Property: LOT 50 ON DIAGRAM 33354
Local Government Area: Shire Of Serpentine-Jarrahdale & Town Of Kwinana
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
5		Mechanical Removal	Hazard reduction or fire control

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
Heddl Complex: Bassendean Complex - Central and South: Vegetation ranges from woodland of <i>E. marginata</i> - <i>C. fraseriana</i> - <i>Banksia</i> <i>spp.</i> to low woodland of <i>Melaleuca</i> species, and sedgeland on the moister sites. This area includes the transition of <i>E.</i> <i>marginata</i> to <i>E. tottiana</i> in the vicinity of Perth.	The proposal includes the clearing of 5 hectares of vegetation which does not appear to have been significantly altered through past disturbance.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Clearing description based on information obtained from a site inspection on 15/4/2005.
Beard vegetation association 1001: Medium very sparse woodland; jarrah, with low woodland; <i>banksia</i> & <i>casuarina</i> (Hopkins et al. 2001, Shepherd et al. 2001)	Vegetation under application on Lot 50 Thomas Road contains many upperstorey species, primarily <i>Melaleuca preissiana</i> , <i>Melaleuca</i> <i>rhopiophylla</i> , <i>Nuytsia floribunda</i> , and <i>Eucalyptus spp.</i> scattered around the property. The majority of the property also contains a very thick midstorey / understorey consisting of a relatively wide range of species, including but not limited to <i>Xanthorrhoea preissii</i> , <i>Banksia</i> <i>menziesii</i> , <i>Banksia illicifolia</i> , <i>Adenanthos</i> <i>cygnorum</i> , <i>Kunzea glabrescens</i> , and relatively large areas on <i>Lepidosperma spp.</i>		
	The vegetation under application is in an excellent condition. While there are some noticeable impacts due to weed invasion, these are mainly limited to the areas of disturbance, around firebreaks and the northern portion of the property.		

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

Lot 50 Thomas Road has been identified as potentially containing Declared Rare Flora, Threatened Ecological Communities, and habitat for Significant Fauna. The condition of vegetation within the property is very high, with weed infiltration limited to areas of physical disturbance. Based on these factors, it is considered that the vegetation under application may represent an area of higher biological diversity.

Methodology Site inspection (15/4/2005)

(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 may be at variance to this Principle

The area that is proposed to be cleared may provide feeding opportunities for the Endangered Carnaby's Black-Cockatoo (*Calyptorhynchus latirostris*) and feeding and habitat opportunities for Quenda (*Isodon obesulus fusciventer*) (P5). The amount of urban development in the immediate area would result in a reduced chance of Western Brush Wallaby (*Macropus irma*) (P4) being extant in the area. Clearing of this location has the potential to reduce linkages between other areas of remnant vegetation, including wetlands, in this area.

Methodology CALM (2005)

(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

Given the proximity of DRF records in the local area, the presence of winter-wet areas, and the apparent good condition of the vegetation to be cleared which appears to be suitable habitat for some Declared Rare flora, there is a high likelihood of Declared Rare and possibly Priority flora occurring within the proposed clearing area.

Note: if present on the property, Declared Rare taxa *Caladenia huegelii*, *Drakaea micrantha*, *Drakaea elastica* and *Diuris purdiei* should be visible from September through October, but although *Diuris purdiei* flowers in this period, it will only flower following summer fire. Where present, the other identified declared rare taxa are known to flower regardless of fire history but this flowering can be variable. Priority taxa *Dodonea hackettiana* and *Aponogeton hexatepalus* will typically flower from July to October. CALM recommends that a flora survey be undertaken at the appropriate time of the year by a suitably qualified botanist, to determine whether the proposed clearing is likely to impact on declared rare flora species protected by the Wildlife Conservation Act 1950 as amended

Methodology CALM (2005)

(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 may be at variance to this Principle

Within 10km there are four recorded occurrences of two different Threatened Ecological Communities that are listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

There are thirteen recorded occurrences of six significant ecological communities within a 10km radius of the proposed clearing.

CALM advises that while some of these communities would appear to not occur on the habitats found on the location, a detailed survey by a qualified botanist would be required to determine whether any of the identified Threatened or Significant Ecological communities are present on the land that is proposed to be cleared.

Methodology CALM (2005)

(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 at variance to this Principle

Heddlie et al (1980) defines the vegetation under application as Bassendean Complex - Central and South. This has a representation of 27% and is classified as ranging from woodland of *E. marginata* - *C. fraseriana* - *Banksia* spp. to low woodland of *Melaleuca* species, and sedgelands on the moister sites. This area includes the transition of *E. marginata* to *E. tottiana* in the vicinity of Perth.

Bassendean Complex - Central and South currently has 0.7% vegetation (EPA, 2003) in secure tenure with JANIS (1997) recommending that 15% of the pre-1750 distribution of each vegetation ecosystem should be protected in a comprehensive, adequate and representative reserve system.

Vegetation under application is also classified as vegetation association 1001 (Hopkins et al. 2001). This association has a representation of 27.6% of the pre- European extent and is described as medium very sparse woodland; jarrah, with low woodland; banksia & casuarina.

EPA (2000) identifies the 30% vegetation representation level as the "threshold level" at which species loss appears to accelerate exponentially at an ecosystem level. Based on the condition of the vegetation under application, It is considered that clearing of this vegetation would be at variance with this Principle.

Methodology Heddlie et al. (1980)

Hopkins et al. (2001)
EPA (2000)
EPA (2003)
JANIS (1997)

(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

The vegetation under application within Lot 50 Thomas Road contains a portion of Resource Enhancement Wetland (REW) in which the vegetation is considered to be within very good to excellent condition. This wetland is part of a larger whole that extends to the west of the property, of which parts have been cleared for past development. Vegetation within Lot 50 Thomas Road is also within relatively close proximity to two EPP Lakes, located approximately 150 metres to the west and south-west of the proposal.

The Water and Rivers Commission (2001) identifies REW as priority wetlands, with the ultimate objective for management, restoration and protection towards improving their conservation value. Water and Rivers Commission (2001) also contains recommended buffer distances for developments from wetland areas, with the minimum distance being 50 metres. The proposed clearing does not comply with these recommendations.

Methodology Water and Rivers Commission (2001) Position Statement: Wetlands
GIS Databases:
- EPP Lakes - DEP 28/07/03
- Geomorphic Wetlands - Swan Coastal Plain - DOE 15/09/03

(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

DAWA (2005) advise that a large portion of the lands comprises of pale deep sands, which are prone to wind erosion. The soils will be exposed to a high risk of wind erosion if there are no windbreaks or where there is poor ground cover.

DAWA (2005) also advises that phosphorous export involving the direct washing of manure and fertilisers into streams, estuaries, groundwater and wetlands should be considered. This is alleged to be a major problem on the Swan Coastal Plain because of bleached or pale sands (VanGool et al, 2000). In most soils phosphorous is rapidly fixed but bleached sands cannot hold onto the phosphorous, exacerbating nutrient run-off by so called soluble phosphorous (VanGool et al, 2000). Drainage is west to south-westerly. If fertilisers are used on the property this could contribute to Phosphorous export into neighbouring wetlands. Removal of vegetation from site is considered likely to contribute to an increase in nutrient run-off from the property, with DAWA advising of a moderate to high risk of eutrophication into the wetlands.

The majority of the area under application is classified as being class 2: 'Low risk of shallow Acid Sulphate Soils (ASS) or Potential Acid Sulphate Soils (PASS) (at >3m), but moderate to high risk of ASS or PASS occurring at greater than 3m depth.' These soils that are at risk are at a depth where they are unlikely to be disturbed by the clearing as proposed. Soils which correspond to the inundated area of the property are classified as class 1: 'Moderate to high risk of shallow (<3 metre) ASS or PASS occurring'. Clearing of vegetation within this area has the potential to disturb ASS, depending on the depth of disturbance associated with on-ground works.

Methodology DAWA (2005)
GIS Database - Acid Sulfate Soils Risk Map, SCP - DOE 4/11/04

(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 at variance to this Principle

The area that is proposed to be cleared is situated within close proximity to three nature reserves, a number of Bush Forever sites and the Jandakot and Beeliar Regional Parks. It is strategically placed to act as a stepping stone for a range of fauna taxa likely to inhabit these conservation areas. Further clearing in this residential/horticultural landscape may further fragment these conservation areas and impede their long-term sustainability.

Lot 50 Thomas Road is located adjacent to other relatively vegetated properties, and is considered highly likely to contribute significantly to ecological linkages between conservation areas at a local scale.

Methodology CALM (2005)
GIS Database:
- Swan Coastal Plain South 40cm Orthomosaic - DLI 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 may be at variance to this Principle

DAWA (2005) report that part of the notified area is prone to waterlogging and that there is an increased risk of eutrophication following clearing. Proper implementation of appropriate management strategies and drainage design may ensure that these risks are sufficiently mitigated.

Methodology DAWA (2005)

(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 may be at variance to this Principle

A portion of the vegetation under application on Lot 50 Thomas Road is classified as Resource Enhancement Wetland, an area subject to inundation. Advice provided by the Soil and Lands Commissioner (DAWA, 2005) indicates that the clearing of vegetation may increase the incidence of waterlogging, and thus causing localised flooding on the property.

Methodology GIS Database - Hydrography - Linear - DOE 1/2/04
DAWA (2005)

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

Comments

Two submissions were received, one from the Town of Kwinana, advising that the clearing of Lot 50 Thomas Road for fire hazard reduction is unreasonable, given that fire hazard can be adequately managed through reducing weed infiltration. Communication between the Department and the applicant indicate that clearing is also intended for the plantation of native fruit trees and gardens, and thus these recommended fire hazard reduction methods may not apply.

Methodology

4. Assessor's recommendations

Purpose	Method	Applied area (ha)/ trees	Decision	Comment / recommendation
Hazard reduction or fire control	Mechanical Removal	5	Refuse	<p>The assessable criteria have been addressed, and the proposal has been found to be at variance with Principles (e), (f), (g), and (h). The proposal may also be at variance to Principles (a), (b), (c), (d), (i), and (j). In particular:</p> <ul style="list-style-type: none">- The vegetation on-site is in very good to excellent condition, as is representative of an under represented vegetation complex.- Vegetation on site is in part located within a Resource Enhancement Wetland, and its associated buffer area.- The clearing of vegetation is likely to lead to appreciable land degradation in the form of wind erosion and eutrophication.- The vegetation provides an ecological linkage to surrounding conservation areas. <p>Therefore, the assessing officer recommends this application be refused.</p>

5. References

- CALM Land clearing proposal advice. Advice to A/Director General, Department of Environment (DoE). Department of Conservation and Land Management, Western Australia. DoE TRIM ref IN22257.
- DAWA Land degradation assessment report. Office of the Commissioner of Soil and Land Conservation, Department of Agriculture Western Australia. DoE TRIM ref CEO579/05.
- 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.
- 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.
- 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.
- JANIS Forests Criteria (1997) Nationally agreed criteria for the establishment of a comprehensive, Adequate and Representative reserve System for Forests in Australia. A report by the Joint ANZECC/MCFFA National Forest Policy Statement Implementation Sub-committee. Regional Forests Agreement process. Commonwealth of Australia, Canberra.
- Keighery, BJ (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.
Water and Rivers Commission Position Statement: Wetlands

6. Glossary

Term	Meaning
CALM	Department of Conservation and Land Management
DAWA	Department of Agriculture
DEP	Department of Environmental Protection (now DoE)
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 DoE)